



## 9<sup>TH</sup> INTERNATIONAL CONFERENCE ON ENVIRONMENTAL MUTAGENS

### *Global Issues in Genetic Toxicology and Environmental Mutagenesis*

September 3–8, 2005

#### **Organizing Committee**

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*Massachusetts Institute of Technology*

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*University of Cincinnati*

**Tonia Masson**  
*EMS Executive Director/  
Conference Secretariat*

Dear Colleagues:

It is our pleasure to warmly welcome you to San Francisco, California, and the 9<sup>th</sup> International Conference on Environmental Mutagens (9<sup>th</sup> ICEM). It is poignant to reflect that the inaugural conference in this series was also held in California, in 1973 at the Asilomar Conference Center in Pacific Grove, then celebrating the international outreach of the Environmental Mutagen Society, incorporated in 1969, and the European Environmental Mutagen Society, which formed a year later. Now these two Societies along with others worldwide are affiliated through the International Association of Environmental Mutagen Societies (IAEMS), and the ICEM has brought these groups together for good science and good fellowship every four years. We are delighted to once again have the opportunity to host the ICEM in California.

Many seminal advances have been made since the 8<sup>th</sup> ICEM in Shizuoka, Japan, and the need for worldwide cooperation in this field has never been more apparent. Our theme for the 9<sup>th</sup> ICEM, "Global Issues in Genetic Toxicology and Environmental Mutagenesis," transcends national boundaries and is timely for all peoples of the world. We have now learned a great deal about the threats to human health from genotoxic chemicals and radiations in our environment. We also know of many inherited and acquired genetic alterations that predispose to cancer, premature aging, and other diseases. Within the next decade it should certainly be possible to identify and reduce many of the principal environmental hazards that threaten our health and that of the planet.

The outstanding scientific program set up by Program Chair, David DeMarini, and his committee is comprehensive and intense, with an exciting set of a dozen Plenary Lectures and parallel sets of Symposia each morning and afternoon, offering cutting-edge science in every sphere of interest for professionals and students in the field of genetic toxicology and related areas. You also will learn of new developments from over 500 posters on display during the week. Our only apology is that you may have difficulty selecting which sessions to attend as you choose from the delectable menu.

We are eager to share with you the memorable delights of the 9<sup>th</sup> ICEM in the lovely venue of San Francisco!

Philip C. Hanawalt, President of the 9<sup>th</sup> ICEM

Leona D. Samson, President of EMS

James Gentile, President of IAEMS



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ICEM Web site: [www.ICEM2005.org](http://www.ICEM2005.org)



# 9<sup>th</sup> ICEM Program Overview

## SATURDAY, SEPTEMBER 3

### 8:00 AM–10:00 AM

EMS Executive Board Meeting (Marina Room)

### 8:00 AM–12:30 PM (SHORT COURSES)

Applied and Regulatory Genetic Toxicology  
Emerging Issues in Molecular Epidemiology  
New Developments and Applications of the Comet Assay  
Quality Assurance (QA) in Government and Industry  
Laboratories

### 10:00 AM–1:00 PM

EMS Council Meeting (Marina Room)

### 1:30 PM–4:00 PM

Student Program: Grant Writing for Young Investigators

### 1:30 PM–4:30 PM

HUMN Workshop

### 5:00 PM–6:30 PM

Opening Session

### 6:30 PM–8:30 PM

Opening Reception

## SUNDAY, SEPTEMBER 4

### 7:00 AM–8:30 AM

2006 Program Committee Meeting, 1st Meeting  
Molecular Epidemiology Special Interest Group  
Transgenic and *In Vivo* Mutagenesis Special Interest Group

### 8:30 AM–9:10 AM

Plenary Lecture—Lawrence A. Loeb

### 9:10 AM–9:15 AM

10<sup>th</sup> ICEM Announcement

### 9:15 AM–10:00 AM

Plenary Lecture—Nadrian C. Seeman

### 10:30 AM–12:30 PM

Antimutagens and Prospects for Chemoprevention  
Environmental DNA Damage, Repair, and Aging  
New Developments in DNA Damage Processing  
Responses to Low Doses of Environmental Mutagens  
Transplacental Exposure to Nucleoside Analogs: Mitochondrial  
Damage and Fetal Health

### 1:00 PM–3:00 PM

Exhibits Open  
Poster Session 1—Exposure, Detection, and Toxicity

### 3:00 PM–5:00 PM

A Genomic View of Mutation  
Legal and Ethical Issues Associated with Genetic Testing  
Noncovalent Chemical-DNA Interactions and Genotoxicity  
Oxidative Stress Responses  
Recombination and Double-Strand-Break Repair

### 5:15 PM–7:15 PM

Case Studies of Environmental Mutagen Contamination Disasters  
Around the World  
Transcriptional Encounters with DNA Damage

## MONDAY, SEPTEMBER 5

### 7:00 AM–8:30 AM

Membership and Professional Development Committee  
IAEMS Business Meeting, 1st Meeting  
Germ-Cell/Stem Cells/Human Genetics Special Interest Group

### 8:30 AM–9:15 AM

Plenary Lecture—Rita R. Colwell

### 9:15 AM–10:00 AM

Plenary Lecture—Louis J. Guillette, Jr.

### 10:30 AM–12:30 PM

Cell Cycle and How Cells Sense Their Environment  
Environmental Contaminant Exposure and Mutagenesis in  
Wildlife  
Interactive Competition Among DNA Repair Pathways  
Mitochondrial DNA Damage and Human Disease  
Molecular Epidemiology of Children's Environmental Health

### 1:00 PM–3:00 PM

Exhibits Open  
Poster Session 2—Mechanisms of Mutagenesis and DNA Repair

### 3:00 PM–5:00 PM

Advances in Human Biomonitoring (ends at 5:15 PM)  
Genotoxicology of Aquatic Systems  
Microbial Infection and Malignancy (ends at 5:15 PM)  
Mutagenic Consequences of Environmental Exposures  
Spontaneous Mutagenesis and Hypermutation

### 5:30 PM–6:15 PM

Plenary Lecture—John S. Mattick

### 6:30 PM–8:00 PM

EMS Business Meeting and Awards Presentation

## TUESDAY, SEPTEMBER 6

### 7:00 AM–8:30 AM

Public Relations Committee  
DNA Repair Special Interest Group  
Risk Assessment Special Interest Group

### 8:30 AM–9:15 AM

Plenary Lecture—Mary-Claire King

### 9:15 AM–10:00 AM

Plenary Lecture—Alain Sarasin

# 9<sup>th</sup> ICEM Program Overview



## 10:30 AM–12:30 PM

Chromatin Dynamics: Influence on Genome Function and DNA Damage Response  
Environmental and Genetic Factors Influencing the Risk of Common Noncancer Disease  
Environmental Mutagens in Air  
Mutagens and Carcinogens from Cooked Food  
Science Education in the University: New Teaching Methods

## 1:00 PM–3:00 PM

Exhibits Open  
Poster Session 3—Responses to Environmental Agents

## 3:00 PM–5:00 PM

Computational Toxicology: An Alternative to Animals  
DNA Damage and Mutational Specificity  
Endogenous DNA Damage: Comparison with Environmental Genotoxicants  
Gene Expression and Genomic Changes  
New Technologies in Mutational Analysis for Genomic and Genetic Toxicology Studies

## 5:30 PM–6:15 PM

Plenary Lecture—Jan Hoeijmakers

## WEDNESDAY, SEPTEMBER 7

### 7:00 AM–8:30 AM

Education and Student Affairs Committee  
Hollaender Committee  
Genomics and New Technologies Special Interest Groups

### 8:30 AM–9:15 AM

Plenary Lecture—Eugenia Dogliotti

### 9:15 AM–10:00 AM

Plenary Lecture—Inder M. Verma

### 10:30 AM–12:30 PM

Animal Models for Environmental Carcinogenesis and Prevention  
Apoptosis: Mechanisms and Therapeutic Targets  
Envisioning DNA Damage and Repair Responses: Structural Biology from Atoms to Cells  
Nutrigenomics: A Systems Biology Approach to Studying Gene-Diet Interactions  
Toxico-Informatics: Emerging Capabilities for Improved Public Data Access and Exploration

## THURSDAY, SEPTEMBER 8

### 7:00 AM–8:30 AM

2006 Program Committee, 2nd Meeting  
IAEMS Business Meeting, 2nd Meeting

### 8:30 AM–9:15 AM

Plenary Lecture—Takehiko Nohmi

### 9:15 AM–10:00 AM

Plenary Lecture—Sam H. Wilson

### 10:30 AM–12:30 PM

Environmental Factors Associated with Human Cancer  
Environmental Mutagens in Water, Soil, and Sediment  
New Frontiers in Germ-Cell Research  
Risk Assessment and Genetic Toxicology  
Translesion DNA Synthesis

### 1:00 PM–3:00 PM

Decision-Making with Genetic Toxicity Data  
Epigenetic Mechanisms Leading to Human Disease  
Inherited Defects, Mutagenesis, and DNA Repair in Human Neurological Disease  
Models and Mechanisms for Processing DNA Damage  
Post-Translational Modification of DNA Repair Enzymes

### 3:30 PM–5:30 PM

EMS Council Meeting (Marina Room)

### 6:30 PM

Banquet at City Hall

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## Organizing Committee

Phil Hanawalt, *Chair*

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Larry Loeb, *Fundraising Committee Chair*

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Priscilla Cooper, *Local Arrangements Chair*

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Lynn Ferguson, *IAEMS Secretary General*

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Leona Samson, *EMS President*

Peter Stambrook, *EMS President-elect*

David Eastmond, *EMS Past President*

Jenness Majeska, *EMS Secretary*

Jack Bishop, *EMS Treasurer*

Michael Plewa, *EMS Past Treasurer*

Tonia Masson, *EMS Executive Director/Conference Secretariat*

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Nina Holland

Bernd Kaina

David Kirkland

Catherine Klein

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Alan Lehmann

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James MacGregor

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James Swenberg

John Tainer

Ray Tice

Bert van Zeeland

Susan Wallace

Michael Waters

Paul White

Sam Wilson

Akira Yasui

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Jack Bishop

George Douglas

David DeMarini

Phil Hanawalt

Leona Samson

Peter Stambrook





## International Advisory Board

|                              |                   |                          |                     |
|------------------------------|-------------------|--------------------------|---------------------|
| William Au, <i>Chair</i>     | Wushou Chang      | Young Chul Kim           | Vivinne Reed        |
| Wagida R. Anwar              | P.S. Chauhan      | Luminta Lancu            | Lucia R. Ribeiro    |
| Ruben Aroutiounian           | Malyn Chulasiri   | William Marasas          | Mathuros Ruchirawat |
| Rakhmet Bersimbaev           | Aleksandere Fucic | Wilner Martinez-Lopez    | Radim Sram          |
| Marta Carballo               | Makoto Hayashi    | Ramon Miranda            | Lishi Zhang         |
| Angelo Carere                | Luz Stella Hoyos  | Patricia Ostrosky-Wegman |                     |
| Antonina Cebulska-Wasilewska | Ali Karakaya      | Stelios Piperakis        |                     |

## Local Arrangements Committee

Priscilla Cooper, *Chair*  
Gilbert Chu  
James Cleaver  
Amy Kronenberg  
Janice Pluth  
David Schild  
Graciela Spivak  
Larry Thompson  
Andrew Wyrobeck

## International Association of Environmental Mutagen Societies (IAEMS)

|  |   |
|--|---|
| Asoc. de Mutagenesis, Carcinogenesis Y Teratogenesis Ambiental (ALAMCTA) | Korean Environmental Mutagen Society (KEMS)                           |
| Chinese Environmental Mutagen Society (CEMS)                             | Mutagenesis and Experimental Pathology Society of Australasia (MEPSA) |
| Environmental Mutagen Society (EMS)                                      | Pan-African Environmental Mutagen Society (PAEMS)                     |
| Environmental Mutagen Society of India (EMS India)                       | Philippines Environmental Mutagen Society (PEMS)                      |
| European Environmental Mutagen Society (EEMS)                            | Thai Environmental Mutagen Society (TEMS)                             |
| Japanese Environmental Mutagen Society (JEMS)                            |   |

# The Conference and the Venue

## 9<sup>th</sup> ICEM

The broad subject of the 9<sup>th</sup> ICEM transcends national boundaries and is timely for all people of the world. This meeting attracts nearly 1,000 scientists from industry, academia, and government. The program includes plenary and other special lectures, short courses, current issues symposia, emerging issues symposia, and three poster sessions.

## Special Interest Groups

EMS features seven Special Interest Groups, which meet each year during the Annual Meeting. The Special Interest Group meetings are scheduled from 7:00 AM until 8:30 AM throughout the week prior to the Plenary Lectures. The meetings are open to all ICEM attendees at no additional charge. Breakfast will not be served.

The Special Interest Group meetings promote information and discussion on topics relevant to their group. The meetings serve as an opportunity to share new research data and to network with other individuals who share a similar focus in that particular area. The seven Special Interest Groups are:

- DNA Repair—Tuesday
- Germ Cell Mutagenesis—Monday
- Molecular Epidemiology—Sunday
- Genomics and New Technologies—Wednesday
- Risk Assessment—Tuesday
- Transgenic and *In Vitro* Mutagenesis—Sunday

## San Francisco

San Francisco is a unique and breathtaking metropolis. Surrounded on three sides by the Pacific Ocean and San Francisco Bay, San Francisco's compact 46 square miles (125 sq. km.) crowd the tip of the San Francisco Peninsula. The San Francisco Bay Area encompasses the nine counties that touch San Francisco Bay. From the famous icon of the Golden Gate Bridge to the exquisite art galleries at San Francisco Museum of Modern Art, the City takes pride in its unrivaled attractions, renowned museums, and its unique neighborhoods, which are treasures of its own. Discover the variety of sites, shops, and restaurants that reflect the City's great ethnic and cultural diversity.

## Hyatt Regency at Embarcadero

Located on the stunning Embarcadero waterfront, the Hyatt Regency at Embarcadero is within five minutes of Fisherman's Wharf, Chinatown, Union Square, Ghiradelli Square, North Beach, and the Castro. These treasures of the city and beyond are all moments away by ferry, BART (Bay Area Rapid Transit), MUNI (inter-city transit and metro), world-famous cable cars, and the historic F-line streetcars.

Listen to the jingle of the cable car from your downtown San Francisco hotel window. Take in the aroma of fresh sourdough bread, artisan cheeses, and locally grown produce at the Farmer's Market in the newly renovated Ferry Building across the street. The Hyatt Regency San Francisco hotel is where you can savor the best of our beautiful city.

## Climate

San Francisco has arguably the best weather in the United States of America. The average daily high temperature in September is 69°F (21°C) and the average low for this time of year is around 56°F (13°C) with an average monthly rainfall of .25 inches (0.61 cm).



# Transportation

## Ground Transportation

### Public Transportation

**BART**—Bay Area Rapid Transit is the San Francisco subway system. BART saves time, money, and hassle with traffic. It's also more reliable than driving to the airport and more convenient when picking up visitors. BART takes you directly into San Francisco International Airport's International Terminal where it's a short walk to the International check-in counters. You can also take BART to Oakland Airport/Coliseum Station where convenient AirBART shuttles link to the airport every 15 minutes. For more information on using BART for airport transportation, visit: [www.bart.gov](http://www.bart.gov).

**MUNI**—The San Francisco Municipal Railway (Muni) is the seventh-largest public transit system in the United States, as measured by ridership. The Muni provides transportation within the city of San Francisco. Its fleet of about 1,000 vehicles, over half of which are electric, consists of subway-surface light-rail vehicles (Metro streetcars), electric trolley buses, diesel buses, the world-famous cable cars, the only ones in the world still operating, and a unique collection of historic streetcars. The Muni has several stations near the hotel with frequent departure and arrival times. For more information, please visit: [www.sfmuni.com](http://www.sfmuni.com) or call (415) 673-6864. Fares range from \$1.25 with free transfer for first 90 minutes and \$3 for cable cars. Weekly passes are also available for \$12.

## Getting From The Hotel To The Airport

### Bart Transportation—San Francisco International Airport

From The Hyatt Regency San Francisco at the Embarcadero Station (steps from the hotel) you can take San Francisco International Airport Train directly to SFO (Fare \$4.70) OR take the Millbrae Train to Millbrae Station (Fare \$3.30) and transfer to an SFO Train (Fare \$1.50).

### Bart Return Transportation

For transportation from The Hyatt Regency San Francisco to Oakland International Airport use the Embarcadero BART Station: take either the Fremont or Dublin/Pleasanton Train to the Coliseum BART Station. The fare is \$3.15.

Get off at the Coliseum BART Station and purchase a ticket for the Air BART Bus, \$2.

The Air BART Bus will take you to the Oakland Airport.

For more information and a complete schedule please visit: [www.bart.gov](http://www.bart.gov).

### Transportation from the Hyatt Regency San Francisco to San Francisco International Airport:

1. **Lorries Airport Shuttle**—Requires advance reservations through the Concierge. Plan to depart hotel 2½–3 hours prior to a domestic flight and 3–3 ½ hours prior to an international flight. Travel time takes 30–35 minutes. Current fare is \$14. For additional information, please contact the Hotel Concierge at extension 51.
2. Taxi service is also available to San Francisco International Airport. The approximate fare is \$40.

### Transportation from the Hyatt Regency San Francisco to Oakland International Airport:

1. **Bay Porter Shuttle**—Requires advance reservations, contact the Bay Porter Service at (415) 467-1800.
2. **Super Shuttle**—Requires advance reservations, contact the Super Shuttle Service at (415) 659-2547.

## Car Rental

Parking can be expensive in downtown San Francisco and public transportation is highly recommended. Valet Parking is available at the Hyatt Regency San Francisco hotel for \$38 per day. Should you desire to rent a vehicle during your stay in San Francisco, here is a list of companies for your convenience:

**Alamo:** (800) 462-5260; (415) 693-0191

**Avis:** (800) 230-4898; (415) 929-2555

**Budget:** (415) 788-1234 (on-site at hotel)

**Dollar Rent-A-Car:** (800) 800-3665; (415) 771-5300

**Enterprise Rent-A-Car:** (800) 261-7331; (415) 837-1700

**Hertz:** (800) 654-3131; (415) 771-2200

**National:** (800) 468-3334; (415) 474-5300

**Thrifty:** (800) 847-4389; (415) 788-8111

# General Information

## Registration

The 9<sup>th</sup> ICEM registration is located in the Market Street Foyer. (Hours: Saturday, 7:00 AM–7:00 PM; Sunday, 7:00 AM–6:30 PM; Monday, 7:00 AM–6:30 PM; Tuesday 7:30 AM–7:00 PM; Wednesday 7:30 AM–12:30 PM; Thursday 7:30 AM–1:30 PM)

## Photography Policy During Scientific Sessions

Photography of scientific presentations is prohibited without advance specific consent of the presenter(s)/author(s). Session Chairs are asked to strictly enforce this policy and individuals who do not comply will be asked to leave the session. In addition, cameras and recording devices are prohibited in the Exhibit Hall.

## First Aid and Security

The Hyatt Regency at Embarcadero has equipped each meeting room with a house phone for use in case of an emergency. If you need medical or security assistance, pick-up the house phone and dial 4000 for Security or 55 for any other type of emergency. You can also dial 0 and the hotel operator will connect you to the correct department.

## Currency Exchanges

The American Dollar is the only acceptable form of payment in the United States.

The hotel offers limited Currency Exchange. The hotel concierge recommends the Thomas Cook Foreign Exchange which is located at 75 Geary Street at Grant. This location is 4–5 blocks from the hotel.

## Banking

### Credit Cards & Travelers Checks

Visa, Mastercard, American Express, Diners Club, Discover Card, and Traveler's Checks are widely accepted at hotels, department stores, shops and restaurants.

### ATM

There is an ATM in the hotel lobby across from the service desk and for your convenience there are also other banks and ATMs within four blocks of the hotel.

#### Bank of America

50 California Street

1 Market Street

345 Montgomery Street

701 Grant Avenue

#### Wells Fargo Bank

292 Battery Street

1160 Grant Avenue

464 California Street

1 California Street

#### Washington Mutual

401 California Street

1040 Grant Avenue

## Insurance

Participants are advised to provide their own personal insurance as the 9<sup>th</sup> ICEM cannot assume responsibility on behalf of participants for personal accidents, sickness, theft, or property damage.

## Stay Connected While You Travel

As technology advances and with attendees traveling from all over the world, the ICEM Organizing Committee appreciates how important it is for attendees to stay connected to daily responsibilities in their home locations while attending the meeting. The ICEM will have stations available to check your e-mail and connect to the Internet. Wireless High-Speed Internet is available in all guest rooms at the Hyatt Regency San Francisco.

## Area Code/Phone Dialing In San Francisco, California

The area code for San Francisco is 415. The 510 area code encompasses the East Bay including the communities of Oakland and Berkeley. The 650 area code covers most of the Peninsula including San Francisco International Airport. For dialing outside the 415 area code, callers must dial 1 plus the appropriate area code and seven-digit number.

## Electrical Appliances

North American outlets require appliances with 110V compatibility.

## Tipping

Restaurants: Restaurant service is not usually included in restaurant checks. The average tip is 15% of the total check.

Taxis: Average tip is 15% of the fare.

Airport and Hotel Portage: Tipping is expected for all baggage handling. Airport portage is usually \$1 per bag.

## Tax

A non-refundable 8.25% state sales tax must be paid on every item. This tax will not be refunded at the airport upon departure.



# Interactive and Social Programs

## Program for Students and Post-Doctoral Fellows

An informative and social program will be held on Saturday, September 3 from 1:30 PM–4:00 PM. A special symposium on how to write a grant proposal will be followed by a social event. This will be a time for students and post-doctoral fellows to meet and network with one another prior to the start of the conference.

## Opening Session and Reception

The Opening Session will be held in the Grand Ballroom on Saturday, September 3 at 5:00 PM. The reception will immediately follow at 6:30 PM in the Atrium of the Hyatt Regency San Francisco. Badges are required for both events.

## Awards

The EMS Awards and Travel Awards will be presented during the EMS Annual Business Meeting on Monday, September 5 from 6:30 PM to 8:00 PM. This meeting is open to all attendees.

## Banquet

The Banquet will be held at the San Francisco City Hall on Thursday, September 8 at 6:30 PM with departure from the Market Street Lobby entrance of the hotel. The Banquet will begin with a reception at 6:45 PM (no host bar). A three course dinner will be served at 7:45 PM.

Be sure to wear your dancing shoes. The Joel Nelson Band will be performing for our dancing pleasure after dinner. A separate fee is required to attend the banquet. Transportation will be provided.

**Banquet Registration:** The Banquet is NOT included in the Registration fee. You must pay an additional fee to attend the Banquet. (Accompanying Person Registration fee does include the Banquet.) Visit the 9<sup>th</sup> ICEM registration desk by Monday at 12:00 NOON to register to attend the banquet.

## Excursions

All tours will depart from Market Street Exit, just outside the Market Street Foyer of the Hyatt Regency at Embarcadero. (You must have signed-up in advance to attend the following tours.)

### Tour Departure Schedule:

#### Tuesday, September 6, 2005

Dinner Cruise on the San Francisco Bay  
6:30 PM–10:30 PM  
(6:30 PM departure)

#### Wednesday, September 7, 2005

California's Sonoma Wine Valley  
12:00 NOON–5:00 PM  
(12:00 NOON departure)

Alcatraz Island  
1:00 PM–5:00 PM  
(1:00 PM departure)

Muir Woods  
12:30 PM–4:30 PM  
(12:30 PM departure)

Beach Blanket Babylon  
5:30 PM–10:30 PM  
(5:30 PM departure)



# Agenda

## Saturday, September 3, 2005

Saturday, September 3, 2005

7:00 AM–7:00 PM

Market Street Foyer

### REGISTRATION OPEN

Saturday, September 3, 2005

8:00 AM–12:30 PM

Bayview

### SHORT COURSE

#### APPLIED AND REGULATORY GENETIC TOXICOLOGY

Chair: *Paul A. White*, Health Canada, Ottawa, ON, Canada

#### Sponsored by Health Canada

This course will provide an overview of genetic toxicology test batteries, genetic toxicology tests approved for regulatory purposes, and regulatory guidelines for interpreting genetic toxicology test data. Detailed information will be provided on all of the major genetic toxicology tests, including how they are conducted and how the results are interpreted. The use of genetic toxicology data in industry and governmental regulatory agencies will be discussed.

#### Welcome and Introduction

*Paul A. White*, Health Canada, Ottawa, ON, Canada

#### Overview of Test Batteries, Approved Regulatory Tests, and Regulatory Guidelines

*Paul A. White*, Health Canada, Ottawa, ON, Canada

#### Use of Genetic Toxicology Testing in the Assessment of Existing Chemical Substances under the Canadian Environmental Protection Act

*Kathy Hughes*, Health Canada, Ottawa, ON, Canada

#### Framework for the Use of Genetic Toxicity Test Results for the Regulation of Chemical Products

*Kerry L. Dearfield*, USDA, Washington, DC, United States

#### Genetic Toxicology Testing in the Agrochemical Industry and Its Role in Product Safety Assessment and Mechanistic Research

*Bhaskar Gollapudi*, The Dow Chemical Company, Midland, MI, United States

#### Genetic Toxicology Testing and Product Safety Assessment in the Pharmaceutical Industry

*Robert J. Mauthe*, Pfizer Global R&D, Ann Arbor, MI, United States

Saturday, September 3, 2005

8:00 AM–12:30 PM

Seacliff A/B

### SHORT COURSE

#### EMERGING ISSUES IN MOLECULAR EPIDEMIOLOGY

Chairs: *Stefano Bonassi*, INRC, Genoa, Italy and *Marianne Berwick*, University New Mexico, Albuquerque, NM, United States

The recent availability of high-throughput techniques for population studies has provided the potential for discovering genetic risks of disease in individuals and modeling gene-environment interactions. This course addresses issues regarding various genetic biomarkers, such as the use of SNPs and gene-expression profiles in the study of human populations, as well as the potential of banking biological sampling. Statistical methods for analyzing data from new molecular endpoints will be presented, along with new perspectives on the classic disciplines of biodosimetry and exposure assessment.

#### How Molecular Epidemiology Is Changing with New Techniques

*John S. Witte*, University California, San Francisco, CA, United States

#### Association Studies in Molecular Epidemiology

*Marianne Berwick*, University New Mexico, Albuquerque, NM, United States

#### SNPs and Microarrays in Population Studies

*Martyn T. Smith*, University California, Berkeley, CA, United States

#### Statistical Methods in Molecular Epidemiology

*Sandrine Dudoit*, University California, Berkeley, CA, United States

#### Biodosimetry: From Chromosomes to Gene Expression Profiling

*James D. Tucker*, Wayne State University, Detroit, MI, United States

#### Tissue Repositories: Issues and Challenges, A View from the Trenches

*Vann E. Schaffner*, University New Mexico, Albuquerque, NM, United States

#### Exposure Biomarkers: A Role for DNA Adducts

*Peter B. Farmer*, University Leicester, Leicester, United Kingdom

Saturday, September 3, 2005  
8:00 AM–12:30 PM  
Seacliff C

**SHORT COURSE**

**NEW DEVELOPMENTS AND APPLICATIONS OF THE COMET ASSAY**

**Chairs:** *N.P. Singh*, University Washington, Seattle, WA, United States and *Peggy Olive*, BC Cancer Research Centre, Vancouver, BC, Canada

**Sponsored by Integrated Laboratory Systems, Inc.**

This course will cover the various primary applications of the Comet (or single cell gel electrophoresis) assay. For each major area of interest, instructors will review innovative applications, proper study design, the types of mechanistic data that can be obtained by modifying the assay, data analysis, and study interpretation.

**Organizers and/or Instructors:**

*Brian Burlinson*, GlaxoSmithKlein, Herts, United Kingdom

*Andrew R. Collins*, University Oslo, Oslo, Norway

*Maria Dusinska*, Institution Preventive and Clinical Medicine, Bratislava, Slovakia

*Andreas Hartmann*, Novartis, Basel, Switzerland

*Makoto Hayashi*, NIHS, Tokyo, Japan

*Günter Speit*, University Ulm, Ulm, Germany

*Raymond R. Tice*, NIEHS, Research Triangle Park, NC, United States

**Lecture Topics:**

**Assessment of DNA Repair Competency in Mammalian Cells (e.g., Lesion-specific Pathways, use of FISH)**

**Human Biomonitoring (e.g., Classes of DNA Damage, Occupational, Environmental Exposures)**

**Genetic Ecotoxicology (Aquatic, Terrestrial)**

**Genetic Toxicology (Screening/Regulatory Applications, *In Vitro*/*In Vivo* Test Methods, Cytotoxicity, Validation)**

**Question-and-Answer Panel**

**Optional Lecture—Practical Aspects of the Comet Assay**

Saturday, September 3, 2005  
8:00 AM–12:30 PM  
Seacliff D

**SHORT COURSE**

**QUALITY ASSURANCE (QA) IN GOVERNMENT AND INDUSTRY LABORATORIES**

**Chair:** *Thomas J. Hughes*, US EPA, Research Triangle Park, NC, United States

**Sponsored by Celanese**

This course will provide an overview of QA and Quality Control (QC) relevant to U.S. government, industrial, and pharmaceutical laboratories. Regulations on the use of rodents in toxicology, including Institutional Animal Care and Use Committee (IACUC) functions, will be given. Good Laboratory Practice (GLP) Regulations will be reviewed, including management of GLP studies at Contract Research Organizations (CROs). QA practices for paper and electronic records in government and the pharmaceutical industry will be described, including techniques to validate computer software and programs for record keeping.

**Relationships Among QC, Peer-Review, and QA Procedures at the US EPA**

*Thomas J. Hughes*, US EPA, Research Triangle Park, NC, United States

**Regulations and Guidelines for Use of Animals in Toxicological Research**

*James W. Allen*, US EPA, Research Triangle Park, NC, United States

**Overview of GLP Regulations and QA**

*Patricia O'Brien Pomerleau*, CIIT Centers for Health Research, Research Triangle Park, NC, United States

**Management of GLP Studies at Contract Research Organizations (CROs)**

*Thomas R. Barfknecht*, Celanese Ltd., Dallas, TX, United States

**QA and Data Management Techniques at the US EPA**

*Ron Rogers*, US EPA, Research Triangle Park, NC, United States

**Computer Systems and Quality Assurance**

*John Haw*, Cary, NC, United States

**Final Questions and Answers**





**Saturday, September 3, 2005**

**1:30 PM–4:00 PM**

**Bayview**

**STUDENT/FACULTY PROGRAMS**

**GRANT WRITING FOR YOUNG INVESTIGATORS**

**Chair:** *Joann B. Sweasy*, Yale University, New Haven, CT, United States

1:30 PM **TIPS ON WRITING A FUNDABLE GRANT APPLICATION**  
*Lawrence A. Loeb*, University of Washington, Seattle, WA, United States

1:50 PM #1 **NAVIGATING THE NIH**  
*Syed Quadri*, Oncological Sciences Integrated Review Group, Center of Scientific Review, National Institutes of Health, Bethesda, MD, United States

2:10 PM #2 **COMMON MISTAKES IN GRANT WRITING**  
*Joann Sweasy*, Yale University School of Medicine, New Haven, CT, United States

2:30 PM **YOUNG INVESTIGATOR MIXER/SOCIAL**

**Saturday, September 3, 2005**

**1:30 PM–4:30 PM**

**Garden A/B Room**

**Attendance is free of charge.**

**THE HUMN WORKSHOP**

**Chairs:** *Errol Zeiger*, Errol Zeiger Consulting, Chapel Hill, NC, United States and *Michael Fenech*, CSIRO Health Science and Nutrition, Adelaide, BC, Canada

The HUMN project is an international collaboration involving 35 labs from 22 countries aimed at studying the frequency of micronuclei and the relevance of this endpoint in human populations. This project was originally launched at the 7<sup>th</sup> ICEM in Toulouse. We have since had a workshop at each ICEM and ICEMHP aimed at updating knowledge about the use of the micronucleus assay in human populations, reviewing progress of our research program, and launching new initiatives. All registered 9<sup>th</sup> ICEM attendees are encouraged to attend.

The purpose of the HUMN project would be to:

1. Review new knowledge on the mechanisms of micronucleus formation and related biomarkers (nucleoplasmic bridges, nuclear buds) which has emerged over the past 4 years.
2. Review new data relating to the CBMN assay (e.g. effect of diet, genotypes, related biomarkers measured in the same assay etc.)

3. Report results of the HUMN project prospective study linking micronucleus frequency in lymphocytes with cancer risk, which will be completed at the end of this year.

4. Report outcome of buccal cell micronucleus assay review (currently underway).

1:30 PM **BRIEF INTRODUCTION TO THE HUMN PROJECT, HISTORY, MISSION AND OBJECTIVES**  
*Errol Zeiger*, Errol Zeiger Consulting, Chapel Hill, NC, United States

1:45 PM **REVIEW OF NEW KNOWLEDGE ON THE MECHANISMS OF MICRONUCLEUS FORMATION AND RELATED BIOMARKERS (NUCLEOPLASMIC BRIDGES, NUCLEAR BUDS) AND EFFECTS OF MICRONUTRIENTS**  
*Michael Fenech*, CSIRO Health Science and Nutrition, Adelaide, BC, Canada

2:10 PM #3 **REVIEW OF THE EFFECT OF OCCUPATIONAL EXPOSURE TO GENOTOXINS AND GENOTYPE ON MICRONUCLEUS FREQUENCIES IN HUMAN POPULATIONS**  
*Micheline Kirsch-Volders*, Vrije Universiteit Brussels, Brussels, Belgium

2:35 PM **RESULTS OF THE HUMN PROJECT PROSPECTIVE STUDY LINKING MICRONUCLEUS FREQUENCY IN LYMPHOCYTES WITH CANCER RISK WHICH WAS COMPLETED IN 2005**  
*Stefano Bonassi*, National Cancer Research Institute, Genova, Italy

3:05 PM **DISCUSS CURRENT STATUS AND PROSPECTS FOR AUTOMATION OF MICRONUCLEUS ASSAYS BY FLOW CYTOMETRY**  
*Steve Dertinger*, Litron Laboratories, Rochester, NY, United States

3:30 PM **REPORT OUTCOME OF BUCCAL CELL MICRONUCLEUS ASSAY REVIEW AND DISCUSSION OF FEASIBILITY AND SCOPE OF A HUMN BUCCAL CELL PROJECT (ESTABLISHMENT OF SCORING CRITERIA, INTER-LABORATORY SLIDE SCORING, AND INTERNATIONAL DATA BASE COLLATION/COMPARISON/ANALYSIS TO IDENTIFY KEY METHODOLOGICAL, DEMOGRAPHIC AND GENETIC VARIABLES)**  
*Claudia Bolognesi*, National Cancer Research Institute, Genoa, Italy

4:00 PM **OPEN DISCUSSION ON FUTURE OF HUMN PROJECT**

Saturday, September 3, 2005

5:00 PM–6:30 PM

Grand Ballroom

**OPENING SESSION**

All registrants are encouraged to attend. Guests must be registered as an Accompanying Person to attend. Badges should be worn.

Sponsored by The Dow Chemical Company

**Welcome to the 9<sup>th</sup> ICEM**

*Philip C. Hanawalt*, Stanford University, Stanford, CA, United States

**Welcome from the President of the IAEMS**

*James M. Gentile*, Research Corporation, Tucson, AZ, United States

**Welcome from the President of the EMS**

*Leona D. Samson*, MIT, Cambridge, MA, United States

**Welcome from the Program Chair of the 9<sup>th</sup> ICEM**

*David M. DeMarini*, US EPA, Research Triangle Park, NC, United States

**Keynote Lecture: "Poor Diets: The Main Environmental Mutagen"**

*Bruce N. Ames*, Children's Hospital Oakland Research Institute, Oakland CA, United States

**Keynote Lecture: "DNA Repair and Mutagenesis: Challenges for the Future"**

*Philip C. Hanawalt*, Stanford University, Stanford, CA, United States

Saturday, September 3, 2005

6:30 PM–8:30 PM

Atrium

**OPENING RECEPTION**

All registrants are encouraged to attend. Guests must be registered as an Accompanying Person. Badges required.

**Sunday, September 4, 2005**

Sunday, September 4, 2005

7:00 AM–6:30 PM

Market Street Foyer

**REGISTRATION OPEN**

Sunday, September 4, 2005

7:00 AM–8:30 AM

**2006 PROGRAM COMMITTEE MEETING, 1ST MEETING**

(Garden A/B)

**MOLECULAR EPIDEMIOLOGY SPECIAL INTEREST GROUP**

(Seacliff A/B)

**TRANSGENETIC/IN VITRO MUTAGENESIS SPECIAL INTEREST GROUP**

(Seacliff C/D)

Sunday, September 4, 2005

8:30 AM–9:10 AM

Grand Ballroom

**PLENARY LECTURE—LAWRENCE A. LOEB**

Introduction

*Hai Won Chung*, President of the Korean Environmental Mutagen Society (KEMS), Seoul National University, Seoul, Korea

**GENERATION OF MULTIPLE MUTATIONS IN CANCER**

*Lawrence A. Loeb*, University of Washington, Seattle, WA, United States

9:10 AM–9:15 AM

**10<sup>TH</sup> ICEM ANNOUNCEMENT**

*Silvio De Flora*, University Genoa, Genoa, Italy

Sunday, September 4, 2005

9:15 AM–10:00 AM

Grand Ballroom

**PLENARY LECTURE—NADRIAN C. SEEMAN**

Introduction

*Martina Veigl*, President-Elect of the Environmental Mutagen Society (EMS), Case Western Reserve University, Cleveland, OH, USA

**#5 NANOTECHNOLOGY AND THE DOUBLE HELIX**

*Nadrrian C. Seeman*, New York University, New York, NY, United States

Sunday, September 4, 2005

10:00 AM–10:30 AM

Grand Ballroom Foyer

**REFRESHMENT BREAK**



Sunday, September 4, 2005

10:30 AM–12:30 PM

Seacliff C/D

**CURRENT ISSUES SYMPOSIUM—MUTAGENESIS AND HUMAN DISEASE**

**ANTIMUTAGENS AND PROSPECTS FOR CHEMOPREVENTION**

**Chairs:** *Young-Joon Surh*, Seoul National University, Seoul, Korea and *Roderick H. Dashwood*, Oregon State University, Corvallis, OR, United States

Sponsored by The Linus Pauling Institute and National Institutes of Health, Office of Dietary Supplements

- 10:30 AM #6 **MOLECULAR TARGETS FOR BIOACTIVE FOOD COMPONENTS**  
*John A. Milner*, NIH/NCI, Bethesda, MD, United States
- 11:00 AM #7 **CANCER CHEMOPREVENTION BY DIETARY CHLOROPHYLL AND CHLOROPHYLLIN: RELATIVE EFFICACIES AND ASSOCIATED MECHANISMS**  
*George S. Bailey*, Oregon State University, Corvallis, OR, United States
- 11:30 AM #8 **POTENTIAL FOR DIETARY PHYTOCHEMICALS TO MODULATE DEREGULATED SIGNALING: INDOLE-3-CARBINOL AND RELATED AGENTS**  
*Margaret M. Manson*, University Leicester, Leicester, United Kingdom
- 11:50 AM #9 **SIGNAL TRANSDUCTION PATHWAYS REGULATING COX-2 EXPRESSION: POTENTIAL MOLECULAR TARGETS FOR CHEMOPREVENTION**  
*Young-Joon Surh*, Seoul National University, Seoul, South Korea
- 12:10 PM #10 **HDAC AS A NOVEL TARGET FOR CHEMOPREVENTION: SULFORAPHANE AND OTHER DIETARY AGENTS**  
*Roderick H. Dashwood*, Oregon State University, Corvallis, OR, United States

Sunday, September 4, 2005

10:30 AM–12:30 PM

Grand Ballroom A

**CURRENT ISSUES SYMPOSIUM—MUTAGENESIS AND HUMAN DISEASE**

**ENVIRONMENTAL DNA DAMAGE, REPAIR, AND AGING**

**Chairs:** *George M. Martin*, University of Washington, Seattle, WA, United States and *Michael Fry*, Technion—Israel Institute of Technology, Haifa, Israel

Sponsored by The Ellison Medical Foundation

- 10:30 AM #11 **DNA TRANSACTIONS AND THE BIOLOGY OF AGING**  
*George M. Martin*, University of Washington, Seattle, WA, United States
- 11:00 AM #12 **DNA TETRAPLEXES: ROLES IN NORMAL AND PATHOLOGICAL DNA TRANSACTIONS**  
*Michael Fry*, Technion—Israel Institute of Technology, Haifa, Israel
- 11:30 AM #13 **DNA REPAIR DEFICIENCIES IN HUMAN PREMATURE AGING**  
*Vilhelm A. Bohr*, NIH/NIA, Baltimore, MD, United States
- 11:50 AM #14 **THE ENZYMATIC ACTIVITIES OF THE WERNER SYNDROME PROTEIN ARE DISABLED BY SPECIFIC AMINO ACID POLYMORPHISMS**  
*Lawrence A. Loeb*, University of Washington, Seattle, WA, United States
- 12:10 PM #15 **AGING AND CELLULAR RESPONSES TO DNA DAMAGE**  
*Judith Campisi*, Lawrence Berkeley National Laboratory, Berkeley, CA, United States

Sunday

**Sunday, September 4, 2005**

**10:30 AM–12:30 PM**

**Grand Ballroom B**

**CURRENT ISSUES SYMPOSIUM—MUTATIONAL MECHANISMS**

**NEW DEVELOPMENTS IN DNA DAMAGE PROCESSING**

**Chairs:** *Errol C. Friedberg*, University of Texas, Dallas, TX, United States and *Richard D. Wood*, University Pittsburgh Cancer Institute, Pittsburgh, PA, United States

- 10:30 AM #16 DNA POLYMERASE KAPPA: A SPECIALIZED POLYMERASE FOR TRANSLESION DNA SYNTHESIS  
*Errol C. Friedberg*, University of Texas, Dallas, TX, United States
- 11:00 AM #17 THE POLQ FAMILY AND DNA DAMAGE TOLERANCE IN HUMAN CELLS  
*Richard D. Wood*, University of Pittsburgh Cancer Institute, PA, United States
- 11:30 AM #18 ROLE OF THE FANCONI ANEMIA CORE COMPLEX IN RESPONSE TO DNA DAMAGE  
*Weidong Wang*, NIH/NIA, Baltimore, MD, United States
- 11:50 AM #19 NOVEL MOUSE CHROMOSOME INSTABILITY MUTANTS ISOLATED BY FORWARD GENETIC MUTAGENESIS SCREENS  
*John C. Schimenti*, Cornell University, Ithaca, NY, United States
- 12:10 PM #20 CANCER-ASSOCIATED MUTANTS OF DNA POLYMERASE BETA  
*Joann B. Sweasy*, Yale University, New Haven, CT, United States

**Sunday, September 4, 2005**

**10:30 AM–12:30 PM**

**Bayview**

**CURRENT ISSUES SYMPOSIUM—RISK ASSESSMENT RESPONSES TO LOW DOSES OF ENVIRONMENTAL MUTAGENS**

**Chairs:** *Pamela J. Sykes*, Flinders Medical Center, Bedford Park, SA, Australia and *K. Sankaranarayanan*, Leiden University Medical Center, Leiden, Netherlands

**Sponsored by Electric Power and Research Institute (EPRI)**

- 10:30 AM #21 INCORPORATING HORMESIS INTO THE RISK ASSESSMENT PARADIGM  
*Dennis Paustenbach*, ChemRisk, San Francisco, CA, United States
- 11:00 AM #22 NON-LINEAR SOMATIC INTRACHROMOSOMAL RECOMBINATION IN VIVO  
*Pamela J. Sykes*, Flinders Medical Center, Bedford Park, SA, Australia

- 11:30 AM #23 SUPPRESSION OF CHEMICAL TUMORIGENESIS AND LIFE SPAN PROLONGATION IN MICE BY LOW DOSE RATE IRRADIATION  
*Kazuo Sakai*, Central Research Institute Electric Power Industry, Tokyo, Japan

- 11:50 AM #24 ADAPTIVE RESPONSE AND BYSTANDER EFFECTS IN HUMAN AND NON-HUMAN BIOTA  
*Carmel Mothersill*, McMaster University, Hamilton, ON, Canada

- 12:10 PM #25 RISK ASSESSMENT OF GERM-CELL MUTAGENESIS  
*K. Sankaranarayanan*, Leiden University Medical Center, Leiden, Netherlands

**Sunday, September 4, 2005**

**10:30 AM–12:50 PM**

**Seacliff A/B**

**CURRENT ISSUES SYMPOSIUM—MUTAGENESIS AND HUMAN DISEASE**

**TRANSPLACENTAL EXPOSURE TO NUCLEOSIDE ANALOGS: MITOCHONDRIAL DAMAGE AND FETAL HEALTH**

**Chairs:** *Miriam C. Poirier*, NIH/NCI, Bethesda, MD and *Simon A. Mallal*, Royal Perth Hospital, Perth, Australia

**Sponsored by National Cancer Institute, Office of Womens Health**

- 10:30 AM #26 THE HIV PANDEMIC: BENEFITS AND RISKS OF EXPANDED THERAPY FOR MOTHER-TO-CHILD TRANSMISSION  
*William A. Blattner*, Institute of Human Virology, Baltimore, MD, United States
- 11:00 AM #27 CLINICAL MITOCHONDRIAL DYSFUNCTION IN HIV-UNINFECTED CHILDREN FOLLOWING PERINATAL EXPOSURE TO NUCLEOSIDE  
*Stephane Blanche*, Hospital Necker Enfants Malades, Paris, France
- 11:30 AM #28 ANTIRETROVIRAL THERAPY (ART)—ASSOCIATED CARDIOTOXICITY IN UNINFECTED BUT ART-EXPOSED INFANTS BORN TO HIV-INFECTED WOMEN: THE PROSPECTIVE NHLBI CHAART-1 STUDY  
*Steven E. Lipshultz*, University of Miami School of Medicine, Miami, FL, United States
- 11:50 AM #29 INDUCTION AND PERSISTENCE OF MITOCHONDRIAL DNA MUTATIONS IN CHILDREN AND MICE EXPOSED IN UTERO TO ZIDOVUDINE OR COMBIVIR  
*Vernon E. Walker*, Loveless Respiratory Research Institute, Albuquerque, NM, United States

- 12:10 PM #30 **FETAL MITOCHONDRIAL DYSFUNCTION: LESSONS FROM A PRIMATE MODEL**  
 Miriam C. Poirier, NIH/NCI, Bethesda, MD, United States
- 12:30 PM #31 **MITOCHONDRIAL TOXICITY INDUCED BY ANTIRETROVIRAL NUCLEOSIDE ANALOG DRUGS**  
 Simon A. Mallal, Royal Perth Hospital, Perth, Australia

**Sunday, September 4, 2005**

1:00 PM–3:00 PM

Pacific Concourse

**POSTERS ATTENDED AND EXHIBITS OPEN****EXPOSURE, DETECTION, AND TOXICITY**

Odd numbered posters will be attended from 1:00 PM–2:00 PM and even numbered posters will be attended from 2:00 PM–3:00 PM.

- #32 **CHARACTERIZATION OF THE EPIDERM™ HUMAN 3-D SKIN MODEL FOR GENOTOXICITY TESTING.** Aardema, MJ<sup>1</sup>, Curren, R<sup>2</sup>, Hayden, P<sup>3</sup>, Munn, G<sup>2</sup>, Gibson, D<sup>1</sup>, Hu, T<sup>1</sup>. <sup>1</sup>The Procter & Gamble Co, Cincinnati OH, United States, <sup>2</sup>Institute for InVitro Sciences, Gaithersburg MD, United States, <sup>3</sup>MatTek Corp, Ashland MD, United States.
- #33 **WITHDRAWN**
- #34 **N-METHYL-N'-NITRO-N-NITROSOGUANIDINE-INDUCED MUTATIONS IN ADULTS AND EMBRYOS OF RPSL TRANSGENIC ZEBRAFISH.** Amanuma, K, Nakamura, T, Nagaya, M, Aoki, Y. National Institute for Environmental Studies, Tsukuba, Japan.
- #35 **SYNTHESIS, CHARACTERIZATION AND <sup>32</sup>P-POSTLABELING ANALYSIS OF DNA ADDUCTS DERIVED FROM THE ENVIRONMENTAL CONTAMINANT 3-NITROBENZANTHRONE.** Arlt, VM<sup>1</sup>, Osborne, MR<sup>1</sup>, Kliem, C<sup>2</sup>, Hull, WE<sup>2</sup>, Mirza, A<sup>1</sup>, Bieler, CA<sup>2</sup>, Schmeiser, HH<sup>2</sup>, Phillips, DH<sup>1</sup>. <sup>1</sup>Institute of Cancer Research, Sutton, Surrey, United Kingdom, <sup>2</sup>German Cancer Research Center, Heidelberg, Germany.
- #36 **ASSESSMENT OF INITIATING AND PROMOTING ACTIVITY OF POSSIBLE CARCINOGENS BY A NOVEL CELL TRANSFORMATION ASSAY USING V-HA-RAS-TRANSFECTED BHAS CELLS.** Asada, S, Sasaki, K, Yamakage, K, Tanaka, N, Umeda, M. Hatano Research Institute, Food and Drug Safety Center, Hadano, Japan.
- #37 **LOW DOSE EFFECTS IN THE MNRETS INDUCTION BY ACRIDINE ORANGE SUPRAVITAL STAINING AND FLOW CYTOMETRIC METHODS.** Asano, N<sup>1</sup>, Torous, D<sup>2</sup>, Tometsko, C<sup>2</sup>, Dertinger, S<sup>2</sup>, Morita, T<sup>3</sup>, Hayashi, M<sup>3</sup>. <sup>1</sup>Nitto Denko Corp., Osaka, Japan, <sup>2</sup>Litron Laboratories, Rochester, NY, United States, <sup>3</sup>National Institute of Health Science, Tokyo, Japan.
- #38 **QUANTITATIVE COMPARISON OF REAL-TIME PCR AND ROLLING CIRCLE AMPLIFICATION.** Asur, R, Kulkarni, R, Thomas, RA, Tucker, JD. Wayne State University, Detroit, MI, United States.
- #39 **AN ANALYSIS OF GENETIC TOXICITY, REPRODUCTIVE AND DEVELOPMENTAL TOXICITY, AND CARCINOGENICITY DATA: I. IDENTIFICATION OF CARCINOGENS USING SURROGATE ENDPOINTS.** Matthews, EJ<sup>1</sup>, Kruhlik, NL<sup>1</sup>, Cimino, MC<sup>2</sup>, Benz, RD<sup>1</sup>, Contrera, JF<sup>1</sup>. <sup>1</sup>US Food and Drug Administration, Center for Drug Evaluation and Research, Office of Pharmaceutical Science, Informatics and Computational Safety Analysis Staff, Rockville, MD, United States, <sup>2</sup>US Environmental Protection Agency, Office of Pollution Prevention and Toxics, Risk Assessment Division, Washington, DC United States.
- #40 **THE IMPACT OF OCCUPATIONAL EXPOSURE TO IRRADIATION IN CZECH NUCLEAR POWER PLANT WORKERS.** Beskid, O<sup>1</sup>, Dusek, Z<sup>1</sup>, Chvatalova, I<sup>1</sup>, Schmuczerova, J<sup>1</sup>, Stavkova, Z<sup>1</sup>, Milcova, A<sup>1</sup>, Rossner, P<sup>2</sup>, Rubes, J<sup>3</sup>, Sram, RJ<sup>1</sup>. <sup>1</sup>Institute of Experimental Medicine and Health Institute of Central Bohemia, Prague, Czech Republic, <sup>2</sup>National Institute of Public Health, Prague, Czech Republic, <sup>3</sup>Veterinary Research Institute, Brno, Czech Republic.
- #41 **CO-ADMINISTRATION OF ABACAVIR AND LAMIVUDINE IS NEGATIVE IN THE RAT BONE MARROW MICRONUCLEUS TEST.** Burman, M, Lynch, AM. Genetic Toxicology, GlaxoSmithKline R&D, Park Road, Ware, Herts, United Kingdom.
- #42 **EFFECTS OF *Sophora flavescens* ON REDUCTION OF THE SIDE EFFECTS IN CHEMOTHERAPEUTIC DRUGS.** Kim, JC<sup>1</sup>, Han, SW<sup>1</sup>, Park, EJ<sup>2</sup>, Byun, BH<sup>1</sup>. <sup>1</sup>Dept. of Oriental Medicine, Daegu Haany University, Daegu, South Korea, <sup>2</sup>Dept. of Food and Nutrition, Kyungnam University, Masan, South Korea.
- #43 **DETECTION OF ANEUGENIC AND CLASTOGENIC AGENTS USING P53 AS A MARKER OF GENOTOXICITY.** Camacho, H, Roy, SK, Eastmond, DA. Environmental Toxicology Graduate Program, University of California at Riverside, Riverside, CA, United States.

- #44 **ANALYSIS OF MICRONUCLEI IN THE YOUNGEST RETICULOCYTES FROM PERIPHERAL BLOOD OF NASOPHARYNGEAL CANCER PATIENTS UNDERGOING RADIOTHERAPY BY A SINGLE-LASER FLOW CYTOMETER.** Sun, LP, Li, DZ, Liu, ZM, Yang, LJ, Liu, JY, Cao, J. Preventive Medical College, Third Military Medical University, Chongqing, China.
- #45 **IN VITRO EVALUATION OF TINIDAZOLE (TNZ) AND ORNIDAZOLE (ONZ) BY EFFECT BIOMARKERS.** López Nigro, MM, Gadano, AB, Carballo, MA. CIGETOX- Citogenética Humana y Genética Toxicológica- Departamento de Bioquímica Clínica- Facultad de Farmacia y Bioquímica- Universidad de Buenos Aires, Buenos Aires, Argentina.
- #46 **MUTAGENICITY SURVEY OF AIRBORNE PARTICLES PM10 IN THE CZECH REPUBLIC, 1996-2003.** Cerna, M, Pastorkova, A, Smid, J. National Institute of Public Health, Prague, Czech Republic.
- #47 **BIOLUMINESCENT REVERSE MUTATION ASSAY VALIDATION USING *E. coli* (WP2 *uvrA* pKM101) AND SALMONELLA STRAINS TA 1535 AND TA1537.** Cheung, JR, Osowski, JJ, Aubrecht, J. Pfizer Global Research and Development, Groton, CT, United States.
- #48 **PROSTATE CANCER CELL SUSCEPTIBILITY TO OXIDATIVE DNA DAMAGE IS INFLUENCED BY CELL ATTACHMENT.** Chiang, EC<sup>1</sup>, Shen, S<sup>2</sup>, Waters, DJ<sup>1</sup>, Bostwick, DG<sup>1</sup>. <sup>1</sup>Center on Aging and the Life Course, Purdue University, West Lafayette, IN, United States, <sup>2</sup>Gerald P. Murphy Cancer Foundation, West Lafayette, IN, United States.
- #49 **ASSAY DESIGN MAY AFFECT GENOTYPING RESULTS FOR THE CYP2D6 C188T POLYMORPHISM.** Clark, LS, Read, BD, Nakhle, PJ, Murphy, MP. Gentris Corporation, Morrisville, NC, United States.
- #50 **FOLPET IS NOT GENOTOXIC IN THE MOUSE DUODENUM AS MEASURED IN THE COMET ASSAY.** Clay, P. Syngenta CTL, Macclesfield, Cheshire, United Kingdom.
- #51 **DEVELOPMENT AND VALIDATION OF THE IN VIVO ALKALINE COMET ASSAY FOR DETECTION OF DNA DAMAGE IN VARIOUS TISSUES OF NMRI MICE.** Agurell, E<sup>2</sup>, Vaghef, H<sup>1</sup>, Westman, A<sup>1</sup>, Jönsson, R<sup>1</sup>, Lind, J<sup>1</sup>, Andersson, A<sup>1</sup>, Hamreby, A-M<sup>1</sup>, Czene, S<sup>1</sup>, Bolcsfoldi, G<sup>1</sup>. <sup>1</sup>AstraZeneca R&D Södertälje, Safety Assessment, Genetic Toxicology, Södertälje, Sweden, <sup>2</sup>Medical Products Agency, Uppsala, Sweden.
- #52 **DIVERSE GENOTOXICANTS AND CYTOTOXIC NON-GENOTOXICANTS EVALUATED WITH A NEW FLOW CYTOMETRY-BASED IN VITRO MICRONUCLEUS SCORING SYSTEM.** Dertinger, SD, Avlasevich, S, Bryce, S. Litron Laboratories, Rochester, NY, United States.
- #53 **EFFECT OF AFMID DEFICIENCY ON THE PHENOTYPE OF *Tk* MUTANT MICE.** Dobrovolsky, VN, Heflich, RH, Doerge, DR, Williams, LD. NCTR/FDA, Jefferson, AR, United States.
- #54 **CARBENDAZIM INDUCED *Tk*<sup>-/-</sup> MUTANT COLONIES IN MOUSE LYMPHOMA L5178Y CELLS. HOW MANY COPIES OF CHROMOSOME 11?** Doherty, AT, Fellows, M, Hayes, J, Thompson, A, O Donovan, M. AstraZeneca, Macclesfield, Cheshire, United Kingdom.
- #55 **NICKEL-INDUCED GENETIC EFFECTS IN GERM AND SOMATIC CELLS OF WR MICE.** Domschlak, MG<sup>1</sup>, Vorobyova, NY<sup>2</sup>, Osipov, AN<sup>2</sup>, Elakov, AL<sup>2</sup>. <sup>1</sup>Institute of Occupational Health Russian Academy of Medical Science, Moscow, Russia, <sup>2</sup>Scientific and Industrial Association "Radon", Moscow, Russia.
- #56 **COMPARATIVE EVALUATION OF PERIPHERAL BLOOD FLOW CYTOMETRY MICRONUCLEUS TEST IN RATS AND MICE.** Elhajouji, A<sup>1</sup>, Cammerer, Z<sup>1</sup>, Kirsch-Volders, M<sup>2</sup>, Suter, W<sup>1</sup>. <sup>1</sup>Novartis Pharma AG, Basel, Switzerland, <sup>2</sup>Vrije Universiteit Brussels, Brussels, Belgium.
- #57 **TOXICOLOGICAL ASSESSMENT OF LOW DOSE EXPOSURE TO THE GENOTOXIC FLAVOUR METHYL EUGENOL.** Ellis, JK<sup>1</sup>, Carmichael, PL<sup>2</sup>, Gooderham, NJ<sup>1</sup>. <sup>1</sup>Imperial College, London, United Kingdom, <sup>2</sup>Unilever (SEAC), Sharnbrook, United Kingdom.
- #58 **INTER-LABORATORY COMPARISON OF MICRONUCLEUS DATA OBTAINED IN RAT BONE MARROW AND PERIPHERAL BLOOD BY FLOW CYTOMETRIC ANALYSIS.** Fiedler, RD, Torous, DK. Eastern Michigan University, Ypsolanti, MI, United States.
- #59 **QUANTITATIVE SENSITIVITY IN AMES ASSAYS OF CIGARETTE SMOKE CONDENSATE.** Fowler, KW, Morgan, WT, Bombick, BR, Doolittle, DJ. R. J. Reynolds, Winston-Salem, NC, United States.

- #60 **IN VIVO GENOTOXICITY AND MUTAGENICITY OF TRACE NUTRIENTS: RESULTS OF SUBCHRONIC EXPOSURE OF MICE TO FESO<sub>4</sub>, CUSO<sub>4</sub> AND VITAMIN C AS EVALUATED BY COMET ASSAY AND MICRONUCLEUS TEST.** Franke, SIR<sup>1</sup>, Prá, D<sup>1</sup>, Erdtmann, B<sup>2</sup>, Da Silva, J<sup>3</sup>, Henriques, JAP<sup>3</sup>. <sup>1</sup>PPG em Nutrição Clínica/Curso de Nutrição/DEDFIS - UNISC; PPGBCM/PPGBM - UFRGS, Santa Cruz do Sul; Porto Alegre, RS, Brazil, <sup>2</sup>Centro de Biotecnologia - UCS, Caxias do Sul, RS, Brazil, <sup>3</sup>Curso de Biologia/Curso de Farmácia, ULBRA, Canoas, RS, Brazil.
- #61 **GENOTOXIC CONSEQUENCES OF MOPP CHEMOTHERAPY IN GAMETE AND SOMATIC CELLS FROM HODGKIN'S DISEASE PATIENTS.** Frias, S, Salas, C, Sanchez, S, Niembro, A, Molina, B, Carnevale, A, Rivera-Luna, R. Instituto Nacional de Pediatría, Mexico D.F., Mexico.
- #62 **AGE RELATED GENOTOXICITY AND MUTAGENESIS STUDIES.** Fucic, A<sup>1</sup>, Bubic Spoljar, J<sup>2</sup>, Markovic, D<sup>3</sup>, Stojkovic, R<sup>4</sup>, Ferencic, Z<sup>3</sup>, Mildner, B<sup>3</sup>, Jazbec, AM<sup>5</sup>. <sup>1</sup>Institute for Medical Research and Occupational Health, Zagreb, Croatia, <sup>2</sup>PLIVA Research & Development Ltd., Zagreb, Croatia, <sup>3</sup>PLIVA Research Institute Ltd, Zagreb, Croatia, <sup>4</sup>Institute Rudjer Boskovic, Zagreb, Croatia, <sup>5</sup>Faculty of Forestry, Zagreb, Croatia.
- #63 **DETECTION OF A NOVEL MUTAGEN 1,3,6-TRINITROPYRENE, AS A MAJOR CONTAMINANT IN SURFACE SOIL IN NAGOYA CITY, JAPAN.** Gao, N<sup>1</sup>, Yoshida, S<sup>1</sup>, Asanoma, M<sup>2</sup>, Watanabe, T<sup>3</sup>, Hirayama, T<sup>3</sup>, Nukaya, H<sup>4</sup>, Mizutani, T<sup>1</sup>, Takahashi, K<sup>1</sup>. <sup>1</sup>Nagoya City University, Nagoya City, Aichi Prefecture, Japan, <sup>2</sup>Nagoya City Health Res. Inst., Nagoya City, Aichi Prefecture, Japan, <sup>3</sup>Kyoto Pharmaceutical University, Kyoto City, Kyoto Prefecture, Japan, <sup>4</sup>University of Shizuoka, Shizuoka City, Shizuoka Prefecture, Japan.
- #64 **ASSESSING LEAD EFFECTS ON FISHER 344 RATS USING ICP-MS AND HISTOLOGY.** Gato, WEG, Eversole, RE, Means, JCM. Western Michigan University, Kalamazoo, Mi, United States.
- #65 **URINARY MUTAGENICITY, URINARY 1-OH-HYDROXYPYRENE LEVELS AND GENETIC POLYMORPHISMS IN WORKERS EXPOSED TO DIESEL EXHAUST.** Gil, L, Martinez, V, Ancic, P, Adonis, M. <sup>1</sup>University of Chile, Santiago, Chile.
- #66 **CO-ADMINISTRATION OF ETHANOL OR AN ALCOHOL DEHYDROGENASE INHIBITOR DRAMATICALLY ENHANCES THE DNA ADDUCT FORMATION BY 1-HYDROXYMETHYLPYRENE IN THE RAT IN VIVO.** Ma, L<sup>1</sup>, Hollnagel, H<sup>1</sup>, Langheinrich, C<sup>1</sup>, Stephani, M<sup>1</sup>, Kollock, R<sup>1</sup>, Seidel, A<sup>2</sup>, Glatt, HR<sup>1</sup>. <sup>1</sup>German Institute of Human Nutrition Potsdam-Rehbruecke, Nuthetal, Germany, <sup>2</sup>Biochemisches Institut fuer Umweltcarcinogene, Grosshansdorf, Germany.
- #67 **VITAMINS AS AN ALTERNATIVE TO REDUCE GENOTOXIC RISK OF FLUOROQUINOLONES TREATMENT.** González-Avila, M<sup>1</sup>, Flores-Lozada, J<sup>2</sup>, Rivera-Sánchez, R<sup>2</sup>, Arriaga-Alba, M<sup>2</sup>. <sup>1</sup>Universidad Politécnica de Pachuca, Pachuca, Hidalgo, Mexico, <sup>2</sup>Laboratorio de Investigación Microbiológica, Hospital Juárez de México, Mexico City, D.F., Mexico.
- #68 **MUTAGENIC ACTIVITY OF AIRBORNE PARTICLES IN CENTRAL METROPOLITAN TOKYO OVER THE PAST 20 YEARS.** Goto, S<sup>1</sup>, Endo, O<sup>2</sup>, Nakajima, D<sup>1</sup>, Aoki, Y<sup>1</sup>, Matsushita, H<sup>3</sup>. <sup>1</sup>National Institute for Environmental Studies, Japan, Tsukuba, Ibaraki, Japan, <sup>2</sup>National Institute of Public Health, Japan, Wako, Saitama, Japan, <sup>3</sup>University of Shizuoka, Yada, Shizuoka, Japan.
- #69 **A PERSPECTIVE ON GENOTOXICITY RISK PERCEPTION, ASSESSMENT AND COMMUNICATION.** Gray, JA. Chordia Ltd, York, United Kingdom.
- #70 **BONE MARROW AND PERIPHERAL BLOOD MICRONUCLEUS ANALYSES FOLLOWING REPEATED DOSING OF POSITIVE CONTROL ARTICLES IN MICE AND RATS.** Gudi, R, Fall, S, Huston, T, Kendrick, S, Clair, J, Krsmanovic, LJ. BioReliance Invitrogen Bioservices, Rockville, MD, United States.
- #71 **A RAPID APPROACH FOR ESTIMATING HPRT MUTANT FREQUENCIES AND CHARACTERIZING GENE MUTATIONS IN HUMANS EXPOSED TO GENOTOXICANTS.** Guerin, AT, Wickliffe, JK, Hill, CE, Carmical, JR, Ward, JB, Abdel-Rahman, SZ. University of Texas Medical Branch, Galveston, TX, United States.
- #72 **ANTIMUTAGENIC AND ANTIFUNGAL *Impatiens balsamina* L.** Guevara, AP, Garcia, W. University of the Philippines, Diliman, Quezon City, Philippines.

- #73 **ESTABLISHMENT OF HUMANIZED IN VITRO GENOTOXICITY TEST SYSTEM: COMBINED SYSTEM USING HUMAN CELL LINES AND HUMAN S9.** *Hakura, A,<sup>1</sup> Oka, H,<sup>2</sup> Takasaki, W,<sup>3</sup> Sasaki, YF,<sup>4</sup> Suzuki, S,<sup>5</sup> Satoh, T,<sup>6</sup> Honma, M.<sup>6</sup>* <sup>1</sup>Eisai Co. Ltd., Kakamigahara, Gifu, Japan, <sup>2</sup>Taiho Pharmaceutical Co. Ltd., Tokushima, Tokushima, Japan, <sup>3</sup>Sankyo Co. Ltd., Fukuroi, Shizuoka, Japan, <sup>4</sup>Hachinohe National College of Technology, Hachinohe, Aomori, Japan, <sup>5</sup>HAB Biomedical Research Institute, Ichikawa, Chiba, Japan, <sup>6</sup>HAB Biomedical Research Institute, Ichikawa, Chiba, Japan, <sup>7</sup>National Institute of Health Sciences, Setagaya, Tokyo, Japan.
- #74 **EVALUATION OF HUMAN RADIATION SENSITIVITY USING FLOW CYTOMETRY OF PHOSPHORYLATED HISTONE H2AX IN CULTURED T LYMPHOCYTES.** *Hamasaki, K<sup>1</sup>, Kusunoki, Y<sup>1</sup>, Kodama, Y<sup>2</sup>, Takahashi, N<sup>2</sup>, Nakachi, K<sup>1</sup>.* <sup>1</sup>Department of Radiobiology/Molecular Epidemiology, Radiation Effects Research Foundation, Hiroshima, Japan, <sup>2</sup>Department of Genetics, Radiation Effects Research Foundation, Hiroshima, Japan.
- #75 **DETECTION OF A NOVEL MUTAGEN, 3,6-DINITROBENZO[e]PYRENE, AS A MAJOR CONTAMINANT IN SURFACE SOIL IN OSAKA AND AICHI PREFECTURE, JAPAN.** *Hasei, T, Watanabe, T, Hirayama, T.* Kyoto Pharmaceutical University, Kyoto, Japan.
- #76 **CARCINOGENIC RISK ESTIMATION OF ORGAN SPECIFIC MUTAGENICITY INDUCED BY PHENACETIN USING *gpt* DELTA TRANSGENIC RATS.** *Hayashi, H<sup>1</sup>, Shindo, Y<sup>1</sup>, Nohmi, T.<sup>2</sup>* <sup>1</sup>Toxicology Laboratory, Meiji Seika Kaisha, Ltd., Yokohama, Japan, <sup>2</sup>Division of Genetics and Mutagenesis, National Institute of Health Sciences, Tokyo, Japan.
- #77 **ANTICLASTOGENIC EFFECT OF CHAMOMILE ESSENTIAL OIL EVALUATED WITH THE MICRONUCLEUS TEST.** *Hernández-Ceruelos, A<sup>1</sup>, Cassani, M<sup>2</sup>, Cruz, J<sup>2</sup>, Madrigal-Bujaidar, E<sup>2</sup>.* <sup>1</sup>Universidad Autónoma del Estado de Hidalgo, Area Académica de Medicina, Pachuca, Hidalgo, Mexico, <sup>2</sup>Laboratorio de Genética, Escuela Nacional de Ciencias Biológicas, I.P.N., Mexico City, D.F., Mexico.
- #78 **A COMPARISON OF CHO AND HUMAN LYMPHOCYTE CELLS USING CYTOTOXIC CHROMOSOMAL ABERRATION INDUCERS THAT INHIBIT DNA SYNTHESIS.** *Hilliard, CA, Hill, RB, Armstrong, MJ, Fleckenstein, CM, Galloway, SM.* Merck & Co., Inc., West Point, PA, United States.
- #79 **COLONY SCORING OF THE MICROTITRE MOUSE LYMPHOMA Tk LOCUS ASSAY USING A FLATBED SCANNER.** *Hou, S<sup>1</sup>, Jörgensen-Burman, B-M<sup>1</sup>, Kühn, I<sup>2</sup>, Bolcsfoldi, G<sup>1</sup>.* <sup>1</sup>Department of Genetic toxicology, Safety Assessment, AstraZeneca R&D Södertälje, Södertälje, Sweden, <sup>2</sup>Microbiology and Tumor Biology Center, Karolinska Institute, Stockholm, Sweden.
- #80 **INHIBITORY EFFECTS OF YAMABUDO-GRAPE (*Vitis coignetiae pulliat*) ON DNA-ADDUCT FORMATION INDUCED BY HETEROCYCLIC AMINES.** *Ishida, R, Okamoto, K, Okamoto, G, Arimoto, S.* Faculty of Pharmaceutical Sciences, Okayama University, Okayama, Japan.
- #81 **EXPOSURE TO SECOND HAND SMOKE IN INFANTS.** *Jensen, A, Sorensen, M, Stage, M, Bisgaard, H, Loft, S.* Universitet of Copenhagen, Copenhagen, Denmark.
- #82 **ANALYSES OF 8-OH-dG AND 8-OH-GUA AS MARKERS OF OXIDATIVE STRESS.** *Kasai, H<sup>1</sup>, Svoboda, P<sup>1</sup>, Yamasaki, S<sup>1</sup>, Irie, M<sup>2</sup>, Kawanami, K<sup>3</sup>, Miyamoto, T<sup>3</sup>.* <sup>1</sup>University of Occupational and Environmental Health, Kitakyushu, Japan, <sup>2</sup>Kyushu University, Fukuoka, Japan, <sup>3</sup>Nippon Steel Corp., Kimitsu, Japan.
- #83 **URINARY MUTAGENICITY AND BIOMARKERS OF EXPOSURE TO WOOD SMOKE AMONG CHARCOAL WORKERS IN BRAZIL.** *Kato, M<sup>1</sup>, Carvalho, AB<sup>1</sup>, Loomis, D<sup>4</sup>, Rego, G<sup>5</sup>, Gattás, R<sup>3</sup>, DeMarini, D<sup>2</sup>.* <sup>1</sup>Fundacentro-CRBA, Salvador, Bahia, Brazil, <sup>2</sup>US Environmental Protection Agency, Research Triangle Park, NC, United States, <sup>3</sup>São Paulo, SP, São Paulo, SP, Brazil, <sup>4</sup>School of Public Health-UNC-CH, Chapel Hill, NC, United States, <sup>5</sup>School of Medicine - UFBA, Salvador, Bahia, Brazil.
- #84 **AN EVALUATION OF THE MUTAGENICITY OF COKE OVEN EMISSIONS USING US EPA'S 2005 SUPPLEMENTAL GUIDANCE FOR ASSESSING CANCER SUSCEPTIBILITY FROM EARLY-LIFE EXPOSURE TO CARCINOGENS.** *Keshava, C<sup>1</sup>, Cimino, M<sup>2</sup>, Dearfield, K<sup>3</sup>, Flowers, L<sup>1</sup>, Kligerman, A<sup>4</sup>, McCarroll, N<sup>2</sup>, Owen, R<sup>4</sup>, Putzrath, R<sup>1</sup>, Schoeny, R<sup>5</sup>.* <sup>1</sup>National Center for Environmental Assessment, Office of Research and Development, US Environmental Protection Agency, Washington, DC, United States, <sup>2</sup>OPPTS, US EPA, Washington, DC, United States, <sup>3</sup>OSA, US EPA, Washington, DC, United States, <sup>4</sup>NHEERL, US EPA, Research Triangle Park, NC, United States, <sup>5</sup>OW, US EPA, Washington, DC, United States.



- #85 **GENOTOXICITY EVALUATION OF PEPTIDE COUPLING REAGENTS.** Kim, ST<sup>1</sup>, Kim, SS<sup>2</sup>, Seid, DA<sup>1</sup>. <sup>1</sup>Applied Biosystems, Foster City, United States, <sup>2</sup>University of California, Berkeley, United States.
- #86 **YEAST DEL ASSAY DETECTS CLASTOGENS.** Kirpnick, Z<sup>1</sup>, Rubitski, E<sup>2</sup>, Homiski, M<sup>2</sup>, Repnevskaya, M<sup>1</sup>, Howlett, N<sup>3</sup>, Aubrecht, J<sup>2</sup>, Schiestl, RH<sup>1</sup>. <sup>1</sup>UCLA, Los Angeles, CA, United States, <sup>2</sup>Pfizer, Inc., Groton, CT, United States, <sup>3</sup>University of Michigan, Ann Arbor, MI, United States.
- #87 **MUTAGENIC POTENCY STRUCTURE/ACTIVITY RELATIONSHIPS OF AMINO-IMIDAZO-PYRIDINES RELATED TO PhP AND TMIP FOUND IN COOKED MEATS.** Knize, MG<sup>1</sup>, Hatch, FT<sup>2</sup>, Tanga, MJ<sup>3</sup>, Chrisman, W<sup>3</sup>, Wu, RW<sup>1</sup>, Colvin, ME<sup>4</sup>, Felton, JS<sup>1</sup>. <sup>1</sup>Lawrence Livermore National Laboratory, Livermore, CA, United States, <sup>2</sup>XX, Meredith, NH, United States, <sup>3</sup>SRI International, Menlo Park, CA, United States, <sup>4</sup>University of California, Merced, CA, United States.
- #88 **ETHYL CARBAMATE IN SOYSAUCE CONSUMED IN KOREA: LEVELS, FORMATION, AND ESTIMATED INTAKE.** Kwon, H, Koh, E. Seoul National University, Seoul, South Korea.
- #89 **GENOTOXICITY OF ACRYLAMIDE AND GLYCIDAMIDE IN HUMAN LYMPHOBLASTOID TK6 CELLS.** Koyama, N<sup>1</sup>, Sakamoto, H<sup>2</sup>, Sakuraba, M<sup>2</sup>, Koizumi, Y<sup>2</sup>, Takashima, Y<sup>2</sup>, Hayashi, M<sup>2</sup>, Matufuji, H<sup>3</sup>, Yamagata, K<sup>3</sup>, Masuda, S<sup>1</sup>, Kinai, N<sup>1</sup>, Honma, M<sup>2</sup>. <sup>1</sup>University of Shizuoka Graduate School of Nutritional Sciences, 52-1 Yada Surugaku Shizuoka, Japan, <sup>2</sup>Division of Genetic and Mutagenesis, National Institute of Health Sciences, 1-18-1 Kamiyoga, Setagaya-ku, Tokyo, Japan, <sup>3</sup>Department of Food Science and Technology, College of Biosciences, Nihon University, 1866 Kameino, Fujisawa-shi, Kanagawa, Japan.
- #90 **AN ANALYSIS OF GENETIC TOXICITY, REPRODUCTIVE AND DEVELOPMENTAL TOXICITY, AND CARCINOGENICITY DATA: II. IDENTIFICATION OF GENOTOXICANTS, REPROTOXICANTS, AND CARCINOGENS USING IN SILICO METHODS WITH EXPERIMENTAL AND VIRTUAL DATABASES.** Matthews, EJ, Kruhlik, NL, Benz, RD, Contrera, JF. US Food and Drug Administration, Center for Drug Evaluation and Research, Office of Pharmaceutical Science, Informatics and Computational Safety Analysis Staff, Rockville, MD, United States.
- #91 **DEVELOPING AN IN VITRO PHOTOGENOTOXICITY ASSAY USING HUMAN SKIN.** Krul, CAM, Maas, WJM, Steenwinkel, MJST, van Meeuwen, RNC, de Vogel, N. TNO Quality of Life, Zeist, Netherlands.
- #92 **APPLICATION OF STRUCTURE-BASED ASSESSMENT FOR PRIORITIZING THE CONTROL AND MEASUREMENT OF GENOTOXIC IMPURITIES IN ACTIVE PHARMACEUTICAL INGREDIENTS DURING DRUG DEVELOPMENT.** Dobo, K, Cyr, M, Greene, N, Ku, W. Pfizer Global R & D, Groton, CT, United States.
- #93 **IDENTIFICATION OF LOW-DOSE IONIZING RADIATION BIOSIGNATURES FOR ACUTE EXPOSURES.** Kulkarni, R, Bailey, N, Najib, A, Thomas, RA, Tucker, JD. Wayne State University, Detroit, MI, United States.
- #94 **INCREASED FREQUENCIES OF MICRONUCLEATED RETICULOCYTES IN *Aldh2* KNOCKOUT MICE EXPOSED TO ACETALDEHYDE.** Kunugita, N<sup>1</sup>, Isse, T<sup>2</sup>, Oyama, T<sup>2</sup>, Kitagawa, K<sup>3</sup>, Ogawa, M<sup>2</sup>, Yamaguchi, T<sup>2</sup>, Kinaga, T<sup>2</sup>, Kawamoto, T<sup>2</sup>. <sup>1</sup>School of Health Sciences, University of Occupational and Environmental Health, Kitakyushu, Japan, <sup>2</sup>Dept of Environmental Health, University of Occupational and Environmental Health, Kitakyushu, Japan, <sup>3</sup>First Department of Biochemistry, Hamamatsu Medical University, Hamamatsu, Japan.
- #95 **CHROMOSOMAL DAMAGE IN MOTILE AND IMMOTILE MOUSE SPERMATOZOA TREATED IN VITRO WITH GREEN TEA CATECHIN, (-)-EPIGALLOCATECHIN GALLATE (EGCG).** Kusakabe, H, Kamiguchi, Y. Asahikawa Medical College, Asahikawa, Japan.
- #96 **PROSPECTIVE STUDY ON THE RELATIONSHIP BETWEEN ERYTHROCYTE GLYCOPHORIN A GENE MUTATIONS AND CANCER DEVELOPMENT AMONG ATOMIC-BOMB SURVIVORS.** Kusumoki, Y<sup>1</sup>, Kyoizumi, S<sup>2</sup>, Hayashi, T<sup>1</sup>, Hakoda, M<sup>2</sup>, Cologne, JB<sup>3</sup>, Nakachi, K<sup>1</sup>. <sup>1</sup>Department of Radiobiology/Molecular Epidemiology, Radiation Effects Research Foundation, Hiroshima, Japan, <sup>2</sup>Yasuda Women's University, Hiroshima, Japan, <sup>3</sup>Department of Statistics, Hiroshima, Japan.
- #97 **ELEVATED DNA-PROTEIN CROSSLINKS IN ERYTHROCYTES OF GERMAN CARP FROM THE LOWER PASSAIC RIVER, NEWARK, NJ.** Kuykendall, JR<sup>1</sup>, O'Neil, SJ<sup>2</sup>, Jarvi, EJ<sup>3</sup>. <sup>1</sup>Raabe College of Pharmacy, Ohio Northern University, Ada, OH, United States, <sup>2</sup>Idaho State University, Pocatello, ID, United States, <sup>3</sup>College of Pharmacy, Ferris State University, Big Rapids, MI, United States.

- #98 **COMPUTATIONAL MODELING OF HUMAN ARYLAMINE N-ACETYLTRANSFERASE (NAT).** *Lau, EY, Felton, JS, Lightstone, FC.* Lawrence Livermore National Laboratory, Livermore, CA, United States.
- #99 **COMPARISON OF AMES TEST, CHROMOSOME ABERRATION TEST AND COMET ASSAY FOR IN VITRO PHOTOGENOTOXICITY ASSESSMENT.** *Lee, M, Hong, M-Y, Kim, J-Y, Lee, YM.* Korea Institute of Toxicology, KRICT, Daejeon, South Korea.
- #100 **CHEMOPREVENTIVE EFFECTS OF ALOE AGAINST GENOTOXICITY INDUCED BY BENZO[a]PYRENE.** *Lee, BM, Yoo, EJ.* Sungkyunkwan University, Suwon, South Korea.
- #101 **AQUATIC GENOTOXICITY MONITORING USING MICRONUCLEUS ASSAY IN HUMAN LYMPHOCYTES AND V79 CELLS.** *Lemos, CT, Oliveira, NCD, Lemos, AO.* Divisão de Biologia, Programa de Pesquisas Ambientais, Fundação Estadual de Proteção Ambiental Henrique Luís Roessler - FEPAM, Avenida Dr. Salvador França, 1707, CEP, Porto Alegre, RS, Brazil.
- #102 **THE BUDDING YEAST *S. cerevisiae*: A DIAGNOSTIC TOOL FOR THE DETECTION OF MUTAGENIC COMPOUNDS IN THE ENVIRONMENT.** *Minuzzo, MM, Lettieri, TL.* Joint Research Centre of European Commission, Ispra (VA) Italy, United States.
- #103 **EFFECT OF CIGARETTE CONSTRUCTION ON THE IN VITRO TOXICITY OF CIGARETTE SMOKE CONDENSATE.** *Leverette, RD, Bennett, MB, Hamm, JT, Vulimiri, SV, Yee, SF.* A.W. Spears Research Center, Lorillard Tobacco Company, Greensboro, NC, United States.
- #104 **GENE POLYMORPHISMS OF HOMOCYSTEINE METABOLISM-RELATED ENZYMES IN NUCLEAR FAMILIES OF CHINESE PATIENTS WITH CONGENITAL HEART DEFECTS.** *Li, Y.* Peking University, Beijing, China.
- #105 **ANTISENSE OLIGONUCLEOTIDES TARGETED ON METALLOTHIONEIN SENSITIZE THE CADMIUM-INDUCED CYTOTOXICITY IN HUMAN NASOPHARYNGEAL CARCINOMA CNE2 CELL LINE.** *Lin, YC<sup>1</sup>, Lin, ZN<sup>1</sup>, Liang, JB<sup>1</sup>, Ling, WH<sup>1</sup>, Yang, XF<sup>2</sup>.* <sup>1</sup>School of Public Health, Sun Yat-sen University, Guangzhou, China, <sup>2</sup>Center for Disease Control of Guangdong Province, Guangzhou, China.
- #106 **INCREASED GENE EXPRESSION OF GLUTATHIONEIN-S-TRANSFERASE P1 AND ITS RELATION WITH CADMIUM-INDUCED CYTOTOXICITY IN NIH3T3 CELL.** *Lin, ZN<sup>1</sup>, Xu, GN<sup>1</sup>, Lin, YC<sup>1</sup>, Yang, XF<sup>2</sup>.* <sup>1</sup>School of Public Health, Sun Yat-sen University, Guangzhou, China, <sup>2</sup>Center for Disease Control of Guangdong Province, Guangzhou, China.
- #107 **PERSISTENCE OF TRANSLOCATIONS IN STABLE CELLS.** *Lindholm, C.* STUK-Radiation and Nuclear Safety Authority, Helsinki, Finland.
- #108 **CYTOTOXICAL EFFECT OF CADMIUM ON THE CHEMOTHERAPY SENSITIVITY IN HUMAN NASOPHARYNGEAL CARCINOMA CELL LINE.** *Ling, WH, Lin, ZN, Lin, YC, Liu, RQ.* School of Public Health, Sun Yat-sen University, Guangzhou, China.
- #109 **EVALUATION OF CELLOMICS MICRONUCLEUS BIOAPPLICATION -AN AUTOMATED SCORING SYSTEM.** *Lu, S<sup>1</sup>, Pomykal, P<sup>1</sup>, Li, L<sup>1</sup>, Homiski, M<sup>2</sup>, Rubitski, E<sup>2</sup>, Aubrecht, J<sup>2</sup>, Jessen, B<sup>1</sup>, Stevens, G<sup>1</sup>.* <sup>1</sup>WW Safety Sciences La Jolla Laboratories, Pfizer Inc, San Diego, CA, United States, <sup>2</sup>WW Safety Sciences Groton Laboratories, Pfizer Inc, Groton, CT, United States.
- #110 **GENOTOXICITY OF CONTAMINATED SOIL FROM AMMUNITION TESTING GROUNDS.** *Ma, TH<sup>1</sup>, Gong, P<sup>2</sup>, Gebhart, D<sup>3</sup>, Busby, R<sup>3</sup>, White, J<sup>1</sup>.* <sup>1</sup>Department of Biological Sciences, Western Illinois University, Macomb, IL, United States, <sup>2</sup>Analytical Services Inc., Vicksburg, MS, United States, <sup>3</sup>U.S. Army Engineer Research and Development Center, Construction and Heritage Conservation Branch, Champaign, IL, United States.
- #111 **SUITABILITY OF MONKEY AND CANINE PERIPHERAL BLOOD RETICULOCYTES AS TARGET CELLS FOR THE IN VIVO MICRONUCLEUS TEST.** *Hotchkiss, C<sup>1</sup>, Harper, S<sup>2</sup>, Bishop, M<sup>3</sup>, Moore, M<sup>3</sup>, Dertinger, S<sup>4</sup>, MacNamee, J<sup>5</sup>, Hayashi, M<sup>6</sup>, MacGregor, J<sup>7</sup>.* <sup>1</sup>The Bionetics Corporation, Jefferson, AR, United States, <sup>2</sup>FDA-CFSAN, Laurel, MD, United States, <sup>3</sup>FDA-NCTR, Jefferson, AR, United States, <sup>4</sup>Litron Laboratories, Rochester, NY, United States, <sup>5</sup>Health Canada, Ottawa, Ontario, Canada, <sup>6</sup>National Institute of Health Sciences, Tokyo, Japan, <sup>7</sup>Toxicology Consulting Services, Arnold, MD, United States.
- #112 **IDENTIFICATION OF 4-OXO-2-HEXENAL AS A dG ADDUCT IN A MODEL LIPID PEROXIDATION REACTION AND ITS MUTAGENICITY TO TA 100 AND 104.** *Maekawa, M<sup>1</sup>, Kawai, K<sup>1</sup>, Hachisuka, K<sup>1</sup>, Takahashi, Y<sup>2</sup>, Nakamura, H<sup>2</sup>, Sawa, R<sup>2</sup>, Kasai, H<sup>1</sup>.* <sup>1</sup>University of Occupational and Environmental Health, Kitakyushu, Japan, <sup>2</sup>Microbial Chemistry Research Center, Tokyo, Japan.

- #113 **THE MUTAGENIC HAZARDS OF POLYCYCLIC AROMATIC HYDROCARBONS IN SETTLED HOUSE DUST.** Maertens, RM<sup>1</sup>, Yang, X<sup>2</sup>, Zhu, J<sup>2</sup>, Gagne, R<sup>1</sup>, Douglas, GR<sup>1</sup>, White, PA<sup>1</sup>. <sup>1</sup>Mutagenesis Section, Safe Environments Program, HECSB, Health Canada, Ottawa, ON, Canada, <sup>2</sup>Chemistry Research Division, Safe Environments Program, HECSB, Health Canada, Ottawa, ON, Canada.
- #114 **COMPARISON OF RAT AND HUMAN UDP-GLUCURONOSYLTRANSFERASE 1A1 EXPRESSION ON THE MUTAGENICITY AND CYTOTOXICITY OF THE COOKED-FOOD CARCINOGEN PHIP IN CHO CELLS.** Wu, RW, Malfatti, MA, Felton, JS. Lawrence Livermore National Laboratory, Livermore, CA, United States.
- #115 **UV-C INDUCES CHROMATIN RELAXATION IN P53 DEFICIENT CHO CELLS.** Martínez-López, WM-L<sup>1,2,3</sup>, Prosper, IP<sup>1,3</sup>, Mühlmann-Díaz, MM-D<sup>3</sup>. <sup>1</sup>Instituto de Investigaciones Biológicas Clemente Estable, Montevideo, Uruguay, <sup>2</sup>Faculty of Sciences, Montevideo, Uruguay, <sup>3</sup>National Commission of Atomic Energy, Buenos Aires, Argentina.
- #116 **IN VIVO COMET ASSAY ON ISOLATED KIDNEY CELLS AS A TOOL TO DISCRIMINATE GENOTOXIC FROM EPIGENETIC CARCINOGENS OR CYTOTOXIC COMPOUNDS.** Marzin, D<sup>2</sup>, Nesslany, F<sup>2</sup>, Zennouche, N<sup>1</sup>. <sup>1</sup>Faculty of Pharmacy, Lille, France, <sup>2</sup>Institut Pasteur de Lille, Lille, France.
- #117 **CHANGES IN THE MUTAGENIC AND ESTROGENIC ACTIVITIES OF BISPHENOL A UPON TREATMENT WITH NITRITE.** Masuda, S, Terashima, Y, Sano, A, Kuruto, R, Sugiyama, Y, Shimoi, K, Tanji, K, Yoshioka, H, Terao, Y, Kinai, N. University of Shizuoka, Shizuoka, Japan.
- #118 **GENOTOXICITY OF QUERCETIN IN THE PRESENCE OF OXYGEN SPECIES AND HUMAN LIVER S9 IN HUMAN LYMPHOBLASTOID TK6 OR WTK-1 CELLS.** Matsufuji, H<sup>1</sup>, Inoue, M<sup>1</sup>, Chino, M<sup>1</sup>, Honma, M<sup>2</sup>, Hayashi, M<sup>2</sup>, Yamagata, K<sup>1</sup>. <sup>1</sup>College of Bioresource Sciences, Nihon University, Fujisawa, Japan, <sup>2</sup>National Institute of Health Sciences, Tokyo, Japan.
- #119 **INDUCTION OF K-ras CODON 12 GGT TO GAT MUTATION BY AZOXYMETHANE IN A RAT MODEL OF COLON CANCER.** McKinzie, PB, Delongchamp, RR, Patterson, TA, Parsons, BL. National Center for Toxicological Research, Jefferson, Arkansas, United States.
- #120 **GAP JUNCTION COMMUNICATION DYNAMICS AND BYSTANDER EFFECTS FROM ULTRA-SOFT X-RAYS.** Edwards, GO<sup>1</sup>, Chipman, JK<sup>1</sup>, Wharton, CW<sup>1</sup>, Botchway, SW<sup>2</sup>, Shaikh, W<sup>2</sup>, Hirst, GJ<sup>2</sup>, Meldrum, RA<sup>1</sup>. <sup>1</sup>University Of Birmingham, Birmingham, United Kingdom, <sup>2</sup>CCLRC, Rutherford Appleton Laboratories, Oxford, United Kingdom.
- #121 **INCORPORATING CYTOGENETIC CANCER RISK BIOMARKERS INTO OCCUPATIONAL HEALTH SURVEILLANCE PROGRAMS: BULGARIAN EXPERIENCE.** Mirkova, ET<sup>1</sup>, Lalchev, SG<sup>2</sup>, Alexandrova, EA<sup>3</sup>. <sup>1</sup>National Center of Public Health Protection, Sofia, Bulgaria, <sup>2</sup>Sofia Medical University, Sofia, Bulgaria, <sup>3</sup>National Center of Public Health Protection, Sofia, Bulgaria.
- #122 **EARLY GENOTOXIC EFFECTS AND INDIVIDUAL SUSCEPTIBILITY IN COKE-OVEN WORKERS IN COAHUILA, NORTHERN MEXICO.** Montero, R<sup>1</sup>, Salinas, J<sup>2</sup>, Camacho, R<sup>1</sup>, Araujo, A<sup>1</sup>, Mejia, V<sup>3</sup>, Castorena, F<sup>3</sup>, Davila, V<sup>1</sup>, Serrano, L<sup>1</sup>, Albores, A<sup>3</sup>. <sup>1</sup>I. I. Biomedicas, U.N.A.M., México City, Mexico, <sup>2</sup>Jurisdiccion Sanitaria 3, S.S., Sabinas, Coah., Mexico, <sup>3</sup>Sección Externa de CINVESTAV-IPN, México City, Mexico.
- #123 **BENCHMARK DOSE ANALYSIS OF IN VIVO GENOTOXICITY DATA CAN BE USED TO INFORM CANCER RISK ASSESSMENT.** Moore, MM<sup>1</sup>, Shipp, AM<sup>2</sup>, Heflich, RH<sup>1</sup>, Kodell, RL<sup>3</sup>, Allen, BC<sup>2</sup>. <sup>1</sup>Division of Genetic and Reproductive Toxicology, National Center for Toxicological Research, Jefferson, AR, United States, <sup>2</sup>Environ International Corp., Ruston, LA, United States, <sup>3</sup>Division of Biometry and Risk Assessment, National Center for Toxicological Research, Jefferson, AR, United States.
- #124 **PERFORMANCE OF IN SILICO ANALYSIS (DEREK AND MULTICASE) FOR PREDICTING THE AMES-TESTING RESULTS OF PHARMACEUTICALS.** Muto, S, Morita, T, Uchii, A, Baba, H, Uno, Y. Mitsubishi Pharma Corporation, Kisarazu, Chiba, Japan.
- #125 **DEPLETION OF MITOCHONDRIAL DNA AFTER IN UTERO EXPOSURE OF MICE TO AZT AND AZT-CONTAINING COMBINATION ANTI-RETROVIRAL THERAPIES.** Myers, MB<sup>1</sup>, Von Tungeln, LS<sup>2</sup>, Beland, FA<sup>2</sup>, Heflich, RH<sup>2</sup>. <sup>1</sup>University of Arkansas for Medical Sciences, Little Rock, AR, United States, <sup>2</sup>National Center for Toxicological Research, Jefferson, AR, United States.

- #126 **INCREASE IN 8-OXODEOXYGUANOSINE CONTENT OF DNA FROM DROSOPHILA LARVAE IRRADIATED WITH 364 NM LASER-LIGHT.** *Negishi, T<sup>1</sup>, Fujikawa, K<sup>2</sup>, Nakamura, T<sup>3</sup>, Higashi, S<sup>3</sup>, Kasai, H<sup>4</sup>, Kawai, K<sup>4</sup>.* <sup>1</sup>Okayama University, Okayama, Japan, <sup>2</sup>Kinki University, Higashi-Osaka, Japan, <sup>3</sup>National Institute for Basic Biology, Okazaki, Japan, <sup>4</sup>University of Occupational and Environmental Health, Kitakyusyu, Japan.
- #127 **DETECTION OF MUTAGENIC AND CARCINOGENIC AMINOPHENYLNORHARMAN IN HUMAN URINE SAMPLES.** *Nishigaki, R<sup>1</sup>, Totsuka, Y<sup>1</sup>, Kataoka, H<sup>2</sup>, Wakabayashi, K<sup>1</sup>, Sugimura, T<sup>1</sup>.* <sup>1</sup>National Cancer Center Research Institute, Tokyo, Japan, <sup>2</sup>Shujitsu University, Okayama, Japan.
- #128 **COMPARATIVE MOLECULAR ANALYSIS OF p16(INK4A)/ARF EXPRESSION IN SYRIAN HAMSTER CELL IMMORTALIZATION AND MORPHOLOGICAL TRANSFORMATION.** *O'Donovan, MR<sup>1</sup>, Gilham, E<sup>2</sup>, Newbold, RF<sup>2</sup>.* <sup>1</sup>AstraZeneca R&D, Macclesfield, United Kingdom, <sup>2</sup>Institute of Cancer Genetics and Pharmacogenomics, Brunel University, Uxbridge, United Kingdom.
- #129 **QUANTIFICATION OF A POTENT MUTAGENIC 4-AMINO-3,3'-DICHLORO-5,4'-DINITROBIPHENYL AND THE RELATED CHEMICALS IN WATER FROM THE WAKA RIVER, WAKAYAMA, JAPAN.** *Ohe, T<sup>1</sup>, Mizuno, T<sup>1</sup>, Watanabe, T<sup>2</sup>, Hasei, T<sup>2</sup>, Hirayama, T<sup>2</sup>, Takamura, T<sup>3</sup>, Wakabayashi, K<sup>3</sup>.* <sup>1</sup>Kyoto Women's University, Kyoto, Japan, <sup>2</sup>Kyoto Pharmaceutical University, Kyoto, Japan, <sup>3</sup>National Cancer Center Research Institute, Tokyo, Japan.
- #130 **A SENSITIVE DETECTION SYSTEM FOR DEMETHYLATING AGENTS: POTENTIAL CARCINOGENS AND CHEMOTHERAPEUTIC AGENTS.** *Okochi-Takada, E, Wakabayashi, M, Mori, A, Ichimura, S, Sugimura, T, Ushijima, T.* National Cancer Center Research Institute, Tokyo, Japan.
- #131 **TRANSPLACENTAL MITOCHONDRIAL TOXICITY IN PRIMATES EXPOSED TO ZIDOVUDINE (AZT)/LAMIVUDINE (3TC)/NEVIRAPINE (NVP).** *Orozco, CC<sup>1</sup>, Divi, RL<sup>1</sup>, Nagashima, K<sup>2</sup>, Harbaugh, SW<sup>3</sup>, Harbaugh, JW<sup>3</sup>, Cook, AL<sup>3</sup>, St. Claire, MC<sup>3</sup>, Poirier, MC<sup>1</sup>.* <sup>1</sup>National Cancer Institute, Bethesda, MD, United States, <sup>2</sup>Frederick Cancer Research and Development Center, SAIC, Frederick, MD, United States, <sup>3</sup>Bioqual Inc., Rockville, MD, United States.
- #132 **WHAT SHOULD THE TESTING STRATEGY BE WHEN THE TEST MATERIAL IS MORE TOXIC TO FEEDER CELLS THAN TO TARGET CELLS IN THE SYRIAN HAMSTER EMBRYO (SHE) CELL TRANSFORMATION ASSAY?** *Pant, K, Harvey, JS, San, R.* <sup>1</sup>BioReliance, Invitrogen bioservices, Rockville, Maryland, United States, <sup>2</sup>GlaxoSmithKline, Ware Hertfordshire, United Kingdom.
- #133 **EVALUATION OF GENOTOXICITY OF *Alternaria alternata* GROWN IN DISCOLORED SUN-DRIED RED PEPPER FRUITS.** *Park, EJ<sup>1</sup>, Lee, SM<sup>2</sup>, Byun, BH<sup>3</sup>, Kyung, KH<sup>4</sup>.* <sup>1</sup>Dept. of Food and Nutrition, Masan, Korea, <sup>2</sup>Dept. of Sericultural and Entomological Biology, Miryang National University, Miryang, South Korea, <sup>3</sup>Dept. of Oriental Medicine, Daegu Haany University, Daegu, Korea, <sup>4</sup>Dept. of Food Science, Sejong University, Seoul, South Korea.
- #134 **QUANTIFYING LEVELS OF K-RAS MUTATION IN HUMAN TISSUES AT VARIOUS STAGES OF SPORADIC COLON TUMOR DEVELOPMENT AND PROGRESSION.** *Parsons, BL<sup>1</sup>, Marchant, K<sup>2</sup>, Verkler, TL<sup>1</sup>, McKinzie, PB<sup>1</sup>, Delongchamp, RR<sup>1</sup>, Patterson, TA<sup>1</sup>, Broadwater, JR<sup>3</sup>, Lamps, LW<sup>3</sup>, Kim, LT<sup>2</sup>.* <sup>1</sup>National Center for Toxicological Research USFDA, Jefferson, AR, United States, <sup>2</sup>Central Arkansas Veterans Healthcare System, Little Rock, AR, United States, <sup>3</sup>University of Arkansas for Medical Sciences, Little Rock, AR, United States.
- #135 **INTERNAL DOSE OF <sup>3</sup>H IN THE RAT SPERMATOCYTES. CHROMOSOME TRANSLOCATIONS IN THE RAT GERM CELLS FOLLOWING FRACTIONATED INTRODUCTION TO TRITIUM WATER.** *Paskalev, ZD<sup>1</sup>, Bairakova, A<sup>1</sup>, Apostolova, DB<sup>2</sup>.* <sup>1</sup>National Center of Radiobiology and Radiation Protection, Sofia, Bulgaria, <sup>2</sup>Clinic of Occupational Diseases, Medical University, Sofia, Bulgaria.
- #136 **EVALUATION OF GENOTOXIC POTENTIAL OF ARSENIC TRIOXIDE TOXICITY IN BONE MARROW CELLS OF SPRAGUE-DAWLEY RATS.** *Patlolla, A, Tchounwou, P.* Jackson State University, Jackson, MS, United States.
- #137 **TOXICITY TRENDS IN SUSPENDED MATTER AND SEDIMENTS OF LAKE CHAPALA, MEXICO.** *Pica-Granados, Y, Huerto-Delgadillo, RI, Hernandez, SH, Trujillo, DG.* Mexican Water Technology Institute, Jiutepec, Morelos, Mexico.
- #138 **VALIDATION OF A DNA REACTIVITY EVALUATION METHOD USING XL-PCR AND TAQMAN® ANALYSIS.** *Pontén, I, Thalén, M, Bolcsfoldi, G.* Genetic Toxicology, AstraZeneca R&D Södertälje, Safety Assessment, Södertälje, Sweden.

- #139 **STUDY DESIGN EVALUATION OF MOUSE LYMPHOMA ASSAY.** Poth, A, Kunz, S, Wollny, HE, Voelkner, W. RCC Cytotest Cell Research, Rossdorf/Hessian, Germany.
- #140 **IMMUNOHISTOCHEMICAL DETECTION AND SEMIQUANTITATION OF POLYCYCLIC AROMATIC HYDROCARBON (PAH)-DNA ADDUCTS IN CERVICAL TISSUE COLLECTED IN FOLLOW-UP OF ONCOGENIC HUMAN PAPILLOMAVIRUS (HPV)-INFECTED WOMEN: EFFECT OF SMOKING.** Pratt, MM<sup>1</sup>, Sirajuddin, P<sup>1</sup>, Castle, PE<sup>2</sup>, Schiffman, M<sup>2</sup>, Glass, AG<sup>3</sup>, Scott, DR<sup>3</sup>, Rush, BB<sup>3</sup>, Olivero, OA<sup>1</sup>, Poirier, MC<sup>1</sup>. <sup>1</sup>Carcinogen-DNA Interactions Section, LCCTP, Center for Cancer Research, National Cancer Institute, Bethesda, MD, United States, <sup>2</sup>Hormonal and Reproductive Epidemiology Branch, Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, MD, United States, <sup>3</sup>Northwest Kaiser Permanente, Portland, OR, United States.
- #141 **THALIDOMIDE INDUCES MALFORMATIONS, SOMATIC RECOMBINATION AND INTERFERES THE FERTILITY OF FLIES EXPOSED THROUGH DEVELOPMENT.** Ramos-Morales, P, Herrera-Bazan, JJH, Muñoz-Hernandez, A, Muñoz-Moya, JA, Garcia-Martinez, V, Rivas-Martinez, H, Hernandez-Bernal, BR. Lab. Genetica, Fac. Ciencias, Ciudad Universitaria, Mexico, D.F., Mexico.
- #142 **SEMEN AND FISH ANALYSES OF SPERM FROM INFERTILE COUPLES IN THAILAND.** Ratanavalachai, T, Kangsadalampai, S, Chiamchanya, C, Rojpiulsatit, P, Chalokongthavorn, P, Gannarai, N, Sritipsukho, P, Au, W. Thammasat University, Pratumthani, Thailand.
- #143 **ACRYLAMIDE-INDUCED MULTI-TISSUE GENOTOXICITY IN MICE AND RATS.** Recio, L<sup>1</sup>, Caspary, W<sup>2</sup>, Torous, D<sup>3</sup>, Witt, K<sup>2</sup>. <sup>1</sup>Integrated Laboratory Systems, Inc, Genetic Toxicology Program, Research Triangle Park, NC, United States, <sup>2</sup>Environmental Toxicology Program, National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, NC, United States, <sup>3</sup>Litron Laboratories, Rochester, NY, United States.
- #144 **CHANGES IN *Lentinus edodes* DRIED POWDER CONTENTS DURING TIME STORAGE INFLUENCE MODULATION ASSESSMENTS RELATED TO DNA LESIONS AND CHROMOSOME MUTATIONS IN VIVO.** Lima, PLAL, Sugui, MMS, Petricio, AIMP, Salvadori, DMFS, Ribeiro, LRR. UNESP, Botucatu, Brazil.
- #145 **MULTIPLE-ENDPOINT CYTOTOXICITY AND GENOTOXICITY ASSAY IN MOUSE L5178Y CELLS WITH LIMITED COMPOUND REQUIREMENTS.** Kehl, M<sup>1</sup>, Winters, J<sup>1</sup>, Richter, P<sup>2</sup>, Recio, L<sup>1</sup>. <sup>1</sup>Integrated Laboratory Systems, Inc, Genetic Toxicology Program, Research Triangle Park, NC, United States, <sup>2</sup>Centers for Disease Control and Prevention, Atlanta, GA, United States.
- #146 **IN VITRO EVALUATION OF COCAINE CHLORHYDRATE CYTOTOXICITY AND GENOTOXICITY USING THE COMET ASSAY.** Rojas, M<sup>1</sup>, Monroy, C<sup>2</sup>, Cortés, A<sup>2</sup>, Groot, H<sup>2</sup>. <sup>1</sup>Universidad del Rosario, Bogotá, Colombia, <sup>2</sup>Universidad de los Andes, Bogotá, Colombia.
- #147 **CHROMOSOMAL TRANSLOCATIONS IN CURED ALL (ACUTE LYMPHOBLASTIC LEUKEMIA) AND NON-HODGKIN'S LYMPHOMA PATIENTS: LATE EFFECTS OF CANCER THERAPY.** Camparoto ML<sup>1</sup>, Brassesco MS<sup>1</sup>, Tone LG<sup>2</sup>, Sakamoto-Hojo ET<sup>3</sup>. <sup>1</sup>Departamento de Genetica, Faculdade de Medicina de Ribeirão Preto, USP, Ribeirão Preto, SP, Brazil, <sup>2</sup>Departamento de Pediatria e Puericultura-HC, FMRP, USP, Ribeirão Preto, SP, Brazil, <sup>3</sup>Departamento de Biologia, Faculdade de Filosofia Ciências e Letras de Ribeirão Preto, USP, Ribeirão Preto, SP, Brazil.
- #148 **THE DISAPPEARANCE OF THE PHOSPHORYLATED FORM OF H2AX ( $\gamma$ H2AX) MONITORS DNA DOUBLE STRAND BREAKS REPAIR (DSBS) ONLY AT LOW LEVELS OF DNA DAMAGE.** Salles, B, Bouquet, F, Muller, C. IPBS CNRS/Univ, Toulouse, France.
- #149 **THE EFFECT OF ENDOGENOUS AND SYNTHETIC FEMALE SEX HORMONES ON DNA.** Braz, MG, Salvadori, DMF. UNESP, Botucatu, SP, Brazil.
- #150 **MICRONUCLEI AND GLOBIN ADDUCTS IN MICE AFTER INHALATION OF TOLUENE DIISOCYANATE (TDI) AND METHYLENE DIPHENYL DIISOCYANATE (MDI) IN VIVO.** Sandvik, H<sup>1</sup>, Santonen, T<sup>1</sup>, Säkkinen, K<sup>1</sup>, Hautamäki, M<sup>1</sup>, Tornaes, J<sup>1</sup>, Ahonen, N<sup>1</sup>, Jarventaus, H<sup>1</sup>, Korpi, A<sup>2</sup>, Pasanen, A-L<sup>1</sup>, Rosenberg, C<sup>1</sup>, Norppa, H<sup>1</sup>. <sup>1</sup>Laboratory of Molecular and Cellular Toxicology, Department of Industrial Hygiene and Toxicology, Finnish Institute of Occupational Health, Helsinki, Finland, <sup>2</sup>Department of Environmental Sciences, University of Kuopio, Kuopio, Finland.
- #151 **DETECTION OF OXIDATIVE DNA DAMAGE IN LYMPHOCYTES OF PATIENTS WITH ALZHEIMER'S DISEASE.** Sardas, S, Kadioglu, E, Isik, E, Aslan, S, Karakaya, AE. Gazi University, Ankara, Turkey.

- #152 **DIFFERENCES IN SENSITIVITY BETWEEN CHO-K1 AND CHO-WBL CELLS TO GENOTOXIC COMPOUNDS.** Sawant, SG, Bunch, R, Yamada, J, Hernandez, R, Baker, D, Manoukian, R, Cosenza, ME, Afshari, CA, Dunn, RT. Amgen inc., Thousand Oaks, CA, United States.
- #153 **OXIDATIVE STRESS CAUSED BY GLUTATHIONE SYNTHESIS INHIBITOR BUTHIONINE SULFOXIMINE RESULTS IN GENOME REARRANGEMENTS IN MICE.** Reliene, R, Schiestl, RH. UCLA, Los Angeles, CA, United States.
- #154 **A SEARCH FOR A POSITIVE CONTROL FOR THE IN VIVO/IN VITRO RAT PERIPHERAL BLOOD CHROMOSOMAL ABERRATION TEST.** Schisler, MR, Gollapudi, BB. The Dow Chemical Company, Midland, MI, United States.
- #155 **THE ASSOCIATION OF MALE AGE AND METAL CONTENT OF HUMAN SPERM AND SEMINAL PLASMA MEASURED BY PROTON-INDUCED-X-RAY-EMISSION (PIXE).** Schmid, TE<sup>1</sup>, Grant, P<sup>3</sup>, Marchetti, F<sup>1</sup>, Weldon, RH<sup>2</sup>, Eskenazi, B<sup>2</sup>, Wyrobek, AJ<sup>1</sup>. <sup>1</sup>Biosciences Directorate, Lawrence Livermore, CA, United States, <sup>2</sup>School of Public Health, University of California in Berkeley, Berkeley, CA, United States, <sup>3</sup>Center for Accelerator Mass Spectrometry, Lawrence Livermore National Laboratory, Livermore, CA, United States.
- #156 **INHIBITION OF FRIED MEAT-INDUCED DNA DAMAGE: A DIETARY INTERVENTION STUDY IN HUMANS.** Shaughnessy, DT<sup>1</sup>, Gangarosa, L<sup>2</sup>, Schliebe, B<sup>2</sup>, DeMarini, DM<sup>3</sup>, Xu, Z-L<sup>4</sup>, Umbach, DM<sup>5</sup>, Sandler, RS<sup>2</sup>, Taylor, JA<sup>1</sup>. <sup>1</sup>Laboratory of Molecular Carcinogenesis, NIEHS, Research Triangle Park, NC, United States, <sup>2</sup>Center for Gastrointestinal Biology and Disease, School of Medicine, University of North Carolina at Chapel Hill, Chapel Hill, NC, United States, <sup>3</sup>Environmental Carcinogenesis Division, US Environmental Protection Agency, Research Triangle Park, NC, United States, <sup>4</sup>Epidemiology Branch, NIEHS, Research Triangle Park, NC, United States, <sup>5</sup>Bioinformatics Branch, NIEHS, Research Triangle Park, NC, United States.
- #157 **CAN PERIPHERAL BLOOD LYMPHOCYTES PROVIDE A WINDOW TO ASSESS THE EXTENT OF GENOTOXICITY WITHIN THE PROSTATE?** Shen, S<sup>1</sup>, Cooley, DM<sup>1</sup>, Schlittler, D<sup>1</sup>, Chiang, E<sup>1</sup>, Bostwick, DG<sup>3</sup>, Morris, JS<sup>4</sup>, Glickman, LT<sup>1</sup>, Waters, DJ<sup>2</sup>. <sup>1</sup>Purdue University, West Lafayette, IN, United States, <sup>2</sup>Gerald P Murphy Cancer Foundation, West Lafayette, IN, United States, <sup>3</sup>Bostwick Laboratories, Richmond, VA, United States, <sup>4</sup>University of Missouri, Columbia, MO, United States.
- #158 **MOLECULAR EPIDEMIOLOGY OF GASTRIC CANCER IN COLOMBIA.** Arboleda, YY, Acosta, CP, Alvarez, RE, Rodriguez, LJ, Urbano, AL, Maca, NN, Muñoz, SL, Gonzales, FE, Castro, LI, Adrada, JC, Sierra-Torres, CH. Laboratorio de Genetica Humana, Facultad Ciencias de la Salud, Universidad del Cauca, Popayan, Colombia.
- #159 **PREDICTING MUTAGENICITY IN THE MOUSE LYMPHOMA ASSAY USING SAR MODELLING.** Sjögren, M, Bolcsfoldi, G. Safety Assessment, AstraZeneca R&D, Stockholm, Sweden.
- #160 **ARSENIC-INDUCED HORMESIS: THE CASE FOR NON-LINEAR LOW-DOSE RISK ASSESSMENT.** Snow, ET. Deakin University, Burwood, Victoria, Australia.
- #161 **GENOTOXICITY OF DEET (N,N-DIETHYL-META-TOLUAMIDE) IN *Vicia faba* ROOT TIP CELLS AND HUMAN LYMPHOCYTES.** Sozen, E, Tuylu, BA, Karacaoglan, C. Anadolu University, Eskisehir, Turkey.
- #162 **ASSESSMENT OF THE MITOTIC INDEX BY FLOW CYTOMETRY: IMPACT ON THE PERFORMANCE OF THE HUMAN LYMPHOCYTE CHROMOSOME ABERRATION ASSAY.** Sanok, K, Gunther, W, O'Lone, S, Wiersch, C, Spellman, R, Muehlbauer, P. Pfizer Global R&D, Groton, CT, United States.
- #163 **MOLECULAR CHARACTERIZATION OF CISPLATIN AND TRANSPLATIN-INDUCED BASE SUBSTITUTIONS AND DELETION MUTATIONS IN NEWLY ESTABLISHED *gpt* DELTA L1 CELLS.** Takeiri, A<sup>1</sup>, Mishima, M<sup>1</sup>, Tanaka, K<sup>1</sup>, Shioda, A<sup>1</sup>, Harada, A<sup>1</sup>, Watanabe, K<sup>1</sup>, Deki, T<sup>1</sup>, Masumura, K<sup>2</sup>, Nohmi, T<sup>2</sup>. <sup>1</sup>Fuji Gotemba Research Labs., Chugai Pharmaceutical Co., Ltd., Shizuoka, Japan, <sup>2</sup>Division of Genetics and Mutagenesis, National Institute of Health Sciences, Tokyo, Japan.
- #164 **OPTIMIZATION OF mRNA TARGET DETECTION BY ROLLING CIRCLE AMPLIFICATION (RCA) IN SOLUTION.** Thomas, RA, Asur, R, Gajapathy, S, Tucker, JD. Wayne State University, Detroit, MI, United States.

- #165 **PERFORMANCE AND POWER OF FLOW CYTOMETRIC MICRONUCLEUS SCORING.** *Torous, D<sup>1</sup>, Asano, N<sup>2</sup>, Hayashi, M<sup>4</sup>, Dertinger, S<sup>1</sup>, Morita, T<sup>3</sup>, Tometsko, C<sup>1</sup>, Sugunan, S<sup>1</sup>.* <sup>1</sup>Litron Laboratories, Rochester, NY, United States, <sup>2</sup>Toxicological Research Center, Nitto Denko Corp., Osaka, Japan, <sup>3</sup>Div. of Safety Information on Drug, Food and Chemicals, National Institute of Health Sciences, Tokyo, Japan, <sup>4</sup>Div. of Genetics and Mutagenesis, National Institute of Health Sciences, Tokyo, Japan.
- #166 **STRUCTURES OF DNA ADDUCTS DERIVED FROM N-NITROSOTAUROCHOLIC ACID.** *Totsuka, Y<sup>1</sup>, Takamura, T<sup>1</sup>, Enomoto, S<sup>1</sup>, Nishigaki, R<sup>1</sup>, Kawahara, N<sup>2</sup>, Masumura, K<sup>2</sup>, Nohmi, T<sup>2</sup>, Sugimura, T<sup>1</sup>, Wakabayashi, K<sup>1</sup>.* <sup>1</sup>National Cancer Center Research Institute, Tokyo, Japan, <sup>2</sup>National Institute of Health Sciences, Tokyo, Japan.
- #167 **ENZYMATIC POST-LABELING ASSAY QUANTITATION OF NOVEL DNA ADDUCTS USING ACCELERATOR MASS SPECTROMETRY.** *Kim, S, Sumbad, R, Tran, A-T, Herderson, PT.* Lawrence Livermore National Laboratory, Livermore, CA, United States.
- #168 **A STUDY ON IN VITRO GENOTOXIC ACTIVITY OF (+) USNIC ACID AND (-)-USNIC ACID WITH CBMN ASSAY IN HUMAN LYMPHOCYTES.** *Tuylu, BA.* Anadolu University, Eskisehir, Turkey.
- #169 **THE FLEMISH HEALTH AND ENVIRONMENT BIOMONITORING PROGRAM: DIFFERENCES IN CLINICAL PARAMETERS AT BIRTH BETWEEN NEONATES BORN FROM WOMEN RESIDING IN AREAS DIFFERING IN POLLUTION PRESSURE.** *Van De Mierop, E<sup>1</sup>, Koppen, G<sup>2</sup>, Bruckers, L<sup>3</sup>, Bilau, M<sup>4</sup>, Brits, E<sup>2</sup>, Baeyens, W<sup>5</sup>, van Larebeke, N<sup>4</sup>, Schoeters, G<sup>2</sup>, Neelen, V<sup>1</sup>.* <sup>1</sup>Provincial Institute for Hygiene, Antwerp, Belgium, <sup>2</sup>Flemish Institute of Technological Research, Mol, Belgium, <sup>3</sup>Limburgs Universitair Centrum, Diepenbeek, Belgium, <sup>4</sup>Ghent University, Ghent, Belgium, <sup>5</sup>Vrije Universiteit Brussel, Brussel, Belgium.
- #170 **BIOMONITORING FOR GENOTOXIC EFFECTS HAS A LOW SENSITIVITY IN TERMS OF CANCER RISKS ASSOCIATED WITH LIFELONG EXPOSURES STARTING IN UTERO.** *van Larebeke, NAF.* Ghent University, Ghent, Belgium.
- #171 **DOSE RESPONSE ASSESSMENT OF SIMULATED SOLAR LIGHT ON THE LEVELS OF P53 MUTATION IN NORMAL-APPEARING SKIN.** *Verkler, TL, Delongchamp, RR, Miller, BJ, Howard, PC, Parsons, BL.* National Center for Toxicological Research, USFDA, Jefferson, AR, United States.
- #172 **INFLUENCE OF IMMOBILIZATION STRESS ON DNA DAMAGE LEVEL IN SPLEEN CELLS OF DIFFERENT AGE MICE.** *Vorobyova, NY, Osipov, AN.* Institute of Chemistry Physics RAS, Moscow, Russia.
- #173 **TESTING OF 51 MARKETED PHARMACEUTICALS USING THE GREENSCREEN GENOTOXICITY ASSAY.** *Walmsley, RM<sup>1</sup>, Billinton, N<sup>1</sup>, Van Gompel, J<sup>2</sup>.* <sup>1</sup>Gentronix Ltd, Manchester, United Kingdom, <sup>2</sup>J&J, Beers, Belgium.
- #174 **A METHOD TO DISTINGUISH BETWEEN THE INDUCTION OF NEW MUTANTS AND SELECTION OF PRE-EXISTING MUTANTS IN THE MOUSE LYMPHOMA ASSAY.** *Wang, J<sup>1</sup>, Heflich, RH<sup>2</sup>, Moore, MM<sup>2</sup>.* <sup>1</sup>Department of Pharmacology and Toxicology, University of Arkansas for Medical Sciences, Little Rock, AR, United States, <sup>2</sup>Division of Genetic and Reproductive Toxicology, National Center for Toxicological Research, Jefferson, AR, United States.
- #175 **USE OF TRANSCRIPTIONAL COUPLING AND KEGG PATHWAY ANALYSIS OF GLOBAL GENE EXPRESSION TO REVEAL TRANSCRIPTIONAL CHANGES BETWEEN STATIONARY- AND LOG-PHASE *Salmonella typhimurium* LT2.** *Ward, WO<sup>1</sup>, Swartz, C<sup>1</sup>, Porwollik, S<sup>2</sup>, Hanley, NM<sup>1</sup>, Warren, SH<sup>1</sup>, McClelland, M<sup>2</sup>, DeMarini, DM<sup>1</sup>.* <sup>1</sup>EPA, Research Triangle Park, NC, United States, <sup>2</sup>Sidney Kimmel Cancer Center, San Diego, CA, United States.
- #176 **IN VITRO EVALUATION OF PHOTOCYTOTOXICITY AND PHOTOGENOTOXICITY FOR NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDS).** *Watanabe, Y, Hasegawa, T, Miida, Y, Okazaki, A, Hashimoto, K, Takasaki, W.* Sankyo Co., LTD., Fukuroi, Shizuoka, Japan.
- #177 **RECENT ADVANCES IN THE PREDICTION OF GENOTOXICITY USING DEREK FOR WINDOWS.** *Williams, RV<sup>1</sup>, Naven, RT<sup>1</sup>, Hayashi, M<sup>2</sup>, Kamata, E<sup>2</sup>.* <sup>1</sup>Lhasa Limited, Leeds, United Kingdom, <sup>2</sup>National Institute of Health Sciences, Tokyo, Japan.
- #178 **DIFFERENTIAL INDUCTION OF MICRONUCLEI IN ERYTHROCYTES OF ACRYLAMIDE-TREATED *Cyp2E1*-NULL AND WILD-TYPE MICE: EVIDENCE CONSISTENT WITH A GLYCIDAMIDE-MEDIATED EFFECT.** *Witt, KL<sup>1</sup>, Recio, L<sup>3</sup>, Tice, RR<sup>3</sup>, Kissling, GE<sup>1</sup>, Torous, DK<sup>2</sup>, Ghanayem, BI<sup>1</sup>.* <sup>1</sup>National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States, <sup>2</sup>Litron Laboratories, Rochester, NY, United States, <sup>3</sup>ILS, Inc., Research Triangle Park, NC, United States.

- #179 **IN UTERUS ALCOHOL EXPOSURE ALTERED THE MITOCHONDRIAL PROTEOME OF THE FOETAL BRAIN.** Xu, YJ, Li, Y. Peking University, Beijing, China.
- #180 **SIMULTANEOUS DETERMINATION OF 8-OH-dG AND 8-GUA (FREE BASE), MARKERS OF OXIDATIVE STRESS, AND CREATININE, A STANDARDIZATION COMPOUND, IN URINE.** Yamasaki, S, Kasai, H. University of Occupational and Environmental Health, Kitakyushu, Japan.
- #181 **GERMLINE MUTATION, DNA DAMAGE AND EPIGENETIC MODIFICATIONS IN RESPONSE TO EXPOSURE TO PARTICULATE AIR POLLUTION IN AN INDUSTRIAL LOCATION.** Polyzos, A<sup>1</sup>, Kovalchuk, O<sup>2</sup>, Somers, CM<sup>3</sup>, Rowan-Carroll, A<sup>1</sup>, Berndt, ML<sup>1</sup>, Williams, A<sup>1</sup>, Quinn, JS<sup>4</sup>, Douglas, GR<sup>1</sup>, Yauk, CL<sup>1</sup>. <sup>1</sup>Health Canada, Ottawa, ON, Canada, <sup>2</sup>University of Lethbridge, Lethbridge, AB, Canada, <sup>3</sup>University of Regina, Regina, SK, Canada, <sup>4</sup>McMaster University, Hamilton, ON, Canada.
- #182 **ENHANCED APOPTOTIC EFFECT OF CYCLOPHOSPHAMIDE IN VITRO IN HUMAN COLORECTAL CANCER CELLS INCUBATED WITH RAT S9.** Yu, RL, Puskorius, RL, Zubrickas, KR, Mauthe, RJ. Pfizer, Inc., Ann Arbor, MI, United States.
- #183 **INDUCTION OF CELL CYCLE ARREST AND APOPTOTIC CELL DEATH BY THE PLANT-DERIVED DNA DAMAGE CHEMICAL CRYPTOLEPINE IN HUMAN LUNG ADENOCARCINOMA A549 CELLS.** Zhu, H, Gooderham, NJ. Imperial College London, London, United Kingdom.
- LB1 **POPULATION RISK FACTOR IN GALLBLADDER CANCER: EVALUATION BASED IN THE ANALYSIS OF THE HAPLOTYPE B OF mt DNA.** Aguilar, XA<sup>1</sup>, Taboada, G<sup>1</sup>, Rada, A<sup>1</sup>, Navia Ma del, Pilar<sup>2</sup>, Arrieta, G<sup>3</sup>. <sup>1</sup>Instituto de Genética, Facultad de Medicina, UMSA, La Paz, Bolivia, <sup>2</sup>Instituto de Investigación en Salud y Desarrollo, UMSA, La Paz, Bolivia, <sup>3</sup>Servicio de Cirugía. Hospital Obrero N°1, La Paz, Bolivia.
- LB2 **GENE EXPRESSION PROFILES DISTINGUISH LARGE AND SMALL COLONY THYMIDINE KINASE MUTANTS OF L5178Y MOUSE LYMPHOMA CELLS.** Fuscoe, JC<sup>1,2</sup>, Han, T<sup>1,2</sup>, Wang, J<sup>3</sup>, Chen, T<sup>3</sup>, Moore, MM<sup>3</sup>. <sup>1</sup>Center for Functional Genomics, National Center for Toxicological Research, U.S. FDA, Jefferson, AR, United States, <sup>2</sup>Division of Systems Toxicology, National Center for Toxicological Research, U.S. FDA, Jefferson, AR, United States, <sup>3</sup>Division of Genetic and Reproductive Toxicology, National Center for Toxicological Research, U.S. FDA, Jefferson, AR, United States.
- LB3 **INHIBITION OF PARP ACTIVITY INDUCES AN ATR- AND CHK1-DEPENDENT S-PHASE ARREST.** Horton, JK, Stefanick, DF, Kedar, PS, Wilson, SH. Laboratory of Structural Biology, NIEHS, Research Triangle Park, NC, United States.
- LB4 **A MODEL V79 CELL LINE TRANSFECTED WITH MURINE GLUTATHIONE-S-TRANSFERASE THETA (mGSTT1) TO EVALUATE DNA DAMAGE INDUCED BY SELECTED MUTAGENS.** Hu, Y<sup>1</sup>, Tennant, AH<sup>1</sup>, Townsend, AJ<sup>2</sup>, Kligerman, AD<sup>1</sup>. <sup>1</sup> Environmental Carcinogenesis Division, NHEERL, US EPA, Research Triangle Park, NC, United States, <sup>2</sup> Department of Biochemistry, Wake Forest University School of Medicine, Winston-Salem, NC, United States.
- LB 5 **HETEROLOGOUS EXPRESSION SYSTEM OF MOUSE HEAVY METAL TRANSCRIPTION FACTOR MTF-1 IN YEAST.** Jin, YH, Al-Refai, H, Freedman, JH. Nicholas School of the Environment and Earth Sciences, Duke University, Durham, NC, United States.
- LB6 **COMPARATIVE INVESTIGATION OF IN VITRO INDUCTION OF DNA DAMAGE AND MICRONUCLEI BY PRO-MUTAGENS IN HUMAN-DERIVED HEPATOMA HepG2 CELLS.** Kawaguchi, S<sup>1</sup>, Okutani, S<sup>1</sup>, Kinae, N<sup>2</sup>, Honma, M<sup>3</sup>, Hayashi, M<sup>3</sup>, Sasaki, YF<sup>1</sup>. <sup>1</sup>Hachinohe National College of Technology, Aomori, Japan, <sup>2</sup>University of Shizuoka, Shizuoka, Japan, <sup>3</sup> National Institute of Health Sciences, Tokyo, Japan.
- LB7 **USE OF GENOTOXICITY DATA FOR DETERMINING THE MODE OF ACTION FOR CANCER CAUSING AGENTS.** Keshava, C.<sup>1</sup>, Chu, M<sup>1</sup>, Cimino, MC<sup>1</sup>, Dearfield, KL<sup>2</sup>, Keshava, N<sup>1</sup>, Kligerman, AD<sup>3</sup>, McCarroll, NE<sup>1</sup>, Moore, MM<sup>4</sup>, Owen, R<sup>3</sup>, Putzrath, RM<sup>1</sup>, Schoeny, R<sup>1</sup>. <sup>1</sup>U.S. Environmental Protection Agency, Washington, DC; United States, <sup>2</sup>U.S. Department of Agriculture, Washington, DC; United States, <sup>3</sup>U.S. Environmental Protection Agency, Research Triangle Park, NC; United States, <sup>4</sup>U.S. Food and Drug Administration, NCTR, Jefferson, AR, United States.
- LB8 **INVOLVEMENT OF BER PROTEINS IN TRINUCLEOTIDE REPEAT EXPANSION EXACERBATION IS LESION-SPECIFIC.** Kovtun, IV, McMurray, CT. Department of Molecular Pharmacology and Experimental Therapeutics, Mayo Clinic, Rochester, MN, United States.



- LB9 **CHARACTERIZATION OF THE MECHANISM OF MICRONUCLEUS FORMATION.** Kumaravel, TS, Clements, J. Department of Genetic and Molecular Toxicology, Covance Laboratories Ltd., Harrogate, United Kingdom.
- LB10 **RESVERATROL INHIBITS PHORBOL ESTER-INDUCED EXPRESSION OF COX-2 AND ACTIVATION OF NF- $\kappa$ B IN MOUSE SKIN BY BLOCKING IB KINASE- $\beta$  ACTIVITY.** Kundu, JK, Shin, YK, Kim, Y-C, and Surh, Y-J. National Research Laboratory of Molecular Carcinogenesis and Chemoprevention, College of Pharmacy, Seoul National University, Seoul, South Korea.
- LB11 **REDUCED HEMATOPOIETIC RESERVES IN DNA INTERSTRAND CROSSLINK REPAIR DEFICIENT-*Ercc1*<sup>-/-</sup> MICE.** Lalai, AS<sup>1</sup>, Prasher, JM<sup>2</sup>, Heijmans-Antonissen, C<sup>2</sup>, Ploemacher, RE<sup>2</sup>, Hoeijmakers, JHJ<sup>1</sup>, Touw, IP<sup>2</sup>, Niedernhofer, LJ<sup>3</sup>. <sup>1</sup>Dept. of Cell Biology and Genetics, Erasmus Medical Center, Rotterdam, The Netherlands, <sup>2</sup>Dept. of Hematology, Erasmus Medical Center, Rotterdam, The Netherlands, <sup>3</sup>Hillman Cancer Center, University of Pittsburgh Cancer Institute, Pittsburgh, PA, United States.
- LB12 **BASIC PRINCIPLES OF MUTAGENICITY TESTS FOR THE DETECTION OF ENVIRONMENTAL POLLUTANTS WITH PARTICULAR EMPHASIS ON PLANT BIOASSAY.** ZhuLei. Tianjin University, Tianjin, China.
- LB13 **EXAMINATION OF MISMATCH REPAIR VARIATION IN *Trypanosoma cruzi*: THE GENETIC BASIS AND INFLUENCE ON SEQUENCE DIVERSITY.** Machado-Silva, A<sup>1</sup>, Cerqueira, G<sup>1</sup>, Augusto-Pinto, L<sup>1</sup>, DaRocha, WD<sup>1</sup>, Pena, SDJ<sup>1</sup>, El-Sayed, N<sup>3</sup>, Teixeira, SMR<sup>1</sup>, Machado, CR<sup>1</sup>, McCulloch, R<sup>2</sup>. <sup>1</sup>Department of Biochemistry and Immunology, Universidade Federal de Minas Gerais, Belo Horizonte, Brazil, <sup>2</sup>Wellcome Centre for Molecular Parasitology, Glasgow University, Glasgow, Scotland, <sup>3</sup>The Institute for Genomic Research (TIGR), Rockville, MD, United States.
- LB14 **APOPTOSIS IN LYMPHOCYTES FOLLOWING EXPOSURE TO LOW DOSES OF GAMMA- AND NEUTRON RADIATION.** Rossouw, MS<sup>1,4</sup>; Slabbert, JP<sup>2</sup>; Blackhurst, D<sup>3</sup>; Meehan, KA<sup>4</sup>. <sup>1</sup>Department of Radiation Oncology, Tygerberg Hospital, Cape Town, South Africa, <sup>2</sup>Department of Radiation Biology, iThemba Labs, Somerset West, South Africa, <sup>3</sup> Faculty of Medicine, University of Cape Town, Cape Town, South Africa, <sup>4</sup>Faculty of Applied Sciences, Cape Peninsula University of Technology, Cape Town, South Africa.
- LB15 **MORPHOLOGICAL CHARACTERISATION AND ANALYSIS OF <sup>60</sup>Co GAMMA AND p(66)Be NEUTRON RADIATION-INDUCED APOPTOSIS IN CHO-K1 CELLS.** Smit, KA<sup>1</sup>, Slabbert, JP<sup>2</sup>, Meehan, KA<sup>1</sup>. <sup>1</sup>Faculty of Applied Sciences, Cape Peninsula University of Technology, Cape Town, South Africa, <sup>2</sup>iThemba LABS, Somerset West, Cape Town, South Africa.
- LB16 **THE LEUKOCYTE APOPTOSIS ASSAY: A PREDICTOR OF INHERENT RADIOSENSITIVITY.** Meehan, KA<sup>1</sup>, Erasmus, WL<sup>1</sup>, Abbert, JP<sup>2</sup>, Crompton, N<sup>3</sup>. <sup>1</sup>Cape Peninsula University of Technology, Cape Town, South Africa, <sup>2</sup>iThemba LABS, Somerset West, South Africa, <sup>3</sup>Cornerstone University, Grand Rapids, MI, Unites States.
- LB17 **INDUCTION OF PSEUDO-MICRONUCLEI IN RAT SKIN MICRONUCLEUS TEST ON A VITAMIN D3 ANALOGUE.** Mishima, M, Takeiri, A, Tanaka, K, Harada, A, Watanabe, K. Fuji Gotemba Research Laboratory, Chugai Pharmaceutical Co., Ltd.
- LB18 **DOUBLE-STRAND BREAK FORMATION FOLLOWING INTERSTRAND CROSSLINKS REQUIRES XPF IN HUMAN CELLS.** Mogi, S<sup>1,2</sup>, Oh, DH<sup>1,2</sup>. <sup>1</sup>Department of Dermatology, University of California at San Francisco, San Francisco, CA, United States, <sup>2</sup>Dermatology Research Unit, VA Medical Center, San Francisco, CA, United States.
- LB19 **ARTEMIS NUCLEASE SHOWS SPECIFICITY FOR DOUBLE-STRAND BREAKS WITH 3'-PHOSPHOGLYCOLATE TERMINI.** Povirk, LF<sup>1</sup>, Zhou, T<sup>1</sup>, Zhou, R<sup>1</sup>, Yannone, SM<sup>2</sup>. <sup>1</sup>Department of Pharmacology and Toxicology, Virginia Commonwealth University, Richmond, VA, Unites States, <sup>2</sup>Life Sciences Division, Lawrence Berkeley Laboratory, Berkeley, CA, Unites States.
- LB20 **MOLECULAR MAPPING OF COMMON FRAGILE SITE FRA6E AND EVALUATION OF ITS REPLICATIVE PATTERN.** Graziotto, R<sup>1</sup> Palumbo, E<sup>1</sup>, Rampin, M<sup>1</sup>, Taramell, R<sup>2</sup>, Bensimon, A<sup>3</sup>, Russo, A<sup>1</sup>. <sup>1</sup>Dipartimento di Biologia, Università degli Studi di Padova, Padova, Italy; <sup>2</sup>Dipartimento di Biotecnologie e Scienze Molecolari, Università degli Studi dell'Insubria, Varese, Italy; <sup>3</sup>Institute Pasteur, Paris, France.
- LB21 **INTERACTION OF DNA POLYMERASES WITH N3-METHYLADENINE AND STRUCTURAL ANALOGS 3-DEAZAADENINE AND 3-METHYL-3-DEAZADENINE.** Settles S, Gold B. University of Nebraska Medical Center; Eppley Institute for the Research in Cancer, Omaha, NE, United States.

- LB22 HOST CELL REACTIVATION OF PLASMIDS CONTAINING OXIDATIVE DNA LESIONS IN COCKAYNE AND UV-SENSITIVE SYNDROME CELLS. *Spivak, G, Hanawalt, PC.* Department of Biological Sciences, Stanford University, Stanford, CA, United States.
- LB23 YEAST SCF<sup>Met30</sup> REGULATES RESPONSE TO HEAVY METAL STRESS. *Yen, JL, Su, NY, Kaiser, P.* Department of Biological Chemistry, UCI, Irvine, CA, United States.

**Sunday, September 4, 2005**

**3:00 PM–5:00 PM**

**Bayview**

**CURRENT ISSUES SYMPOSIUM – MUTATIONAL MECHANISMS**

**A GENOMIC VIEW OF MUTATION**

**Chair:** *Lynn S. Ripley*, UMDNJ, Newark, NJ, United States and *Norman Arhheim*, University of Southern California, Los Angeles, CA, United States

- 3:00 PM #184 **A GENOMIC VIEW OF FRAMESHIFTS IN HUMAN EXONS**  
*Lynn S. Ripley*, UMDNJ, Newark, NJ, United States
- 3:30 PM #185 **A GENOME-WIDE VIEW OF THE RATE AND SPECTRUM OF SPONTANEOUS MUTATIONS**  
*Michael Lynch*, Indiana University, Bloomington, IN, United States
- 4:00 PM #186 **MALE GERMLINE MUTATIONS: MUTATION RATES AT SPECIFIC HOTSPOTS**  
*Norman Arhheim*, University of Southern California, Los Angeles, CA, United States
- 4:20 PM #187 **A NOVEL METHOD TO QUANTIFY EXTREMELY RARE RANDOM GENOMIC MUTATIONS**  
*Jason H. Bielas*, University of Washington School of Medicine, Seattle, WA, United States
- 4:40 PM #188 **TANDEM REPEAT MUTATION AND RAPID EVOLUTION**  
*John W. Fondon III*, University of Texas, Dallas, TX, United States

**Sunday, September 4, 2005**

**3:00 PM–5:00 PM**

**Seacliff A/B**

**CURRENT ISSUES SYMPOSIUM – RISK ASSESSMENT**

**LEGAL AND ETHICAL ISSUES ASSOCIATED WITH GENETIC TESTING**

**Chairs:** *Errol Zeiger*, Chapel Hill, NC, United States and *Dafna Feinholz*, Col. Jardines en la Montana, Mexico

- 3:00 PM **ETHNICITY, GENETIC VARIABILITY, AND RACE**  
*Richard R. Sharp*, Baylor College of Medicine, Houston, TX, United States
- 3:30 PM #189 **TREATING GENETIC INFORMATION DIFFERENTLY FROM OTHER MEDICAL INFORMATION**  
*Henry T. Greely*, Stanford University School of Law, Palo Alto, CA, United States
- 4:00 PM #190 **A WORKING DILEMMA: HOW OCCUPATIONAL HEALTH POLICY PREVENTS THE ETHICAL USE OF GENETIC KNOWLEDGE**  
*Geoffrey P. Lomax*, California Department of Health Sciences, Sacramento, CA, United States
- 4:20 PM #191 **GENETICALLY BASED TOXIC TORT SUITS**  
*Gary E. Marchant*, Arizona State University, Tempe, AZ, United States
- 4:40 PM #192 **ETHICS OF GENETIC TESTING: INCORPORATION OF A GENDER PERSPECTIVE**  
*Dafna Feinholz*, Comision Nacional de Bioetica, Col. Jardines en la Montana, Mexico



Sunday, September 4, 2005

3:00 PM–5:00 PM

Seacliff C/D

**CURRENT ISSUES SYMPOSIUM—MUTATIONAL MECHANISMS**

**NONCOVALENT CHEMICAL-DNA INTERACTIONS AND GENOTOXICITY**

**Chairs:** *Ronald D. Snyder*, Schering-Plough Research Institute, Lafayette, NJ, United States and *Christian Bailly*, INSERM, IRCL, Lille, France

- 3:00 PM #193 **CHEMISTRY AND BIOLOGY OF NONCOVALENT DNA INTERACTIONS**  
*Christian Bailly*, INSERM, IRCL, Lille, France
- 3:30 PM #194 **DNA TOPOLOGY AFFECTS THE RESPONSE OF HUMAN TOPOISOMERASES TO ANTICANCER DRUGS**  
*Neil Osheroff*, Vanderbilt University School of Medicine, Nashville, TN, United States
- 4:00 PM #195 **CHINESE HAMSTER V79 CELL-BASED INVESTIGATIONS INTO THE RELATIONSHIP BETWEEN NON-COVALENT DNA INTERACTION AND GENOTOXICITY**  
*Ronald D. Snyder*, Schering-Plough Research Institute, Lafayette, NJ, United States
- 4:20 PM #196 **3D DOCKING MODEL FOR PREDICTING DNA INTERCALATION ACTIVITY**  
*Larry B. Hendry*, Accelerated Pharmaceuticals, Augusta, GA, United States
- 4:40 PM #197 **MECHANISMS AND IMPLICATIONS OF RECOMBINOGENIC AND ANEUPLOIDOGENIC EFFECTS OF TOPOISOMERASE II INHIBITORS**  
*Lynn R. Ferguson*, University of Auckland School of Medicine, Auckland, New Zealand

Sunday, September 4, 2005

3:00 PM–5:00 PM

Grand Ballroom B

**CURRENT ISSUES SYMPOSIUM—MUTATIONAL MECHANISMS**

**OXIDATIVE STRESS RESPONSES**

**Chairs:** *Susumu Nishimura*, University Tsukuba, Ibaraki, Japan and *Arthur P. Grollman*, State University at Stony Brook, New York, NY, United States

- 3:00 PM #198 **POSTREPLICATIVE PROTECTION AGAINST INDUCTION OF MUTATIONS BY 8-Oxo-dG-INDUCED MUTAGENESIS IN MAMMALIAN CELLS**  
*Masaaki Moriya*, State University at Stony Brook, New York, NY, United States
- 3:30 PM #199 **IN SITU ANALYSIS OF CELLULAR RESPONSES TO OXIDATIVE BASE DAMAGE AND STRAND BREAKS IN MAMMALIAN CELLS**  
*Akira Yasui*, Institute of Development, Aging and Cancer, Sendai, Japan
- 4:00 PM #200 **OXIDATIVE DAMAGE TO DNA: IS IT ONLY 8-Oxo-dG?**  
*Steven R. Tannenbaum*, Massachusetts Institute of Technology, Cambridge, MA, United States
- 4:20 PM #201 **INVOLVEMENT OF MUTY IN PREVENTING CANCER**  
*Jeffrey H. Miller*, University of California, Los Angeles, CA, United States
- 4:40 PM **OXOGUANINE AND CARCINOGENESIS: HUMANS VS. MICE**  
*Susumu Nishimura*, Banyu Tsukuba Research Institute, Ibaraki, Japan

Sunday

Sunday, September 4, 2005

3:00 PM–5:00 PM

Grand Ballroom A

**CURRENT ISSUES SYMPOSIUM—DNA REPAIR  
RECOMBINATION AND DOUBLE-STRAND-BREAK REPAIR**

Chairs: *James E. Haber*, Brandeis University, Waltham, MA, United States and *Stephen C. West*, London Research Institute, Herts, United Kingdom

- 3:00 PM #202 **RECOMBINATION REPAIR AND A TREATMENT FOR BRCA2 TUMOURS**  
*Thomas Helleday*, University of Sheffield, Sheffield, United Kingdom
- 3:30 PM #203 **DNA DOUBLE-STRAND BREAK REPAIR IN DROSOPHILA**  
*Jeff J. Sekelsky*, University of North Carolina, Chapel Hill, NC, United States
- 4:00 PM #203A **“RECOMBOMICE” SHED LIGHT ON HOMOLOGOUS RECOMBINATION IN VIVO**  
*Beven P. Engelward*, Massachusetts Institute of Technology, Cambridge, MA, United States
- 4:20 PM #204 **MULTIPLE MECHANISMS TO REPAIR BROKEN YEAST CHROMOSOMES**  
*James E. Haber*, Brandeis University, Waltham, MA, United States
- 4:40 PM #205 **REGULATION AND MECHANISM OF DOUBLE-STRAND BREAK REPAIR IN MAMMALIAN CELLS**  
*Stephen C. West*, London Research Institute, Herts, United Kingdom

Sunday, September 4, 2005

5:15 PM–7:15 PM

Bayview

**CURRENT ISSUES SYMPOSIUM—ENVIRONMENTAL  
MUTAGENESIS/CARCINOGENESIS****CASE STUDIES OF ENVIRONMENTAL MUTAGEN  
CONTAMINATION DISASTERS AROUND THE WORLD**

Chairs: *William Au*, University Texas, Galveston, TX, United States and *Lance R. Brooks*, Department of Homeland Security, Washington, DC, United States

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- 5:15 PM #206 **NATIONAL EXPOSURE MEASUREMENT FOR DECISIONS TO PROTECT PUBLIC HEALTH FROM ENVIRONMENTAL EXPOSURES**  
*Dana B. Barr*, Centers for Disease Control, Atlanta, GA, United States
- 5:45 PM #207 **HEALTH CONSEQUENCES OF MUSTARD GAS EXPOSURE**  
*Brian J. Davey*, Organization for the Prohibition of Chemical Weapons, The Haag, Netherlands
- 6:15 PM #208 **PREVENTING CHEMICAL ACCIDENTS: LESSONS FROM BHOPAL**  
*Gerald Poje*, US Chemical Safety Hazard Investigation Board, Trenton, NJ, United States
- 6:35 PM #209 **WORLD TRADE CENTER ATTACK: HEALTH EFFECTS NOW AND LATER**  
*Mark A. Maddaloni*, US EPA, New York, NY, United States
- 6:55 PM #210 **RADIATION EXPOSURE AND HEALTH RISK IN KAZAKHSTAN FROM ATOMIC BOMB TESTINGS**  
*Rakhmetkaji I. Bersimbaev*, Kazhak National University, Almaty, Kazakhstan



Sunday, September 4, 2005

5:15 PM–7:15 PM

Seacliff C/D

**CURRENT ISSUES SYMPOSIUM—DNA REPAIR**

**TRANSCRIPTIONAL ENCOUNTERS WITH DNA DAMAGE**

Chairs: *Paul W. Doetsch*, Emory University, Atlanta, GA, United States and *Priscilla K. Cooper*, Lawrence Berkeley National Laboratory, Berkeley, CA, United States

- 5:15 PM #211 **TRANSCRIPTIONAL MUTAGENESIS IN BACTERIAL AND MAMMALIAN SYSTEMS**  
*Paul W. Doetsch*, Emory University, Atlanta, GA, United States
- 5:45 PM #212 **ASSEMBLY OF REPAIR FACTORS FOR TRANSCRIPTION-COUPLED REPAIR**  
*Leon H. Mullenders*, Leiden University Medical Center, Leiden, Netherlands
- 6:15 PM #213 **TRANSCRIPTION ARREST AT DNA DAMAGE SITES: IMPLICATIONS FOR TRANSCRIPTION-COUPLED REPAIR**  
*Silvia Tomaletti*, Stanford University, Stanford, CA, United States
- 6:35 PM #214 **TFIIH TRANSCRIPTION FACTOR IN DNA REPAIR**  
*Jean-Marc Egly*, CNSR/INSERM/ULP, Strasbourg, France
- 6:55 PM #215 **FUNCTIONAL ANALYSIS OF CSA AND CSB PROTEINS IN TRANSCRIPTION-COUPLED REPAIR**  
*Kiyoji Tanaka*, Osaka University, Osaka, Japan

**Monday, September 5, 2005**

Monday, September 5, 2005

7:00 AM–6:30 PM

Market Street Foyer

**REGISTRATION OPEN**

Monday, September 5, 2005

7:00 AM–8:30 AM

**MEMBERSHIP AND PROFESSIONAL DEVELOPMENT COMMITTEE**

(Garden Room)

**IAEMS BUSINESS MEETING, 1ST MEETING**

(Seacliff A/B)

**GERM CELL MUTAGENESIS SPECIAL INTEREST GROUP**

(Seacliff C/D)

Monday, September 5, 2005

8:30 AM–9:15 AM

Grand Ballroom

**PLENARY LECTURE—RITA R. COLWELL**

**Introduction**

*Helena Groot de Restrepo*, Vice President of the Latin American Association of Mutagenesis, Teratogenesis, and Carcinogenesis (ALAMCTA), University of the Andes, Bogota, Colombia

#216 **CLIMATE AND HUMAN HEALTH: ENVIRONMENTALLY MEDIATED INFECTIOUS DISEASES**

*Rita R. Colwell*, University of Maryland, College Park, MD, United States

Monday, September 5, 2005

9:15 AM–10:00 AM

Grand Ballroom

**PLENARY LECTURE—LOUIS J. GUILLETTE, JR.**

**Introduction**

*Amelia Guevara*, President of the Philippine Environmental Mutagen Society (PEMS), University of the Philippines, Quezon City, Philippines

#217 **CONTAMINANTS, GENES, AND HEALTH: LESSONS FROM WILDLIFE**

*Louis J. Guillette, Jr.*, University of Florida, Gainesville, FL, United States

Monday, September 5, 2005

10:00 AM–10:30 AM

Grand Ballroom Foyer

**REFRESHMENT BREAK**

Monday



**Monday, September 5, 2005**

**10:30 AM–12:30 PM**

**Grand Ballroom A**

**CURRENT ISSUES SYMPOSIUM—DNA REPAIR  
CELL CYCLE AND HOW CELLS SENSE THEIR ENVIRONMENT**

**Chairs:** *Peter J. Stambrook*, University of Cincinnati, Cincinnati, OH, United States and *Ronald A. Laskey*, MRC Research Centre, Cambridge, United Kingdom

- 10:30 AM #218 **CONTROL OF DNA REPLICATION BY GEMININ AND MCM3 ACETYLASE**  
*Ronald A. Laskey*, MRC Research Centre, Cambridge, United Kingdom
- 11:00 AM #219 **DYNAMICS OF DNA DOUBLE-STRAND BREAKS, RECOMBINATION, AND CHROMOSOME TRANSLOCATIONS**  
*Roland Kanaar*, Erasmus University, Rotterdam, Netherlands
- 11:30 AM #220 **GENOME INTEGRITY VIA SIGNALING NETWORKS: LESSONS FROM MODEL ORGANISMS**  
*Yolanda Sanchez*, University of Cincinnati Medical Center, Cincinnati, OH, United States
- 11:50 AM #221 **CANCER SUSCEPTIBILITY AND BRCA2 FUNCTIONS**  
*Ashok R. Venkitaraman*, MRC Research Centre, Cambridge, United Kingdom
- 12:10 PM #222 **PHOSPHOSERINE/THREONINE-BINDING DOMAINS: MOLECULAR INTEGRATORS OF PROTEIN KINASE SIGNALING NETWORKS**  
*Michael B. Yaffe*, MIT, Cambridge, MA, United States

**Monday, September 5, 2005**

**10:30 AM–12:30 PM**

**Seacliff A/B**

**CURRENT ISSUES SYMPOSIUM—ENVIRONMENTAL  
MUTAGENESIS/CARCINOGENESIS**

**ENVIRONMENTAL CONTAMINANT EXPOSURE AND  
MUTAGENESIS IN WILDLIFE**

**Chairs:** *Christopher M. Somers*, University Regina, SK, Canada and *Frederik-Jan van Schooten*, Maastricht University, Maastricht, Netherlands

- 10:30 AM #223 **INTEGRATING TOXICOLOGY, MUTAGENESIS, AND POPULATION GENETICS**  
*John W. Bickham*, Texas A&M University, College Station, TX, United States
- 11:00 AM #224 **ENVIRONMENTAL RADIATION: GLOBAL DISTRIBUTION AND GENETIC RISKS TO WILDLIFE**  
*Douglas R. Boreham*, McMaster University, Hamilton, ON, Canada
- 11:30 AM #225 **ASSESSING THE POPULATION-LEVEL IMPACTS OF GENOTOXIC SUBSTANCES IN AQUATIC SYSTEMS**  
*Paul A. White*, Health Canada, Ottawa, ON, Canada
- 11:50 AM #226 **URBAN WILDLIFE AS SENTINELS FOR MUTAGENESIS: AN UNDER-UTILIZED RESOURCE?**  
*Frederik-Jan van Schooten*, Maastricht University, Maastricht, Netherlands
- 12:10 PM #227 **URBAN POLLUTION: DOGS AS SENTINEL ANIMALS FOR NEURODEGENERATION AND NEUROCARCINOGENESIS**  
*Lilian Calderon-Garciduenas*, Instituto Nacional de Pediatría, Mexico City, Mexico and Department Biomedical Pharmaceutical Sciences, University of Montana, Missoula, MT, United States



Monday, September 5, 2005

10:30 AM–12:30 PM

Grand Ballroom B

**CURRENT ISSUES SYMPOSIUM—DNA REPAIR**

**INTERACTIVE COMPETITION AMONG DNA REPAIR PATHWAYS**

**Chairs:** *Jac A. Nickoloff*, University of New Mexico, Albuquerque, NM, United States and *John B. Hays*, Oregon State University, Corvallis, OR, United States

- 10:30 AM #228 **DNA MISMATCH REPAIR AND NUCLEOTIDE EXCISION REPAIR RESPONSES TO “MISMATCHED” UV PHOTOPRODUCTS**  
*John B. Hays*, Oregon State University, Corvallis, OR, United States
- 11:00 AM #229 **KINASE-INDEPENDENT FUNCTION FOR DNA-DEPENDENT PROTEIN KINASE IN DOUBLE-STRAND BREAK REPAIR BY HOMOLOGOUS RECOMBINATION**  
*Jac Nickoloff*, University New Mexico, Albuquerque, NM, United States
- 11:30 AM #230 **FACTORS FROM MULTIPLE REPAIR PATHWAYS PARTICIPATE IN THE UNCOUPLING OF INTERSTRAND CROSS-LINKS**  
*Randy J. Legerski*, University of Texas, Houston, TX, United States
- 11:50 AM #231 **A GLOWING REPORT: USE OF FLUORESCENT PROBES TO STUDY THE COORDINATION OF RECOMBINATION AND DNA REPLICATION IN *E. coli* K-12**  
*Steven J. Sandler*, University of Massachusetts, Amherst, MA, United States
- 12:10 PM #232 **THE MANY FACES OF XPG: COORDINATING ROLES IN NUCLEOTIDE AND BASE EXCISION REPAIR AND TRANSCRIPTION-COUPLED REPAIR**  
*Priscilla K. Cooper*, Lawrence Berkeley National Laboratory, Berkeley, CA, United States

Monday, September 5, 2005

10:30 AM–12:30 PM

Bayview

**CURRENT ISSUES SYMPOSIUM—MUTAGENESIS AND HUMAN DISEASE**

**MITOCHONDRIAL DNA DAMAGE AND HUMAN DISEASE**

**Chairs:** *Susan P. LeDoux*, University South Alabama, Mobile, AL, United States and *Yusaku Nakabeppu*, Kyushu University, Kyushu, Japan

**Sponsored by The Ellison Medical Foundation**

- 10:30 AM **MITOCHONDRIA AND APOPTOSIS: PASO DOBLE**  
*Douglas R. Green*, La Jolla Institute Allergy and Immunology, San Diego, CA, United States
- 11:00 AM #233 **TWO DISTINCT PATHWAYS FOR CELL DEATH TRIGGERED BY ACCUMULATION OF 8- OXOGUANINE IN NUCLEAR AND MITOCHONDRIAL GENOMES**  
*Yusaku Nakabeppu*, Kyushu University, Kyushu, Japan
- 11:30 AM #234 **DISEASES FROM MUTATIONS IN THE GENE FOR THE MITOCHONDRIAL DNA POLYMERASE**  
*William C. Copeland*, NIEHS, Research Triangle Park, NC, United States
- 11:50 AM #235 **MITOCHONDRIA, OXIDATIVE STRESS, IRON, AND TELOMERASE: WHAT IS THE CONNECTION?**  
*Bennett Van Houten*, NIEHS, Research Triangle Park, NC, United States
- 12:10 PM #236 **ENHANCING MITOCHONDRIAL DNA REPAIR: A NOVEL THERAPEUTIC STRATEGY**  
*Glenn L. Wilson*, University of South Alabama, Mobile, AL, United States

Monday

**Monday, September 5, 2005**

**10:30 AM–12:30 PM**

**Seacliff C/D**

**CURRENT ISSUES SYMPOSIUM—MUTAGENESIS  
AND HUMAN DISEASE**

**MOLECULAR EPIDEMIOLOGY OF CHILDREN'S ENVIRONMENTAL  
HEALTH**

**Chairs:** *Nina T. Holland*, University of California, Berkeley, United States and *Mathuros Ruchirawat*, Chulabhorn Institute, Bangkok, Thailand

- 10:30 AM #237 ENVIRONMENTAL EXPOSURES AND THE MOLECULAR EPIDEMIOLOGY OF CHILDHOOD LEUKEMIA  
*Patricia A. Buffler*, University of California, Berkeley, CA, United States
- 11:00 AM #238 CHILDREN'S ENVIRONMENTAL HEALTH IN DEVELOPING COUNTRIES  
*Mathuros Ruchirawat*, Chulabhorn Institute, Bangkok, Thailand
- 11:30 AM #239 ASSESSING FETAL, INFANT, AND CHILDHOOD EXPOSURES TO ENVIRONMENTAL TOXICANTS  
*Dana B. Barr*, Centers for Disease Control, Atlanta, GA, United States
- 11:50 AM #240 AFLATOXINS, CHILD GROWTH, AND IMMUNITY IN WEST AFRICA: FROM DISEASE MECHANISMS TO DISEASE PREVENTION  
*Paul C. Turner*, Leeds University, Leeds, United Kingdom
- 12:10 PM #241 GENETIC AND IMMUNOLOGICAL BIOMARKERS IN MINORITY POPULATIONS  
*Nina T. Holland*, University of California, Berkeley, CA, United States

**Monday, September 5, 2005**

**1:00 PM–3:00 PM**

**Pacific Concourse**

**POSTERS ATTENDED AND EXHIBITS OPEN**

**MECHANISMS OF MUTAGENESIS AND DNA REPAIR**

*Odd numbered posters will be attended from 1:00 PM–2:00 PM and even numbered posters will be attended from 2:00 PM–3:00 PM.*

- #242 APPLICATION OF QUANTITATIVE PCR FOR THE DETECTION OF NUCLEAR AND MITOCHONDRIAL DNA DAMAGE INDUCED BY UVA/UVB RADIATION IN *Saccharomyces cerevisiae*. *Acevedo-Torres, K<sup>1</sup>*, *Ruiz, A<sup>2</sup>*, *Morales, GE<sup>2</sup>*, *Ayala-Torres, S<sup>1</sup>*, *Matta, J<sup>2</sup>*, *Torres-Ramos, CA<sup>1</sup>*. <sup>1</sup>University of Puerto Rico Medical Sciences Campus, San Juan, PR, United States, <sup>2</sup>Ponce School of Medicine, Ponce, PR, United States.

- #243 EFFECTS OF MSH3 GENE DELETION ON TARGETED HOMOLOGOUS RECOMBINATION IN ERCC1 WILD-TYPE OR ERCC1 KNOCK-OUT CELLS. *Adair, GM*, *Robison, T*, *Della Coletta, L*, *Holt, A*, *Rowley, B*, *Lowery, M*, *Maywald, R*, *Nairn, RS*. Univ. of Texas M.D. Anderson Cancer Ctr., Smithville, TX, United States.
- #244 ERCC1-XPF: A MULTIFUNCTIONAL DNA REPAIR ENDONUCLEASE. *Ahmad, A<sup>1</sup>*, *Robinson, A<sup>1</sup>*, *Kanaar, R<sup>2</sup>*, *Hoeijmakers, Y<sup>2</sup>*, *Niedernhofer, L<sup>1</sup>*. <sup>1</sup>University of Pittsburgh, Pittsburgh, PA, United States, <sup>2</sup>Erasmus University, Rotterdam, Netherlands.
- #245 THE COMPETITION OF *mutS* WITH *mutT* OR *recA* DEFICIENT STRAINS OF BACTERIA *Escherichia coli* AND *Salmonella enterica* SEROVAR *Typhimurium* DURING PROLONGED STATIONARY PHASE. *Bacun-Druzina, V<sup>1</sup>*, *Ratkaj, I<sup>1</sup>*, *Vrbica, M<sup>1</sup>*, *Gjuracic, K<sup>2</sup>*, *Franekic Colic, J<sup>1</sup>*. <sup>1</sup>Faculty of Food Technology and Biotechnology, Zagreb, Croatia, <sup>2</sup>Pliva, Research Division, Zagreb, Croatia.
- #246 ENHANCED POINT MUTATION BUT NOT RECOMBINATION IN THE ABSENCE OF *Msh6*. *Barrera-Oro, J<sup>1</sup>*, *Gorden, E<sup>1</sup>*, *Kucherlapati, R<sup>2</sup>*, *Shao, C<sup>1</sup>*, *Tischfield, J<sup>1</sup>*. <sup>1</sup>Rutgers University, Piscataway, NJ, United States, <sup>2</sup>Harvard Medical School, Boston, MA, United States.
- #246A IMPACT OF FOLIC ACID DEFICIENCY ON GENOME STABILITY IN BRCA1 AND BRCA2 GERMLINE MUTATION CARRIERS. *Beetstra S<sup>2</sup>*, *Salisbury C<sup>1</sup>*, *Turner J<sup>1</sup>*, *Altree M<sup>3</sup>*, *McKinnon R<sup>2</sup>*, *Suthers G<sup>3</sup>*, *Fenech M<sup>1</sup>*. <sup>1</sup>CSIRO Health Sciences and Nutrition, Adelaide, SA, Australia, <sup>2</sup>University of South Australia, Samson Institute, Adelaide, SA, Australia, <sup>3</sup>Familial Cancer Unit, SA Clinical Genetics Service, Women's and Children's Hospital, North Adelaide, SA, Australia.
- #247 DNA DAMAGE/REPAIR AND PAPILOMAVIRUS INFECTION AS RISK FACTORS FOR NONMELANOMA SKIN CANCER. *Bendesky, A<sup>5</sup>*, *Michel, A<sup>2</sup>*, *Sordo, M<sup>1</sup>*, *Calderon-Aranda, E<sup>4</sup>*, *Salazar, AM<sup>1</sup>*, *Podoswa, N<sup>3</sup>*, *Cebrian, M<sup>4</sup>*, *Ostrosky-Wegman, P<sup>1</sup>*. <sup>1</sup>Instituto de Investigaciones Biomedicas, Universidad Nacional Autonoma de Mexico, Mexico, DF, Mexico, <sup>2</sup>Hospital General Dr. Manuel Gea Gonzalez, SS, Mexico, DF, Mexico, <sup>3</sup>Hospital General Regional No. 1 Gabriel Mancera, IMSS, Mexico, DF, Mexico, <sup>4</sup>CINVESTAV, Mexico, DF, Mexico, <sup>5</sup>Facultad de Medicina and Instituto de Investigaciones Biomedicas, Universidad Nacional Autonoma de Mexico, Mexico, DF, Mexico.





- #248 **CHARACTERIZATION OF THE ALDEHYDE REACTIVE PROBE REACTION WITH AP-SITE DNA: INFLUENCE OF AP-LYASE ON ADDUCT STABILITY.** Bennett, SE, Lari, SU. Oregon State University, Corvallis, OR, United States.
- #249 **SIMULATIONS OF HETEROCYCLIC AMINE ACTIVE SITE BINDING IN CYTOCHROME P450 1A2.** Bennion, BJ, Lau, EY, Colvin, ME, Felton, JS, Lightstone, FC. Lawrence Livermore National Laboratory, Livermore, CA, United States.
- #250 **P53 IS REQUIRED FOR THE EFFICIENT GLOBAL GENOMIC REPAIR OF CISPLATIN-INDUCED INTRAstrand CROSSLINKS.** Bhana, S, Hewer, A, Phillips, D, Lloyd, D. <sup>1</sup>University of Kent, Canterbury, Kent, United Kingdom, <sup>2</sup>Institute of Cancer Research, Sutton, Surrey, United Kingdom.
- #251 **IMATINIB (STI571) INHIBITS DNA REPAIR IN BCR/ABL-EXPRESSING CELLS EXPOSED TO ENVIRONMENTAL MUTAGENS.** Blasiak, J, Czechowska, A, Arabski, M, Majsterek, I. University of Lodz, Department of Molecular Genetics, Lodz, Poland.
- #252 **BULKY DNA ADDUCTS AND REPAIR ENZYMES IN EARLY DEVELOPMENT OF ZEBRAFISH.** Brooks, E, Atkin, J, Mahadevan, B, Tanguay, RL, Baird, WM. Oregon State University, Corvallis, OR, United States.
- #253 **TRANSCRIPTION-COUPLED REPAIR OF OXIDATIVE DAMAGE: THE ROLE OF CSB.** Budworth, H, Fuss, J, Haltiwanger, BM, Cooper, PK. Lawrence Berkeley National Laboratory, Berkeley, CA, United States.
- #254 **IMPACT OF PATHOGENIC MUTATIONS IN HUMAN MLH1 ON FORMATION OF THE MUTL $\alpha$  HETERODIMER IN MAMMALIAN CELLS.** Buermeyer, AB, Mohd, AB, Palama, B, Ing, B. Oregon State University, Corvallis, OR, United States.
- #255 **EFFECTS OF *Cervi pantotrichum Cornu* HERBAL ACUPUNCTURE SOLUTION (CPCHA) ON THE GENETIC TOXICITY.** Byun, BH<sup>1</sup>, Park, EJ<sup>2</sup>. <sup>1</sup>Dept. of Oriental Medicine, Daegu Haany University, Daegu, South Korea, <sup>2</sup>Dept. of Food and Nutrition, Kyungnam University, Masan, South Korea.
- #256 **A CAUSATIVE ROLE FOR LOSS OF DNA POLYMERASE BETA IN AGING.** Cabelof, DC<sup>1</sup>, Richardson, A<sup>2</sup>, Matherly, LH<sup>1</sup>, Heydari, AR<sup>3</sup>. <sup>1</sup>Karmanos Cancer Institute, Wayne State University, Detroit, MI, United States, <sup>2</sup>University of Texas Health Sciences Center San Antonio, San Antonio, TX, United States, <sup>3</sup>Department of Nutrition and Food Science, Wayne State University, Detroit, MI, United States.
- #257 **RECOGNITION OF DNA ENDS BY THE Mre11 COMPLEX: IMPLICATIONS FOR DOUBLE-STRAND BREAK DETECTION.** Cahill, D, Ullman, E, Carney, JP. U. Maryland School of Medicine, Baltimore, MD, United States.
- #258 **GERMONLINE, A CROSS-SPECIES COMMUNITY ANNOTATION KNOWLEDGEBASE FOCUSING ON THE GERMLINE, PROVIDES LIFE SCIENTISTS WITH AN ONLINE PUBLISHING TOOL FOR MICROARRAY DATA.** Carton, M<sup>1</sup>, Niederhauser-Wiederkehr, C<sup>1</sup>, Hermida, L<sup>1</sup>, van den Broek, S<sup>1</sup>, Cherry, M<sup>4</sup>, Yamamoto, M<sup>3</sup>, Lamb, N<sup>2</sup>, Primig, M<sup>1</sup>. <sup>1</sup>Biozentrum & SIB, Basel, Switzerland, <sup>2</sup>IGH, Montpellier, Switzerland, <sup>3</sup>University of Tokyo, Tokyo, Japan, <sup>4</sup>Stanford University, Palo Alto, United States.
- #259 **EFFECT OF CELL CONFLUENCE ON ULTRAVIOLET LIGHT APOPTOTIC RESPONSES IN NUCLEOTIDE EXCISION REPAIR DEFICIENT FIBROBLASTS.** Carvalho, H<sup>1</sup>, Weinlich, R<sup>2</sup>, Amarante-Mendes, GP<sup>2</sup>, Menck, CFM<sup>1</sup>. <sup>1</sup>Depto. de Microbiologia - Instituto de Ciências Biomédicas - Universidade de São Paulo, São Paulo, Brazil, <sup>2</sup>Depto. de Imunologia - Instituto de Ciências Biomédicas - Universidade de São Paulo, São Paulo, Brazil.
- #260 **INFLUENCE OF THE ENVIRONMENTAL EXPOSURE TO PAHs ON SUSCEPTIBILITY TO THE INDUCTION OF DNA DAMAGE.** Cebulska-Wasilewska, A<sup>1</sup>, Cebulska-Wasilewska, A<sup>2</sup>, Binkova, B<sup>3</sup>, Sram, RJ<sup>3</sup>, Kalina, I<sup>4</sup>, Popov, T<sup>5</sup>, Farmer, P<sup>6</sup>. <sup>1</sup>Department of Radiation and Environmental Biology, The H.Niewodniczanski Institute of Nuclear Physics PAN, Radzikowskiego 152, Kraków, Poland, <sup>2</sup>Chair of the Epidemiology and Preventive Medicine, Collegium Medicum of Jagiellonian University, Kraków, Poland, <sup>3</sup>Institute of Experimental Medicine AS CR and Regional Institute of Health of Central Bohemia, Prague, Czech Republic, <sup>4</sup>Department of Molecular Biology of the P.J.Šafárik University, Košice, Slovakia, <sup>5</sup>Department of Toxicology, National Center of Hygiene, Sofia, Bulgaria, <sup>6</sup>Cancer Biomarkers and Prevention Group, Leicester, United Kingdom.
- #261 **RIBONUCLEOTIDE REDUCTASE AND E2F IN CELL CYCLE AND DNA DAMAGE RESPONSE IN PLANTS.** Lincker, F, Roa, H, Lang, J, Orsini, V, Isac, R, Houlné, G, Chabouté, ME. IBMP/CNRS-ULP, Strasbourg, France.
- #262 **IONIZING RADIATION AND RESTRICTION ENZYMES INDUCE MICROHOMOLOGY-MEDIATED ILLEGITIMATE RECOMBINATION IN TRANS IN *Saccharomyces cerevisiae*.** Chan, CY, Kiechle, M, Manivasakam, P, Schiestl, RH. Department of Pathology, UCLA, Los Angeles, CA, United States.

- #263 **THE COMMON A467T MUTATION IN THE CATALYTIC SUBUNIT OF THE HUMAN MITOCHONDRIAL DNA POLYMERASE COMPROMISES CATALYTIC EFFICIENCY AND INTERACTION WITH THE ACCESSORY SUBUNIT.** Chan, SSL, Longley, MJ, Copeland, WC. NIEHS/NIH, Research Triangle Park, NC, United States.
- #264 **DIFFERENTIAL MUTAGENICITY OF GENOTOXIC CARCINOGENS IN NEONATAL AND ADULT MICE.** Chen, T<sup>1</sup>, Mei, N<sup>1</sup>, Slikker III, W<sup>2</sup>, Moore, MM<sup>1</sup>, Heflich, RH<sup>1</sup>. <sup>1</sup>Division of Genetic and Reproductive Toxicology, National Center for Toxicological Research, US FDA, Jefferson, AR, United States, <sup>2</sup>College of Letters and Science, University of California, Los Angeles, CA, United States.
- #265 **LYSINE 63 POLYUBIQUITINATION PROTECTS CELLS AGAINST BENZO[a]PYRENE-DIOL-EPOXIDE INDUCED MUTATIONS.** Chiu, RK, Langie, SAS, Knaapen, AM, Ramaekers, CHMA, Theys, J, Godschalk, RWL, van Schooten, FJ, Lambin, P, Wouters, BG. University of Maastricht, Maastricht, Netherlands.
- #266 **ADDUCT SIZE LIMITS EFFICIENT AND ERROR-FREE BYPASS ACROSS BULKY N<sup>2</sup>-GUANINE DNA LESIONS BY HUMAN DNA POLYMERASE ETA.** Choi, JY, Guengerich, FP. Vanderbilt University, Nashville, TN, United States.
- #267 **NEW NUCLEIC ACID BIOSENSORS TO DETECT AND QUANTIFY DNA REPAIR ACTIVITIES BY A FRET ASSAY.** Chollat-Namy, A, Gasparutto, D, Cadet, J, Favier, A. CEA Grenoble DRFMC/SCIB/LAN, UNR-E n.3 CEA-UJE, Grenoble, France.
- #268 **DNA DAMAGE AND REPAIR IN GERM CELLS OF *Parp-1*<sup>-/-</sup> MALE MICE AFTER X-RAY IRRADIATION.** Cordelli, E, Fresegna, AM, Viola, C, Pacchierotti, F, Villani, P. ENEA, Rome, Italy, Italy.
- #269 **PRE-EXPOSURE: MODULATION OF FREQUENCIES AND REPAIR OF DNA DAMAGE?** Cramers, P<sup>1</sup>, Mullenders, LHF<sup>1</sup>, van Zeeland, AA<sup>1</sup>, Kleinjans, JCS<sup>2</sup>. <sup>1</sup>Leiden University Medical Center, Leiden, Netherlands, <sup>2</sup>Maastricht University, Maastricht, Netherlands.
- #270 **OXIDATIVE STRESS IN L5178Y MOUSE LYMPHOMA CELLS AND THE IMPACT OF INCUBATION WITH S9 MIXTURE.** Czene, S, Johansson, H, Bolcsfoldi, G. AstraZeneca R&D Södertälje, Safety Assessment, Genetic Toxicology, Södertälje, Sweden.
- #271 **POSITIVE AND NEGATIVE EFFECTS OF DNA DAMAGE FOR MITOTIC RECOMBINATION IN *Saccharomyces cerevisiae*.** Daigaku, Y, Endo, K, Mashiko, S, Yamamoto, K. Graduate School of life Sciences, Tohoku University, Sendai, Japan.
- #272 **GENERATION AND ANALYSIS OF MOUSE MODELS WITH DEFECTS IN THE *Rev1* AND *Rev3* TRANSLATION SYNTHESIS POLYMERASES.** Jansen, JG, Tsaalbi-Shtylik, A, Pauw, B, de Wind, N. Leiden University Medical Center, Department of Toxicogenetics, Leiden, Netherlands.
- #273 **DNA DAMAGE INDUCES RAD51-GAMMA-TUBULIN NUCLEAR COMPLEXES IN MAMMALIAN CELLS.** Defais, M<sup>1</sup>, Lesca, C<sup>1</sup>, Germanier, M<sup>1</sup>, Roques, C<sup>1</sup>, Raynaud-Messina, B<sup>2</sup>, Etievant, C<sup>2</sup>, Wright, M<sup>2</sup>, Monsarrat, B<sup>1</sup>, Burlet-Schiltz, O<sup>1</sup>. <sup>1</sup>CNRS, IPBS, Toulouse, France, <sup>2</sup>CNRS-Pierre Fabre, ISTMT, Toulouse, France.
- #274 **THE LACK OF EITHER XPC OR CSA LEADS TO IN VIVO ACCUMULATION OF OXIDATIVELY MODIFIED DNA BASES IN HUMAN KERATINOCYTES VIA DIFFERENT MECHANISMS.** D'Errico, M<sup>1</sup>, Parlanti, E<sup>1</sup>, Teson, M<sup>2</sup>, Calcagnile, A<sup>1</sup>, Jaruga, P<sup>3</sup>, Zambruno, G<sup>2</sup>, Stefanini, M<sup>4</sup>, Dizdaroglu, M<sup>3</sup>, Dogliotti, E<sup>1</sup>. <sup>1</sup>National Institute of Health, Rome, Italy, Italy, <sup>2</sup>Istituto Dermopatico dell'Immacolata, IRCCS, Rome, Italy, Italy, <sup>3</sup>National Institute of Standards and Technology, Gaithersburg, MD, United States, <sup>4</sup>Consiglio Nazionale delle Ricerche, Pavia, Italy.
- #275 **TRANSCRIPTIONAL BYPASS OF MODIFIED GUANINE BASES AND UNPAIRED REGIONS OF DNA: BIOCHEMICAL AND MODELING STUDIES.** Dimitri, A<sup>1</sup>, Burns, JA<sup>1</sup>, Broyde, S<sup>1</sup>, Geacintov, NE<sup>1</sup>, Farley, SA<sup>1</sup>, Guengerich, F<sup>2</sup>, Rizzo, C<sup>2</sup>, Goodenough, AK<sup>2</sup>, Scicchitano, DA<sup>1</sup>. <sup>1</sup>New York University, New York, NY, United States, <sup>2</sup>Vanderbilt University, Nashville, TN, United States.
- #276 **BENZO(a)PYRENE (BP)-DNA ADDUCT REDUCTION IN THE PRESENCE OF CHLOROPHYLLIN (CHL) IS INDEPENDENT OF BP-METABOLIZING CYTOCHROME P450 INDUCTION IN HUMAN MCL-5 CELLS.** Diwi, RL<sup>1</sup>, Orozco, CC<sup>1</sup>, Weston, A<sup>2</sup>, Poirier, MC<sup>1</sup>. <sup>1</sup>National Cancer Institute, NIH, Bethesda, MD, United States, <sup>2</sup>National Institute for Occupational Safety and Health, CDC, Morgantown, WV, United States.

- #277 **DNA LESION-SPECIFIC INTERACTION AND CO-LOCALIZATION OF REPLICATION PROTEIN A (RPA) AND THE MRE11/RAD50/NBS1 (MRN) COMPLEX AT STALLED REPLICATION FORKS AND IN REPAIR FOCI.** Robison, JG<sup>1</sup>, Bissler, JJ<sup>2</sup>, Dixon, K<sup>3</sup>. <sup>1</sup>University of Cincinnati, Cincinnati, OH, United States, <sup>2</sup>Cincinnati Children's Hospital Medical Center, Cincinnati, OH, United States, <sup>3</sup>University of Arizona, Tucson, AZ, United States.
- #278 **RODENT BONE-MARROW MICRONUCLEUS TESTS WITH CENTROMERE LABELLING FOR THE DETECTION OF ANUEGENS.** Doherty, AT, Hayes, J, Evans, S, O Donovan, M. AstraZeneca, Macclesfield, Cheshire, United Kingdom.
- #279 **THE RAD6 GROUP GENES MEDIATE ACCURATE REPAIR OF DOUBLE-STRANDED GAPS IN PLASMID DNA IN YEAST.** Eckardt-Schupp, F, Steininger, S, Ahne, F, Moertl, S. GSF-National Research Center, Neuherberg, Germany.
- #280 **CELL CYCLE REGULATION AND LOCALIZATION OF MISMATCH REPAIR PROTEINS.** Edelbrock, MA, Schroering, AS, Richards, TJ, Williams, KJ. Medical University of Ohio, Toledo, OH, United States.
- #281 **INTERLABORATORY VALIDATION OF A STUDY PROTOCOL FOR THE CONDUCT OF THE SYRIAN HAMSTER EMBRYO (SHE) CELL MICROWELL SCREENING MICRONUCLEUS ASSAY IN VITRO.** Hu, T<sup>2</sup>, Erexson, GL<sup>1</sup>, Aardema, MJ<sup>2</sup>, Farabaugh, CS<sup>1</sup>, Yung, KM<sup>1</sup>, Hsu, B<sup>1</sup>, Stojhovic, GP<sup>1</sup>. <sup>1</sup>Covance Laboratories, Inc., Vienna, VA, United States, <sup>2</sup>Procter & Gamble Co., Cincinnati, OH, United States.
- #282 **THE ROLE OF ANCI IN RECOVERY FROM EXPOSURE TO DNA DAMAGING AGENTS.** Erlich, RL<sup>2</sup>, Samson, LD<sup>3</sup>. <sup>1</sup>MIT Department of Biology, Cambridge, MA, United States, <sup>2</sup>MIT Center for Environmental Health Sciences, Cambridge, MA, United States, <sup>3</sup>MIT Department of Biological Engineering, Cambridge, MA, United States.
- #283 **SPECIFIC CHROMOSOMAL FRAGMENTS IN HUMAN LYMPHOCYTE MICRONUCLEI: MITOMYCIN C PREFERENTIALLY BREAKS CHROMOSOME 9 NEXT TO THE CLASSICAL SATELLITE REGION.** Falck, GC-M, Jarventaus, H, Norppa, H. Finnish Institute of Occupational Health, Helsinki, Finland.
- #284 **THE EFFICIENT GLOBAL REPAIR OF OXIDATIVE DNA BASE MODIFICATIONS REQUIRES BOTH POLY(ADP-RIBOSYL)ATION AND PROTEINS INVOLVED IN TRANSCRIPTION COUPLED REPAIR.** Flohr-Beckhaus, C<sup>1</sup>, Schulz, I<sup>1</sup>, Radicella, JP<sup>2</sup>, Epe, B<sup>1</sup>. <sup>1</sup>Institute of Pharmacy, University of Mainz, Mainz, Germany, <sup>2</sup>Département de Radiobiologie et Radiopathologie, CEA, Fontenay aux Roses, France.
- #285 **THE IMPORTANCE OF RAD51 FOR THE RECOMBINATION PROCESS IN *Trypanosoma cruzi*.** Freitas, JM, Silva, CGR, Silva, DGP, Silva, CFT, Macedo, AM, Pena, SDJ, Teixeira, SMR, Machado, CR. UFMG, Belo Horizonte, Brazil.
- #286 **ACCUMULATION AND PERSISTENCE OF SPONTANEOUSLY ARISING MUTATIONS IN MOUSE SOMATIC STEM CELLS.** Fujikawa, K, Kagawa, N. Kinki University, Higashiosaka, Japan.
- #287 **OsEXO-1, A PLANT HOMOLOGUE OF CLASS III RAD2 NUCLEASE FAMILY MEMBER, IS CORRELATED WITH CELL PROLIFERATION.** Furukawa, T, Shimada, H. Tokyo University of Science, Noda, Japan.
- #288 **INVESTIGATING THE MOLECULAR BASIS OF COCKAYNE SYNDROME: INTERACTION OF THE AMINO TERMINAL DOMAIN OF CSB WITH XPG.** Fuss, J<sup>1</sup>, Budworth, H<sup>1</sup>, Ng, C<sup>1</sup>, Lim, SY<sup>1</sup>, McClean, CM<sup>1</sup>, Tainer, JA<sup>2</sup>, Cooper, PK<sup>1</sup>. <sup>1</sup>Lawrence Berkeley National Laboratory, Berkeley, CA, United States, <sup>2</sup>The Scripps Research Institute, La Jolla, CA, United States.
- #289 **CHARACTERIZATION OF THE SOS DEPENDENT MUTAGENESIS IN *Caulobacter crescentus*.** Galhardo, RS, Rocha, RP, Marques, MV, Menck, CFM. Department of Microbiology, University of Sao Paulo, Sao Paulo, SP, Brazil.
- #290 **PROTECTIVE EFFECT OF CURCUMIN AND CHLOROPHYLLIN AGAINST DNA MUTATION INDUCED BY CYCLOPHOSPHAMIDE OR BENZO[a]PYRENE.** Ghoneim, MA<sup>1</sup>, Ibrahim, MA<sup>2</sup>, Amer, HA<sup>2</sup>, Elbehairy, AM<sup>2</sup>. <sup>1</sup>Biotechnology Center, Fac. Vet. Med., Cairo University, Giza, Egypt, <sup>2</sup>Dept. of Biochem., Fac. Vet. Med., Cairo University, Giza, Egypt.

- #291 **MODEL STRUCTURE OF MITOCHONDRIAL DNA POLYMERASE GAMMA WITH 7,8-DIHYDRO-8-OXO-2'-DEOXYGUANOSINE—A COMMON MUTAGENIC DNA LESION.** *Graziewicz, MA<sup>1</sup>, Bienstock, RJ<sup>2</sup>, Copeland, WC<sup>1</sup>.* <sup>1</sup>Laboratory of Molecular Genetics, National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States, <sup>2</sup>Scientific Computing Laboratory, National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States.
- #292 **VIABILITY FROM GERM CELLS TO ADULTS DEPENDS MORE ON ERROR FREE DNA REPAIR THAN DOES VIABILITY FROM LARVAE TO ADULTS.** *Corredor, LE, Herrera, OL, Grigoriu de Buendia, P.* Universidad Antonio Narinio, Bogota, Colombia.
- #293 **GENERATION OF BREAKAGE-PRONE REARRANGEMENT JUNCTIONS LEADS TO CHROMOSOMAL INSTABILITY.** *Allen, RN, Ritter, LE, Grosowsky, AJ.* University of California at Riverside, Riverside, CA, United States.
- #294 **INHIBITION OF SPONTANEOUS MUTAGENESIS IN *lacZ* MICE.** *Khmelnitsky, M, Kosinska, W, Guttenplan, J.* New York University, New York, NY, United States.
- #295 **INCORPORATION AND REPAIR OF [<sup>14</sup>C]8-Oxo-dG IN THE DNA OF MCF-7 BREAST CANCER CELLS USING ACCELERATOR MASS SPECTROMETRY.** *Hah, SS, Sumbad, RA, Henderson, PT.* Lawrence Livermore National Laboratory, Livermore, CA, United States.
- #296 **HIGH-SPEED CONVERSION OF CYTOSINE TO URACIL IN BISULFITE GENOMIC SEQUENCING ANALYSIS OF DNA METHYLATION.** *Hayatsu, HH.* Shujitsu University, Okayama, Japan.
- #297 **GENETIC POLYMORPHISMS IN DNA REPAIR AND FOLATE METABOLISM AND THEIR ASSOCIATION WITH CHROMOSOMAL ABERRATIONS.** *Heilimo, I<sup>1</sup>, Siivola, P<sup>1</sup>, Tuimala, J<sup>2</sup>, Maunu, H<sup>1</sup>, Jarventaus, H<sup>1</sup>, Hirvonen, A<sup>1</sup>, Metsola, K<sup>1</sup>, Norppa, H<sup>1</sup>.* <sup>1</sup>Laboratory of Molecular and Cellular Toxicology, Department of Industrial Hygiene and Toxicology, Finnish Institute of Occupational Health, Helsinki, Finland, <sup>2</sup>CSC, the Finnish IT Center for Science, Espoo, Finland.
- #298 **ANTIGENOTOXIC EFFECT OF NARINGIN ON MOUSE HEPATIC AND CARDIAC CELLS TREATED WITH DAUNORUBICIN.** *Hernández-Ceruelos, A<sup>1</sup>, Madrigal-Bujaidar, E<sup>2</sup>, Cariño-Cortés, R<sup>1</sup>, Alvarez-González, I<sup>2</sup>, Martino-Roaro, L<sup>2</sup>.* <sup>1</sup>Area Académica de Medicina, Universidad Autónoma del Estado de Hidalgo, Pachuca, Hidalgo, Mexico, <sup>2</sup>Laboratorio de Genética, Escuela Nacional de Ciencias Biológicas, I.P.N., Mexico City, D.F., Mexico.
- #299 **EFFECT OF POLYMORPHISMS IN THE *Mgmt* GENE ON PROTEIN ACTIVITY AS MEASURED BY A NOVEL FLUORESCENCE-BASED ASSAY.** *Hill, CE, Wickliffe, JK, Kinslow, CJ, Wolfe, KJ, Abdel-Rahman, SZ.* University of Texas Medical Branch at Galveston, Galveston, TX, United States.
- #300 **CATALYTIC IMPAIRMENT AND DIMERIZATION OF POLYMORPHIC S326C OGG1 DNA REPAIR ENZYME.** *Hill, JW, Evans, MK.* National Institute on Aging, Baltimore, MD, United States.
- #301 **MODULATION OF THE GENETIC ACTIVITY OF BLEOMYCIN BY AMINES IN AN ASSAY FOR MITOTIC GENE CONVERSION IN YEAST.** *Hoffmann, GR, Hughes, JF, Ronan, MV, Soron, GJ, Willett, CJ.* Department of Biology, College of the Holy Cross, Worcester, MA, United States.
- #302 **THE DNA POLYMERASE LAMBDA IS REQUIRED FOR THE REPAIR OF NON-COMPATIBLE DNA DOUBLE STRAND BREAKS BY NHEJ IN MAMMALIAN CELLS.** *Capp, JP<sup>1</sup>, Boudsocq, F<sup>1</sup>, Bertrand, P<sup>2</sup>, Laroche-Clary, A<sup>3</sup>, Pourquier, P<sup>3</sup>, Lopez, B<sup>2</sup>, Cazaux, C<sup>1</sup>, Canitrot, Y<sup>1</sup>, Hoffmann, JS<sup>1</sup>.* <sup>1</sup>Equipe Instabilité Génétique et Cancer, IPBS-CNRS, Toulouse, France, <sup>2</sup>UMR 217 CNRS-CEA, Fontenay aux Roses, France, <sup>3</sup>INSERM E437, Bordeaux, France.
- #303 **INTERALLELIC HOMOLOGOUS RECOMBINATION AND TARGET INTEGRATION INDUCED BY DNA DOUBLE STRAND BREAKS.** *Honma, M, Takashima, Y, Sakuraba, T, Koizumi, T, Sakamoto, H, Hayashi, M.* National Institute of Health Sciences, Tokyo, Japan.
- #304 **ANALYSIS OF ORF17, A MutT-TYPE ENZYME, IN VITRO AND IN VIVO.** *Hori, M<sup>1</sup>, Fujikawa, K<sup>2</sup>, Kasai, H<sup>2</sup>, Harashima, H<sup>1</sup>, Kamiya, H<sup>1</sup>.* <sup>1</sup>Grad. Sch. Pharm. Sci. Hokkaido Univ., Sapporo, Japan, <sup>2</sup>Inst. Ind. Ecol. Sci. Univ. Occup. Env. Hlth., Kitakyuusyu, Japan.

- #305 **CHARACTERIZATION OF GENETICALLY MODIFIED CHO UV5 CELL LINES FOR ASSESSING THE EFFECTS OF N-ACETYLTRANSFERASE 2 (NAT2) AND CYP1A2 ON AROMATIC AMINE GENOTOXICITY USING CELLOMICS AUTOMATED MICRONUCLEUS (MN) SCORING SYSTEM.** *Hu, T<sup>1</sup>, Zhao, S<sup>2</sup>, Gildea, LA<sup>1</sup>, Tansky, CS<sup>1</sup>, Neale, JR<sup>2</sup>, Doll, MA<sup>2</sup>, Hein, DW<sup>2</sup>, Skare, JA<sup>1</sup>, Aardema, MJ<sup>1</sup>.* <sup>1</sup>Procter & Gamble, Cincinnati, OH, United States, <sup>2</sup>University of Louisville, Louisville, KY, United States.
- #306 **NONEQUIVALENT BIOLOGICAL CONSEQUENCES OF ENDOGENOUS AND RADIATION-INDUCED OXIDATIVE DNA LESIONS.** *Ide, H<sup>1</sup>, Terato, H<sup>1</sup>, Furusawa, Y<sup>2</sup>.* <sup>1</sup>Hiroshima University, Higashi-Hiroshima, Hiroshima, Japan, <sup>2</sup>National Institute of Radiological Sciences, Chiba, Chiba, Japan.
- #307 **FORMATION OF DNA ADDUCTS DERIVED FROM BIFUNCTIONAL NITROSAMINES.** *Ishikawa, S, Hatanaka, M, Mochizuki, M.* Kyoritsu University of Pharmacy, Tokyo, Japan.
- #308 **MUTAGENIC ACTIVATION OF ETHYLENE DIBROMIDE BY CLONES FROM A SHUFFLED LIBRARY OF HUMAN AND RAT THETA CLASS GLUTATHIONE TRANSFERASES.** *Josephy, PD<sup>1</sup>, Taylor, PL<sup>1</sup>, Campbell, EFW<sup>1</sup>, Mannervik, B<sup>2</sup>.* <sup>1</sup>University of Guelph, Guelph, Ontario, Canada, <sup>2</sup>Uppsala University, Uppsala, Sweden.
- #309 **ROLE OF *Atm* GENE AS A DEFENCE FROM CHROMOSOME DAMAGE ARISING SPONTANEOUSLY AND AFTER RADIATION IN MICE.** *Kagawa, N<sup>1</sup>, Shimura, M<sup>1</sup>, Noda, Y<sup>2</sup>, Tatsumi, K<sup>2</sup>, Norimura, T<sup>3</sup>, Fujikawa, K<sup>1</sup>.* <sup>1</sup>Kinki University, Osaka, Japan, <sup>2</sup>National Institute for Radiological Sciences, Chiba, Japan, <sup>3</sup>University of Occupational & Environmental Health, Kitakyushu, Japan.
- #310 **CHECKPOINT RESPONSE TO REPLICATION STRESS: INDUCING TOLERANCE AND PREVENTING GENOMIC SEQUENCE DELETION.** *Kai, MK, Wang, TSW.* Stanford University, Stanford CA, United States.
- #311 **EFFECTS OF XPG MUTATIONS ON ENDONUCLEASE FUNCTION DO NOT CORRELATE WITH EFFECTS ON REPORTER GENE EXPRESSION FROM A UV-DAMAGED PLASMID.** *Kamiuchi, S, Sarker, A, Tsutakaw, S, Ison, M, Kwoh, E, Ng, C, Cooper, B, Campeau, E, Cooper, P.* Lawrence Berkeley National Lab, Berkeley, CA, United States.
- #312 **IMPORTANT AMINO ACID RESIDUES INVOLVED IN SUBSTRATE RECOGNITION OF THE *Escherichia coli* 2-HYDROXY-DATPASE (ORF135).** *Kamiya, H<sup>1</sup>, Iida, E<sup>1</sup>, Satou, K<sup>1</sup>, Mishima, M<sup>2</sup>, Kojima, C<sup>2</sup>, Harashima, H<sup>1</sup>.* <sup>1</sup>Grad. Sch. Pharm. Sci., Hokkaido Univ., Sapporo, Japan, <sup>2</sup>Grad. Sch. Biol. Sci., Nara Inst. Sci. Tech., Ikoma, Nara, Japan.
- #313 **ANALYSIS OF TRANSLESION SYNTHESIS OF DNA ADDUCTS DERIVED FROM AIR POLLUTANT 3-NITROBENZANTHRONE AND ITS MUTAGENESIS.** *Kanno, T<sup>1</sup>, Kawanishi, M<sup>2</sup>, Takamura (Enya), T<sup>3</sup>, Fuchs, R<sup>4</sup>, Yagi, T<sup>2</sup>.* <sup>1</sup>Graduate School of Frontier Biosciences, Osaka Univ., Osaka, Japan, <sup>2</sup>RIAST, Osaka Pref. Univ., Osaka, Japan, <sup>3</sup>Div. Cancer Prevention, Natl. Cancer Inst., Tokyo, Japan, <sup>4</sup>UPR-9003 du CNRS, Strasbourg, France.
- #314 **THE DDB1-CUL4A<sup>DDB2</sup> UBIQUITIN LIGASE, DEFICIENT IN XP-E PATIENTS, TARGETS HISTONE H2A FOR MONOUBIQUITINATION AT UV-DAMAGED DNA SITES.** *Kapetanaki, M, Guerrero-Santoro, J, Bisi, D, Levine, AS, Ropic Otrin, V.* University of Pittsburgh School of Medicine, Molecular Genetics and Biochemistry, and Upci, Pittsburgh, United States.
- #315 **DISTINCT DAMAGE SPECIFICITIES OF HUMAN DNA GLYCOSYLASES NTH1, NEIL1, AND NEIL2.** *Katafuchi, A<sup>1</sup>, Terato, H<sup>1</sup>, Iwai, S<sup>2</sup>, Hanaoka, F<sup>2</sup>, Ide, H<sup>1</sup>.* <sup>1</sup>Hiroshima University, Hiroshima, Japan, <sup>2</sup>Osaka University, Osaka, Japan.
- #316 **NUCLEOTIDE EXCISION REPAIR (NER) SYSTEM IS INVOLVED IN MONO ADP-RIBOSYLATED DNA ADDUCTS PRODUCED BY PIERISIN-1, A CYTOTOXIC PROTEIN FROM CABBAGE BUTTERFLY.** *Kawanishi, M<sup>1</sup>, Matsukawa, K<sup>1</sup>, Kuraoka, I<sup>3</sup>, Takamura, T<sup>2</sup>, Totsuka, Y<sup>2</sup>, Watanabe, M<sup>2</sup>, Sugimura, T<sup>2</sup>, Wakabayashi, K<sup>2</sup>, Zou, Y<sup>4</sup>, Tanaka, K<sup>3</sup>, Yagi, T<sup>1</sup>.* <sup>1</sup>Osaka Prefecture University, Sakai, Osaka, Japan, <sup>2</sup>National Cancer Center Research Institute, Tokyo, Japan, <sup>3</sup>Osaka University, Suita, Osaka, Japan, <sup>4</sup>East Tennessee State University, Johnson City, TN, United States.
- #317 **15-DEOXY- $\Delta^{12,14}$ -PROSTAGLANDIN J2 REGULATES P53 STABILITY BY ALTERING THE CONFORMATION OF P53 IN HUMAN BREAST CANCER (MCF-7) CELLS.** *Kim, D-H, Surh, Y-J.* College of Pharmacy, Seoul National University, Seoul, South Korea.

- #318 **PREVENTION OF GENOMIC INSTABILITY IN BREAST CANCER CELLS BY THE DIETARY ANTIMUTAGENS GENISTEIN AND LYCOPENE.** *King, AA, Klein, CB.* New York University School of Medicine, Tuxedo, NY, United States.
- #319 **CARCINOGENIC CR(VI) AND THE NUTRITIONAL SUPPLEMENT CR(III) INDUCE DNA DELETIONS IN YEAST AND MICE.** *Kirpnick, Z, Reliene, R, Schiestl, RH.* UCLA, Los Angeles, CA, United States.
- #320 **INFLUENCE OF DNA REPAIR GENE POLYMORPHISMS ON THE YIELD OF CHROMOSOMAL ABERRATIONS.** *Kiuru, A<sup>1</sup>, Lindholm, C<sup>1</sup>, Heilimo, I<sup>2</sup>, Ceppi, M<sup>3</sup>, Koivistoinen, A<sup>1</sup>, Ilus, T<sup>1</sup>, Hirvonen, A<sup>2</sup>, Norppa, H<sup>2</sup>, Salomaa, S<sup>1</sup>.* <sup>1</sup>STUK-Radiation and Nuclear Safety Authority, Helsinki, Finland, <sup>2</sup>Finnish Institute of Occupational Health, Helsinki, Finland, <sup>3</sup>National Cancer Research Institute, Genoa, Italy.
- #321 **DNA ALKYLATION REPAIR BY DNA DIOXYGENASES.** *Koivisto, PT<sup>1</sup>, Robins, P<sup>2</sup>, Lindahl, T<sup>2</sup>, Sedgwick, B<sup>2</sup>.* <sup>1</sup>Finnish Institute of Occupational Health, Helsinki, Finland, <sup>2</sup>Cancer Research UK, Hertfordshire, United Kingdom.
- #322 **ROLES OF REPLICATIVE AND SPECIALIZED DNA POLYMERASES IN FRAMESHIFT MUTAGENESIS: MUTABILITY OF *Salmonella typhimurium* STRAINS LACKING ONE OR ALL OF SOS-INDUCIBLE DNA POLYMERASES TO 26 CHEMICALS.** *Kokubo, K<sup>1</sup>, Yamada, M<sup>1</sup>, Kanke, Y<sup>2</sup>, Nohmi, T<sup>1</sup>.* <sup>1</sup>National Institute of Health Sciences, Tokyo, Japan, <sup>2</sup>Otsu Women's University, Tokyo, Japan.
- #323 **CHRONIC LOW DOSE RADIATION EXPOSURE LEADS TO DAMAGE ACCUMULATION AND PROFOUNDLY ALTERS DNA AND HISTONE METHYLATION IN MURINE THYMUS.** *Koturbash, I<sup>1</sup>, Pogribny, I<sup>2</sup>, Stevenson, S<sup>1</sup>, Kovalchuk, O<sup>1</sup>.* <sup>1</sup>Department of Biological Sciences, University of Lethbridge, Lethbridge, AB, Canada, <sup>2</sup>Division of Biochemical Toxicology, National Center for Toxicological Research, Jefferson, AR, United States.
- #324 **LIPID PEROXIDATION PRODUCT, TRANS-4-HYDROXY-2-NONENAL, FORMS SEQUENCE-SPECIFIC ADDUCTS TO P53 GENE, DNA-DNA AND DNA-PROTEIN CROSS-LINKS.** *Kowalczyk, P, Ciesla, JM, Tudek, B.* Inst. Biochemistry&Biophysics PAS, Warszawa, Poland.
- #325 **EFFECTS OF DNA LESIONS ON TRANSCRIPTION ELONGATION BY RNA POLYMERASE II.** *Kuraoka, I, Suzuki, K, Tanaka, K.* Osaka University, Osaka, Japan.
- #326 **ROLES OF WERNER SYNDROME PROTEIN IN NONHOMOLOGOUS END JOINING REPAIR.** *Kusumoto, R, Lee, JW, Bohr, VA.* NIH, National Institute on Aging, Baltimore, MD, United States.
- #327 **THE ACTIVITY OF NUCLEOTIDE EXCISION REPAIR TOWARDS ADDUCTS FROM DIOL EPOXIDES OF DIFFERENT PAHS AND THE EFFECT OF CHLOROPHYLLIN AND BENZYLISOTHIOCYANATE ON THEIR CYTOTOXICITY.** *Lagerqvist, A, Erixon, K, Jensen, D.* Stockholm University, Stockholm, Sweden.
- #328 **WITHDRAWN**
- #329 **P53 SUPPRESSION OVERWHELMS DNA POLYMERASE  $\eta$  DEFICIENCY IN DETERMINING THE CELLULAR UV RESPONSE.** *Laposa, RR, Feeny, L, Crowley, E, Cleaver, JE.* University of California, San Francisco, San Francisco, CA, United States.
- #330 **LATE H2AX HYPERPHOSPHORYLATION ASSOCIATED TO DECREASED DNA-PKCS EXPRESSION AND SIPS IN IRRADIATED SKIN FIBROBLASTS AND ENDOTHELIAL CELLS AND MODULATION BY PENTOXIFYLLINE AND TROLOX.** *Laurent, C<sup>1</sup>, Delbos, M<sup>1</sup>, Voisin, PA<sup>1</sup>, Voisin, PH<sup>1</sup>, Pouget, J-P<sup>2</sup>.* <sup>1</sup>IRSN, Fontenay-aux-Roses, France, <sup>2</sup>INSERM EMI0227, Montpellier, France.
- #331 **EXPLORING THE HUMAN *alkB* HOMOLOGS AS POTENTIAL CANDIDATES FOR BONE MARROW GENE THERAPY.** *Lee, CY, Samson, LD.* Massachusetts Institute of Technology, Cambridge, MA, United States.
- #332 **FUNCTIONAL ANALYSIS OF BRCA1 SNP HAPLOTYPES.** *Lee, J<sup>1</sup>, Cho, M<sup>1</sup>, Park, JY<sup>1</sup>, Hasty, P<sup>1</sup>, Vijg, J<sup>2</sup>, Suh, Y<sup>1</sup>.* <sup>1</sup>Department of Molecular Medicine, Institute of Biotechnology, University of Texas Health Science Center, San Antonio, TX, United States, <sup>2</sup>Department of Physiology, University of Texas Health Science Center, San Antonio, TX, United States.
- #333 **MODULATION OF DNA END JOINING BY NUCLEAR PROTEINS.** *Liang, L<sup>1</sup>, Deng, L<sup>1</sup>, Chen, Y<sup>1</sup>, Li, GC<sup>2</sup>, Shao, C<sup>1</sup>, Tischfield, JA<sup>1</sup>.* <sup>1</sup>Rutgers University, Piscataway, NJ, United States, <sup>2</sup>Memorial Sloan-Kettering Cancer Center, New York, NY, United States.

- #334 **EVIDENCE THAT THE HUMAN HOMOLOG OF THE *S. cerevisiae* REV7 PROTEIN PLAYS AN ESSENTIAL ROLE IN MUTAGENIC TRANSLATION SYNTHESIS PAST FORK-BLOCKING LESIONS IN HUMAN FIBROBLAST CELLS.** McNally, K, McCormick, JJ, Maher, VM. Michigan State University, East Lansing, MI, United States.
- #335 **NUCLEOTIDE EXCISION REPAIR MUTANTS SHOW IMPAIRED H2AX PHOSPHORYLATION AFTER EXPOSURE TO IONIZING RADIATION.** Marti, TMM, Hefner, EH, Feeney, LF, Cleaver, JEC. University, San Francisco, CA, United States.
- #336 **INDUCED CHROMOSOME BREAKPOINTS DISTRIBUTION DEPENDS ON REPLICATION TIMING OF EU/HETEROCHTROMATIC REGIONS IN CHO9 CELLS.** Di Tomaso, MVDT, Martínez-López, WM-L. <sup>1</sup>Instituto Clemente Estable, Montevideo, Uruguay, <sup>2</sup>Faculty of Sciences, Montevideo, Uruguay.
- #337 **NON-HOMOLOGOUS END-JOINING IN X-RAY-IRRADIATED SCID/gpt DELTA TRANSGENIC MOUSE.** Masumura, K<sup>1</sup>, Hoshino, M<sup>1</sup>, Yatagai, F<sup>2</sup>, Ochiai, M<sup>3</sup>, Nakagama, H<sup>3</sup>, Nohmi, T<sup>1</sup>. <sup>1</sup>National Institute of Health Sciences, Tokyo, Japan, <sup>2</sup>Institute of Physical and Chemical Research (RIKEN), Saitama, Japan, <sup>3</sup>National Cancer Center Research Institute, Tokyo, Japan.
- #338 **CATALYTIC AND DAMAGE RECOGNITION MECHANISMS OF HUMAN SMUG1.** Matsubara, M, Tanaka, T, Terato, H, Ide, H. Hiroshima University, Higashi-Hiroshima, Hiroshima, Japan.
- #339 **DEVELOPMENT OF A NOVEL SITE-SPECIFIC MUTAGENESIS ASSAY USING MALDI-TOF MS.** McLuckie, KIE, Jones, DJL, Lamb, JH, Sandhu, JK, Brown, K, Farmer, PB. Cancer Biomarkers and Prevention Group, The Biocentre, University of Leicester, University Road, Leicester, United Kingdom.
- #340 **LOCALIZED INDUCTION OF UV PHOTOPRODUCTS IN CELL NUCLEAR DNA BY THREE-PHOTON NEAR INFRARED RADIATION.** Meldrum, RA<sup>1</sup>, Topley, S<sup>2</sup>, Botchway, SW<sup>2</sup>, Hirst, GJ<sup>2</sup>. <sup>1</sup>Univeristy Of Birmingham, Birmingham, United Kingdom, <sup>2</sup>CCLRC Rutherford Appleton Laboratories, Oxford, United Kingdom.
- #341 **CELLULAR RESPONSES TO DNA DAMAGE INDUCED BY CISPLATIN IN FIBROBLAST CELL LINES, NORMAL AND DEFICIENT FOR ATM GENE.** Mello, SS<sup>1</sup>, Fachin, AL<sup>1</sup>, Junta, CM<sup>1</sup>, Sandrin-Garcia, P<sup>1</sup>, Passos, GAS<sup>2</sup>, Donadi, EA<sup>3</sup>, Sakamoto-Hojo, ET<sup>4</sup>. <sup>1</sup>Departamento de Genetica – Faculdade de Medicina de Ribeirao Preto, Universidade de Sao Paulo, Ribeirao Preto, SP, Brazil, <sup>2</sup>Faculdade de Odontologia de Ribeirao Preto, Universidade de Sao Paulo, Ribeirao Preto, SP, Brazil, <sup>3</sup>Clinica Medica, Faculdade de Medicina de Ribeirao Preto, Universidade de Sao Paulo, Ribeirao Preto, SP, Brazil, <sup>4</sup>Departamento de Biologia – Faculdade de Filosofia, Ciencias e Letras de Ribeirao Preto, Universidade de Sao Paulo, Ribeirao Preto, SP, Brazil.
- #342 **ANALYSIS OF LOH IN *Tk*<sup>+/+</sup> MICE TREATED WITH ANTIRETROVIRAL NUCLEOSIDE ANALOGUE DRUGS.** Mittelstaedt, RA, Shaddock, JG, Dobrovolsky, VN, Von Tungeln, LS, Beland, FA, Heflich, RH. USFDA/National Center for Toxicological Research, Jefferson, AR, United States.
- #343 **PLASTID DNA POLYMERASES FROM HIGHER PLANTS, *Arabidopsis thaliana*.** Mori, Y<sup>1</sup>, Kimura, S<sup>2</sup>, Saotome, A<sup>1</sup>, Kasai, N<sup>1</sup>, Sakaguchi, N<sup>1</sup>, Uchiyama, Y<sup>1</sup>, Ishibashi, T<sup>4</sup>, Yamamoto, T<sup>3</sup>, Sakaguchi, K<sup>1</sup>. <sup>1</sup>Tokyo University of Science, Chiba, Japan, <sup>2</sup>University of California, Davis, San Francisco, CA, United States, <sup>3</sup>Children's Hospital Oakland Research Institute, San Francisco, CA, United States, <sup>4</sup>University of Victoria, Victoria, Chile.
- #344 **MUTATION IN THE PHOSPHATIDYL INOSITOL GLYCAN - COMPLEMENTATION GROUP A (PIG-A) GENE. METHODS DEVELOPMENT FOR DETERMINING PIG-A MUTANT FREQUENCY IN HUMAN LYMPHOBLASTOID CELLS BY FLOW CYTOMETRY.** Morris, SM<sup>1</sup>, McGarrity, LJ<sup>1</sup>, Domon, OE<sup>1</sup>, Mittelstaedt, RA<sup>1</sup>, Heflich, RH<sup>1</sup>, Albertini, RJ<sup>2</sup>. <sup>1</sup>National Center for Toxicological Research, Jefferson, AR, United States, <sup>2</sup>University of Vermont, Burlington, VT, United States.
- #345 **THE FUNCTIONAL CONSEQUENCES OF ACETYLATION ON WRN PROTEIN.** Muftuoglu, M, Kusumoto, R, von Kobbe, C, Bohr, VA. National Institutes of Health, National Institute on Aging, Laboratory of Molecular Gerontology, Baltimore, MD, United States.

- #346 **DIETARY ANTIMUTAGENS REDUCE SPECIFIC TYPES OF SPONTANEOUS DNA DAMAGE AND ALTER GENE EXPRESSION IN MISMATCH REPAIR DEFICIENT HUMAN CELLS.** *Mure, K<sup>1</sup>, Shaughnessy, DT<sup>2</sup>, King, A<sup>3</sup>, Takeshita, T<sup>1</sup>, Ducharme, DM<sup>4</sup>, Rossman, TG<sup>3</sup>, Klein, CB<sup>3</sup>.* <sup>1</sup>Wakayama Medical University School of Medicine, Department of Public Health, Wakayama City, Wakayama, Japan, <sup>2</sup>Laboratory of Molecular Carcinogenesis, National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States, <sup>3</sup>New York University School of Medicine, Nelson Institute of Environmental Medicine, Tuxedo, NY, United States, <sup>4</sup>Microarray Group, National Institute of Environmental Health Sciences, Research Triangle Park, NC, United States.
- #347 **MAINTENANCE OF GENOMIC STABILITY AT G/C-RICH REPETITIVE DNA SEQUENCES.** *Nakagama, H, Higuchi, H, Tanaka, E, Nagao, M, Fukuda, H.* National Cancer Center Research Institute, Tokyo, Japan.
- #348 **GENOTOXIC POTENTIAL AND REPAIR MECHANISMS OF OXANINE AND OXANINE CROSS-LINK LESIONS INDUCED BY NITROSATIVE STRESS.** *Nakano, T<sup>1</sup>, Terato, H<sup>1</sup>, Houten, B<sup>2</sup>, Suzuki, T<sup>3</sup>, Ide, H<sup>1</sup>.* <sup>1</sup>Hiroshima University, Higashi-Hiroshima, Hiroshima, Japan, <sup>2</sup>NIH/NIEHS, Research Triangle Park, NC, United States, <sup>3</sup>Shujitu University, Nishigawara, Okayama, Japan.
- #349 **HIGH FREQUENCIES OF CROSSING-OVER ASSOCIATED WITH LONG TRACT GENE CONVERSION IN HUMAN CELLS.** *Neuwirth, EAH<sup>1</sup>, Honma, M<sup>2</sup>, Grosovsky, AJ<sup>1</sup>.* <sup>1</sup>University of California, Riverside, Riverside, CA, United States, <sup>2</sup>Japanese National Institute of Health Sciences, Setagya, Tokyo, Japan.
- #350 **ALKB PROTECTION AGAINST MMS-INDUCED MUTAGENESIS IN *E. coli*. EFFECT OF UmuD(D')C AND AlkA PROTEINS.** *Nieminuszczy, J, Sikora, A, Maciejewska, A, Wrzesinski, M, Janion, C, Grzesiuk, E.* Inst. Biochemistry & Biophysics PAS, Warszawa, Poland.
- #351 **MUTAGENIC SPECIFICITY OF N-ACETOXY-3-AMINO BENZANTHORONE, A DERIVATIVE OF 3-NITROBENZANTHORONE.** *Nishida, H<sup>1</sup>, Kawanishi, M<sup>1</sup>, Takamura, T<sup>2</sup>, Wakabayashi, K<sup>2</sup>, Yagi, T<sup>1</sup>.* <sup>1</sup>Osaka Pref. Univ., Osaka, Japan, <sup>2</sup>Cancer Center Res. Inst., Tokyo, Japan.
- #352 **DRUG-MODIFIED HOMOLOGOUS DNA EQUALS HOMELOGOUS DNA.** *Nowosielska, A, Calmann, MA, Marinus, MG.* University of Massachusetts Medical School, Worcester, MA, United States.
- #353 **HCC1937 BREAST CANCER CELLS ARE DEFICIENT IN THE REPAIR OF 8-HYDROXYGUANINE.** *Nyaga, SG<sup>1</sup>, Lohani, A<sup>1</sup>, Trzeciak, A<sup>1</sup>, Barnes, J<sup>1</sup>, Jaruga, P<sup>2</sup>, Dizdaroglu, M<sup>3</sup>.* <sup>1</sup>NIA/NIH, Baltimore, MD, United States, <sup>2</sup>Univ. Of Maryland, Baltimore, MD, United States, <sup>3</sup>NIST, Gaithersburg, MD, United States.
- #354 **MUTAGENESIS IN DNA REPAIR-DEFICIENT MUTANTS OF THE EXTREMELY THERMOPHILIC EUBACTERIUM *Thermus thermophilus* HB27.** *Ohta, T.* Tokyo Univ. Pharmacy and Life Science, Tokyo, Japan.
- #355 **THE MUTAGENICITY OF 7,8-DIHYDRO-8-OXOGUANINE IN YEAST AND INHIBITORY ACTION OF DNA POLYMERASE ETA AGAINST IT ARE BOTH SEQUENCE DEPENDENT.** *Okugawa, Y<sup>1</sup>, Otsuka, C<sup>1</sup>, Loakes, D<sup>2</sup>, Negishi, K<sup>1</sup>.* <sup>1</sup>Advanced Science Research Center, Okayama University, Okayama, Japan, <sup>2</sup>Medical Research Council, Laboratory of Molecular Biology, Cambridge, United Kingdom.
- #356 **RECQ HELICASES AND DNA REPAIR PATHWAYS AT TELOMERIC DNA.** *Opresko, PL<sup>2</sup>, Muftuoglu, M<sup>1</sup>, Mason, P<sup>1</sup>, Wilson, DM<sup>1</sup>, Bohr, VA<sup>1</sup>.* <sup>1</sup>Laboratory of Molecular Gerontology, National Institute on Aging, NIH, Baltimore, MD, United States, <sup>2</sup>Department of Environmental and Occupational Health, University of Pittsburgh Graduate School of Public Health, Pittsburgh, PA, United States.
- #357 **ROLES OF THE POLYMERASE AND BRCT DOMAINS OF REV1 PROTEIN IN TRANSLESION DNA SYNTHESIS IN YEAST IN VIVO.** *Otsuka, C<sup>1</sup>, Kunitomi, N<sup>1</sup>, Iwai, S<sup>2</sup>, Loakes, D<sup>3</sup>, Negishi, K<sup>1</sup>.* <sup>1</sup>Department of Genomics and Proteomics, Okayama University Advanced Science Research Center, Okayama, Japan, <sup>2</sup>Division of Chemistry, Graduate School of Engineering Science, Osaka University, Osaka, Japan, <sup>3</sup>Medical Research Council, Laboratory of Molecular Biology, Cambridge, United Kingdom.
- #358 **RADIATION-INDUCED CYTOGENETIC EFFECTS IN ONE CELL EMBRYOS PRODUCED BY *Parp-1* KNOCKOUT OR WILD-TYPE FEMALE MICE.** *Pacchierotti, F, Ranaldi, R.* ENEA, Roma, Italy.
- #359 **DNA DAMAGE AND REPAIR TESTS IN PREDICTION OF CANCER THERAPY.** *Palyvoda O<sup>1</sup>, Auner GW<sup>1</sup>, Rzeszowska-Wolny J<sup>2</sup>.* <sup>1</sup>Smart Sensors and Integrated Microsystems, College of Engineering, Wayne State University, Detroit, MI, United States, Department of Experimental and Clinical Radiobiology, <sup>2</sup>Center of Oncology, Maria Sklodowska-Curie Memorial Institute, Gliwice, Poland



- #360 **AMNIOTIC FLUID OF RATS DOSED ORALLY WITH CD AND PB CAUSED GENOTOXICITY ON HUMAN LYMPHOCYTES.** *Park, EJ<sup>1</sup>, Jeon, KI<sup>1</sup>, Byun, BH<sup>2</sup>, Lee, KH<sup>3</sup>, Choi, JH<sup>4</sup>.* <sup>1</sup>Dept. of Food and Nutrition, Kyungnam University, Masan, South Korea, <sup>2</sup>Dept. of Oriental Medicine, Daegu Haany University, Daegu, South Korea, <sup>3</sup>Dept. of Food and Nutrition, Changwon National University, Changwon, South Korea, <sup>4</sup>Div. of Food Science, Jinju International University, Jinju, South Korea.
- #361 **HEMATOPOIETIC STEM CELL DEFECT CAUSED BY LOSS OF FUNCTIONAL DNA-PKCS.** *Park Y<sup>1</sup>, Lin Y<sup>1</sup>, Gerson SL<sup>1,2,3,4</sup>.* <sup>1</sup>Case Western Reserve University, Cleveland, OH, United States, <sup>2</sup>Case Comprehensive Cancer Center, Cleveland, OH, United States, <sup>3</sup>Center of Stem Cell and Regenerative Medicine, Cleveland, OH, United States, <sup>4</sup>University Hospitals of Cleveland, Cleveland, OH, United States.
- #362 **GENERATION OF 1100DEL $\Delta$ CHK2 POLYMORPHISM IN ‘KNOCK-IN’ MICE.** *Penner, CG, Stambrook, PJ.* University of Cincinnati, Cincinnati, OH, United States.
- #363 **COMPLEMENTATION ANALYSIS OF RAD51D ALTERNATIVE SPLICE VARIANTS.** *Gruver, AM, Pittman, DL.* Medical University of Ohio, Toledo, Ohio, United States.
- #364 **GENETIC DAMAGE CAUSED BY A VARIETY OF CARCINOGENS AS MEASURED AT A TANDEM REPEATED DNA LOCUS.** *Polyzos, A<sup>1</sup>, Parfett, C<sup>1</sup>, Healy, C<sup>1</sup>, Williams, A<sup>2</sup>, Douglas, G<sup>1</sup>, Yauk, C<sup>1</sup>.* <sup>1</sup>Environmental and Occupational Toxicology Division, HECSB, Ottawa, Ontario, Canada, <sup>2</sup>Biostatistics and Epidemiology Division, HECSB, Ottawa, Ontario, Canada.
- #365 **MODIFICATION OF CONSTITUTIVE TP53 mRNA EXPRESSION AND RADIATION INDUCED DNA REPAIR BY THE ARG72PRO POLYMORPHISM OF TP53.** *Popanda, O, Marquardt, J, Woelfelschneider, A, Zelezny, O, Bartsch, H, Schmezer, P.* German Cancer Research Center, DKFZ, Heidelberg, Germany.
- #366 **COMPARISON OF GENOTOXIC EFFECTS USING THE COMET ASSAY IN TISSUES OF FEMALE CYP2E1<sup>-/-</sup> AND WILD-TYPE MICE TREATED WITH ACRYLAMIDE: EVIDENCE CONSISTENT WITH A GLYCIDAMIDE-MEDIATED EFFECT.** *Recio, L<sup>1</sup>, Witt, KL<sup>2</sup>, Kissling, GE<sup>3</sup>, Tice, R<sup>1</sup>, Ghanayem, B<sup>4</sup>.* <sup>1</sup>ILS, Inc, Research Triangle Park, NC, United States, <sup>2</sup>Environmental Toxicology Program NIEHS, Research Triangle Park, NC, United States, <sup>3</sup>Biostatistics Branch NIEHS, Research Triangle Park, NC, United States, <sup>4</sup>Laboratory of Pharmacology and Chemistry NIEHS, Research Triangle Park, NC, United States.
- #367 **P53 PHOSPHORYLATED ON SERINE 15 DIFFERENTLY ASSOCIATED WITH KEY ENZYMES OF HOMOLOGOUS RECOMBINATION.** *Restle, A, Janz, C, Wiesmüller, L.* Universitäts-Frauenklinik, Ulm, Germany.
- #368 **DNA DAMAGE AND ANTIOXIDANT STATUS IN PERIPHERAL BLOOD LYMPHOCYTES FROM BREAST CANCER PATIENTS.** *Agnoletto, M<sup>2</sup>, Ghecheva, T<sup>2</sup>, Oliveira, AF<sup>4</sup>, Franke, F<sup>4</sup>, Cassini, C<sup>3</sup>, Salvador, M<sup>3</sup>, Henriques, JAP<sup>2</sup>, Saffi, J<sup>1</sup>.* <sup>1</sup>Lutheran University of Brazil - ULBRA, Canoas, RS, Brazil, <sup>2</sup>Federal University of Rio Grande do Sul - UFRGS, Porto Alegre, RS, Brazil, <sup>3</sup>Biotechnology Center, Caxias do Sul, RS, Brazil, <sup>4</sup>Center for Cancer Treatment, Ijuí, RS, Brazil.
- #369 **ALTERATIONS IN GENE EXPRESSION PROFILES, AS EVALUATED BY DNA MICROARRAYS, IN MAMMALIAN CELLS EXPOSED TO IONIZING RADIATION.** *Sakamoto-Hojo, ET<sup>2</sup>, Fachin, AL<sup>1</sup>, Merchi, IM<sup>1</sup>, Cardoso, RS<sup>1</sup>, Junta, CM<sup>1</sup>, Sandrin-Garcia, P<sup>1</sup>, Mello, SS<sup>1</sup>, Donadi, EA<sup>4</sup>, Passos, GAS<sup>3</sup>.* <sup>1</sup>Departamento de Genética, Faculdade de Medicina de Ribeirão Preto, USP, Ribeirão Preto, SP, Brazil, <sup>2</sup>Departamento de Biologia, Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, USP, Ribeirão Preto, SP, Brazil, <sup>3</sup>Faculdade de Odontologia de Ribeirão Preto, USP, Ribeirão Preto, SP, Brazil, <sup>4</sup>Departamento de Clínica Médica, Faculdade de Medicina de Ribeirão Preto, USP, Ribeirão Preto, SP, Brazil.
- #370 **DNA-PKCS-DEPENDENT RECRUITMENT OF ARTEMIS AT DNA DOUBLE-STRAND BREAKS.** *Salles, B<sup>1</sup>, Drouet, J<sup>1</sup>, Delteil, C<sup>1</sup>, de Villartay, JP<sup>2</sup>, Calsou, P<sup>1</sup>.* <sup>1</sup>IPBS CNRS/univ, Toulouse, France, <sup>2</sup>U429 INSERM, Paris, France.
- #371 **LYCOPENE INHIBITS DIETHYLNITROSAMINE-INDUCED DNA DAMAGE BUT NOT GST-P POSITIVE FOCI IN RAT HEPATOCYTES.** *Scolastici, C, Alves de Lima, RO, Barbisan, LF, Ferreira, ALA, Salvadori, DMF.* UNESP, Botucatu, SP, Brazil.
- #372 **MOLECULAR CHARACTERIZATION OF RecQ HOMOLOGUES FROM RICE (Oryza sativa L. cv. Nipponbare).** *Saotome, AS<sup>1</sup>, Kimura, SK<sup>2</sup>, Morohashi, KM<sup>1</sup>, Mori, YM<sup>1</sup>, Sakaguchi, KS<sup>1</sup>.* <sup>1</sup>Tokyo University of Science, Noda-shi, Chiba, Japan, <sup>2</sup>Section of Plant Biology, University of California, Davis, CA, United States.
- #373 **FUNCTIONAL INTERACTION BETWEEN XPG AND CAF-I.** *Sarker, A, Tsutakawa, S, Chernikova, S, Chan, D, Qin, J, Matsumoto, Y, Kaufman, PD, Cooper, PK.* Lawrence Berkeley National Lab, Berkeley, CA, United States.

- #374 **DNA DAMAGE SENSING ENZYME, POLY(ADP-RIBOSE) POLYMERASE-1, IS A NEGATIVE REGULATOR OF HIV-1 TRANSCRIPTION THROUGH COMPETITIVE BINDING TO TAR RNA WITH TAT-P-TEFB COMPLEX.** Parent, M, Yung, TMC, Wada, T, Handa, H, Satoh, MS. CHUL Research Center and Laval University, Ste-Foy, Quebec, Canada.
- #375 **ROLES OF THE *Escherichia coli* DINB AND UMUDC PROTEINS IN MUTATIONS INDUCED BY OXIDIZED DNA PRECURSORS.** Satou, K<sup>1</sup>, Yamada, M<sup>2</sup>, Nohmi, T<sup>2</sup>, Harashima, H<sup>1</sup>, Kamiya, H<sup>1</sup>. <sup>1</sup>Grad. Sch. Pharm. Sci., Hokkaido Univ., Sapporo, Hokkaido, Japan, <sup>2</sup>Natl. Inst. Hlth. Sci., Tokyo, Japan.
- #376 **SOMATIC MICROINDELS: AN ECLECTIC MIX OF MUTATIONAL MECHANISMS.** Scaringe, W<sup>1</sup>, Gonzalez, K<sup>1</sup>, Hill, K<sup>2</sup>, Li, X<sup>1</sup>, Li, K<sup>1</sup>, Wang, J<sup>1</sup>, Sommer, S<sup>1</sup>. <sup>1</sup>City of Hope/Beckman Research Institute, Duarte, CA, United States, <sup>2</sup>University of Western Ontario, London, ON, Canada.
- #377 **A NOVEL MUTATOR PATHWAY IN *Escherichia coli*.** Gawel, D, Hamilton, M, Schaaper, RM. National Institute of Environmental Health Sciences, Research Triangle Park, United States.
- #378 **THE EFFECT OF ANTIOXIDANTS ON GENETIC INSTABILITY AND CANCER IN ATAXIA TELANGIECTASIA.** Reliene, R, Schiestl, RH. UCLA, Los Angeles, CA, United States.
- #379 **MISMATCH REPAIR AND HPMS2 POST-TRANSLATIONAL PHOSPHORYLATION.** Schroering, AG, Williams, KJ. Medical University of Ohio, Toledo, OH, United States.
- #380 **STUDIES ON THE GENOTOXIC AND MUTAGENIC MECHANISM OF PATULIN IN CULTURED CELLS.** Schumacher, DM, Metzler, M, Lehmann, L. University of Karlsruhe, Institute of Applied Biosciences, Karlsruhe, Germany.
- #381 **DISCRIMINATORY EFFECT OF RAD51 RECOMBINATIONAL PROTEIN BETWEEN TRANSCRIPTIONALLY ACTIVE AND INACTIVE CHROMATIN.** Serrano de la Peña, L, Cui, E, Tischfield, JA. Rutgers University, Piscataway, NJ, United States.
- #382 **METHYLEUGENOL IS A TRANSSPECIES IN VIVO MUTAGEN CAUSING TANDEM BASE SUBSTITUTIONS.** Shane, BS<sup>2</sup>, Tyrrell, SP<sup>1</sup>, Cunningham, MC<sup>2</sup>. <sup>1</sup>Louisiana State University, Baton Rouge, LA, United States, <sup>2</sup>NIEHS, Research Triangle Park, NC, United States.
- #383 **FORMATION OF MICRONUCLEI FROM AGGREGATED DNA STRAND BREAKS DURING INTERPHASE.** Shao, C, Chen, Y, Tischfield, JA. Rutgers University, Piscataway, NJ, United States.
- #384 **COORDINATE INTERACTIONS OF WRN AND PCNA WITH FEN-1 THAT MODULATE FEN-1 CATALYTIC ACTIVITIES.** Sharma, S<sup>1</sup>, Sommers, J<sup>1</sup>, Gary, R<sup>2</sup>, Hübscher, U<sup>3</sup>, Brosh, R<sup>1</sup>. <sup>1</sup>Laboratory of Molecular Gerontology, National Institute on Aging, NIH, Baltimore, MD, United States, <sup>2</sup>Department of Chemistry, University of Nevada Las Vegas, Las Vegas, NV, United States, <sup>3</sup>Institute of Veterinary Biochemistry and Molecular Biology, University of Zurich, ZURICH, Switzerland.
- #385 **THE ROLE OF BRCA1 IN DNA REPAIR AND CHEMOSENSITIVITY.** Sharma, VB, Rajapaksa, SM, Ford, JM. Stanford University, Stanford, CA, United States.
- #386 **INCREASED MUTATIONS IN *Parp-1* KNOCKOUT MICE AFTER TREATMENT WITH AN ALKYLATING AGENT AND WITH AGING.** Shibata, A<sup>1</sup>, Nohmi, T<sup>4</sup>, Teraoka, H<sup>3</sup>, Nakagama, H<sup>2</sup>, Sugimura, T<sup>2</sup>, Suzuki, H<sup>5</sup>, Masutani, M<sup>1</sup>. <sup>1</sup>National Cancer Center Research Institute, ADP-ribosylation in Oncology Project, Tokyo, Japan, <sup>2</sup>National Cancer Center Research Institute, Biochemistry Division, Tokyo, Japan, <sup>3</sup>Tokyo Medical and Dental University, Pathologic Biochemistry, Tokyo, Japan, <sup>4</sup>National Institute of Health Sciences, Division of Genetics and Mutagenesis, Tokyo, Japan, <sup>5</sup>Obihiro University of Agriculture and Veterinary Medicine, National Research Center for Protozoan Diseases, Obihiro, Japan.
- #387 **DROSOPHILA DAMAGED DNA BINDING PROTEIN 1 CONTRIBUTES TO DNA REPAIR IN SOMATIC CELLS.** Shimanouchi, K<sup>1</sup>, Takata, K<sup>2</sup>, Yamaguchi, M<sup>3</sup>, Murakami, S<sup>1</sup>, Takeuchi, R<sup>1</sup>, Kanai, Y<sup>1</sup>, Ruike, T<sup>1</sup>, Nakamura, R<sup>1</sup>, Abe, Y<sup>1</sup>, Sakaguchi, K<sup>1</sup>. <sup>1</sup>Tokyo University of Tokyo, Noda-shi, Chiba, Japan, <sup>2</sup>University of Pittsburgh Cancer Institute, Hillman Cancer Center, Pittsburgh, PA, United States, <sup>3</sup>Kyoto Institute of Technology, Kyoto-shi, Kyoto, Japan.
- #388 **THE HIDDEN MUTATOR PHENOTYPE: RNA SPLICING FIDELITY OF HUMAN BASE EXCISION REPAIR GENES.** Skandalis, A, Disher, K. Brock University, St. Catharines, Ontario, Canada.
- #389 ***Mlh1*-DEPENDENT RESPONSES TO 2-AMINO-1-METHYL-6-PHENYLMIDAZO [4,5-B] PYRIDINE (PhIP), A FOOD-BORNE CARCINOGEN.** Smith-Roe, SL, Buermeier, AB. Oregon State University, Corvallis, OR, United States.



- #390 **THE DIVERSE EFFECTS OF ARSENIC ON THE MULTI FUNCTIONAL PROTEIN REF-1/ AP ENDONUCLEASE.** Sykora, P, Snow, ET. Deakin University, Burwood, Victoria, Australia.
- #391 **DNA INTERACTIONS IN A WELL-POSITIONED NUCLEOSOME CONTAINING SITE-SPECIFIC UV- LESIONS AND THEIR EFFECT ON DNA REPAIR RATES.** Svedruzic, Z, Smerdon, MJ. Washington State University, Pullman WA, United States.
- #392 **MUTAGENICITY IN SALMONELLA OF SULFUR-CONTAINING POLYCYCLIC AROMATIC HETEROCYCLES AND THEIR DIHYDRODIOL DERIVATIVES.** Swartz, CD<sup>1</sup>, Nesnow, S<sup>2</sup>, Sikka, HC<sup>3</sup>, Kumar, S<sup>3</sup>. <sup>1</sup>University of North Carolina, Chapel Hill, NC, United States, <sup>2</sup>Environmental Carcinogenesis Division, USEPA, Research Triangle Park, NC, United States, <sup>3</sup>Environmental Toxicology and Chemistry Laboratory, SUNY Buffalo, Buffalo, NY, United States.
- #393 **ACTIVITY, BUT NOT EXPRESSION OF OGG1 GLYCOSYLASE IS DECREASED IN TUMORS OF LUNG CANCER PATIENTS.** Swoboda, M<sup>1</sup>, Speina, E<sup>1</sup>, Janik, J<sup>1</sup>, Zaim, J<sup>1</sup>, Tudek, B<sup>1</sup>, Gackowski, D<sup>2</sup>, Siomek, A<sup>2</sup>, Kowalewski, J<sup>2</sup>, Olinski, R<sup>1</sup>. <sup>1</sup>Institute of Biochemistry and Biophysics PAS, Warsaw, Poland, <sup>2</sup>Ludwig Rydgiel Medical University, Bydgoszcz, Poland.
- #394 **SYNTHESIS OF SITE-SPECIFIC MODIFIED OLIGONUCLEOTIDES WITH PhIP.** Takamura, T<sup>1</sup>, Ishikawa, S<sup>2</sup>, Mochizuki, M<sup>2</sup>, Sugimura, T<sup>1</sup>, Wakabayashi, K<sup>1</sup>. <sup>1</sup>NCCRI, Tokyo, Japan, <sup>2</sup>Kyoritsu Univ. Pharm., Tokyo, Japan.
- #395 **DNA DOUBLE STRAND BREAK REPAIR AND CELL CYCLE IN A HUMAN LYMPHOBLASTOID CELL LINE.** Takashima, Y, Sakuraba, M, Koizumi, T, Sakamoto, H, Hayashi, M, Honma, M. National Institute of Health Sciences, Tokyo, Japan.
- #396 **DROSOPHILA DNA POLYMERASE ZETA INTERACTS WITH RECOMBINATION REPAIR PROTEIN 1, THE DROSOPHILA HOMOLOGUE OF HUMAN AP ENDONUCLEASE 1.** Takeuchi, R, Ruike, T, Nakamura, R, Shimanouchi, K, Kanai, Y, Abe, Y, Ihara, A, Sakaguchi, K. Tokyo University of Science, Noda-shi, Chiba-ken, Japan.
- #397 **Msh2 DEFICIENCY REVERTS SENSITIVITY AND PROMOTES S-PHASE PROGRESSION OF UVC-DAMAGED XPA-DEFICIENT CELLS.** Takeuchi, S<sup>2</sup>, Ichikawa, M<sup>1</sup>, Yoshino, M<sup>1</sup>, Matsuda, T<sup>1</sup>, Nakatsu, Y<sup>3</sup>, Riele, HT<sup>4</sup>, Tanaka, K<sup>1</sup>. <sup>1</sup>Human Cell Biology Group, Laboratories for Organismal Biosystems, Graduate School of Frontier Biosciences, Osaka University, Osaka, Japan, <sup>2</sup>Morphological and Physiological Sciences, University of Fukui Faculty of Medical Sciences, Fukui, Japan, <sup>3</sup>Department of Medical Biophysics and Radiation Biology, Faculty of Medical Sciences, Graduate Schools, Kyushu University, Fukuoka, Japan, <sup>4</sup>Division of Molecular Biology, The Netherlands Cancer Institute, Amsterdam, Netherlands.
- #398 **IMPLICATIONS OF NEIL1'S INTERACTION WITH PCNA AND RPA: POSSIBLE ROLE OF NEIL1 IN REPLICATION-ASSOCIATED REPAIR.** Theriot C<sup>1</sup>, Dou H<sup>1</sup>, Kruciak T<sup>1</sup>, Hazra T<sup>1</sup>, Mitra S<sup>1</sup>. <sup>1</sup>Department of Human Biological Chemistry and Genetics, University of Texas Medical Branch, Galveston, TX, United States.
- #399 **NEW INSIGHT INTO THE TOPO-SELECTIVE REPAIR OF O<sup>6</sup>-ALKYLGUANINES IN DNA: INVOLVEMENT OF DIFFERENT MECHANISMS AND PROTECTIVE EFFECTS IN CARCINOGENESIS.** Engelbergs, J<sup>1</sup>, Sugasawa, K<sup>2</sup>, Boehm, B<sup>1</sup>, Tanaka, K<sup>3</sup>, Kamino, K<sup>4</sup>, Hanaoka, F<sup>2</sup>, Thomale, J<sup>1</sup>. <sup>1</sup>University of Essen Medical School, Essen, Germany, <sup>2</sup>RIKEN Institute, Saitama, Japan, <sup>3</sup>Osaka University, Osaka, Japan, <sup>4</sup>Medical University Hannover, Hannover, Germany.
- #400 **EMBRYONIC STEM CELLS MAY PRESERVE GENOMIC INTEGRITY BY USING HOMOLOGY-MEDIATED PATHWAYS FOR DNA REPAIR.** Tichy, ED, Stambrook, PJ. University of Cincinnati, Cincinnati, OH, United States.
- #401 **G4 DNA STRUCTURES GENERATED IN THE NON-TRANSCRIBED STRAND DURING TRANSCRIPTION POSE BLOCKS TO T7 RNA POLYMERASE AND MAMMALIAN RNA POLYMERASE II.** Park-Snyder, S<sup>1</sup>, Tomaletti, S<sup>1</sup>, Duquette, ML<sup>2</sup>, Maizels, N<sup>2</sup>, Hanawalt, PC<sup>1</sup>. <sup>1</sup>Stanford University, Stanford, CA, United States, <sup>2</sup>University of Washington, Seattle, WA, United States.

- #402 **INTERACTION MAPPING OF A MULTIFUNCTIONAL HUMAN DNA REPAIR PROTEIN XPG WITH DNA GLYCOSYLASES HNT1 AND NEIL2 IN REPAIR OF OXIDATIVE DNA DAMAGE.** Tsai, MS<sup>1</sup>, Cho, MT<sup>1</sup>, Win, KZ<sup>1</sup>, Tsutakawa, SE<sup>1</sup>, Sarker, AH<sup>1</sup>, Mitra, S<sup>2</sup>, Hazra, TK<sup>2</sup>, Cooper, PK<sup>1</sup>. <sup>1</sup>Lawrence Berkeley National Laboratory, Berkeley, CA, United States, <sup>2</sup>Sealy Center for Molecular Science, University of Texas Medical Branch, Galveston, TX, United States.
- #403 **REPAIR PATHWAYS OF LIPID PEROXIDATION PRODUCT, TRANS-4-HYDROXY-2-NONENAL ADDUCTS TO DNA BASES IN BACTERIAL AND MAMMALIAN CELLS.** Tudek, B<sup>1</sup>, Rusin, B<sup>1</sup>, Maddukuri, L<sup>1</sup>, KomisarSKI, M<sup>1</sup>, Kusmierek, J<sup>1</sup>, Stevnsner, TV<sup>2</sup>, Zdzienicka, M<sup>3</sup>. <sup>1</sup>Inst. Biochemistry and Biophysics PAS, Warszawa, Poland, <sup>2</sup>Danish Center for Molecular Gerontology Department of Molecular Biology University of Aarhus, Aarhus, Denmark, <sup>3</sup>Department of toxicogenetics University Medical Center Wassenarseweg, Leiden, Netherlands.
- #404 **MUTAGENIC RESPONSE OF ΦIX174 TRANSGENIC MOUSE EMBRYONIC CELL LINE PX-2 TO UVB IRRADIATION.** Valentine, CR, Hass, BS, Rainey, HF. National Center for Toxicological Research/FDA, Jefferson, AR, United States.
- #405 **THE FLEMISH HEALTH AND ENVIRONMENT BIOMONITORING PROGRAM: EXPOSURE OF NEONATES MEASURED IN CORD BLOOD.** Koppen, G<sup>1</sup>, Neelen, V<sup>2</sup>, Bruckers, L<sup>3</sup>, Bilau, M<sup>4</sup>, Van De Microop, E<sup>2</sup>, Brits, E<sup>1</sup>, Schroyen, C<sup>5</sup>, Baeyens, W<sup>5</sup>, van Larebeke, N<sup>4</sup>, Schoeters, G<sup>1</sup>. <sup>1</sup>Flemish Institute of Technological Research, Mol, Belgium, <sup>2</sup>Provincial Institute for Hygiene, Antwerp, Belgium, <sup>3</sup>Limburgs Universitair Centrum, Diepenbeek, Belgium, <sup>4</sup>Ghent University, Ghent, Belgium, <sup>5</sup>Vrije Universiteit Brussel, Brussel, Belgium, <sup>6</sup>University of Antwerp, Antwerp, Belgium.
- #406 **UV-DDB MEDIATES EFFICIENT TARGETING OF THE NER COMPLEX TO UV-INDUCED LESIONS AND ENHANCED Ddb2 EXPRESSION PROTECTS MICE FROM CARCINOGENIC EFFECTS OF CHRONIC UV-B IRRADIATION.** Alekseev, S, Rebel, H, Moser, J, Fousteri, M, de Gruijl, FR, Vrieling, H, van Zeeland, AA, Mullenders, LHF. Leiden University Medical Center, Leiden, Netherlands.
- #407 **EVIDENCE FOR DISTINCT MECHANISMS OF Z-DNA-STIMULATED GENETIC INSTABILITY IN MAMMALIAN CELLS.** Wang, G, Christensen, L, Vasquez, K. U.T.M.D. Anderson Cancer Center, Smithville, TX, United States.
- #408 **SOMATIC MACROINDEL OCCUR FREQUENTLY IN YOUNG MICE.** Wang, J<sup>1</sup>, Gonzalez, K<sup>1</sup>, Hill, K<sup>2</sup>, Tsai, B<sup>1</sup>, Scaringe, W<sup>1</sup>, Sommer, S<sup>1</sup>. <sup>1</sup>City of Hope/Beckman Research Institute, Duarte, CA, United States, <sup>2</sup>University of Western Ontario, London, ON, Canada.
- #409 **DNA REPAIR PHENOTYPE USING THE COMET ASSAY AND CORRELATION WITH BASE EXCISION REPAIR GENE HAPLOTYPES.** Watson, M, Coleman, J, Umbach, D, Xu, Z, Taylor, J. National Institute of Environmental Health Sciences (NIEHS), Research Triangle Park, NC, United States.
- #410 **Xpc-NULL MICE ARE SENSITIVE TO THE MUTAGENIC EFFECTS OF 3,4-EPOXY-1-BUTENE AND 1,3-BUTADIENE.** Wickliffe, JK<sup>1</sup>, Xie, J<sup>1</sup>, Herring, SM<sup>1</sup>, Ammenheuser, MM<sup>1</sup>, Galbert, LA<sup>1</sup>, Masters III, OE<sup>1</sup>, Lloyd, RS<sup>2</sup>, Friedberg, EC<sup>3</sup>, Ward Jr., JB<sup>1</sup>. <sup>1</sup>University of Texas Medical Branch, Galveston, TX, United States, <sup>2</sup>Oregon Health and Science University, Portland, OR, United States, <sup>3</sup>University of Texas Southwestern Medical Center, Dallas, TX, United States.
- #411 **DEPLETION OF THE VERTEBRATE-SPECIFIC RAD51-INTERACTING PROTEIN RAD51AP1/PIR51 SENSITIZES HUMAN CELLS TO MMC AND TO X-RAYS.** Wiese, C, Groesser, T, Collins, DW, Rydberg, B, Schild, D. Lawrence Berkeley National Laboratory, Life Sciences Division, Berkeley, CA, United States.
- #412 **HOMOLOGY-DIRECTED DNA REPAIR: DIRECT REGULATORY ROLES OF THE TUMOR SUPPRESSOR P53.** Wiesmüller, LW. Gynaecological University Hospital, Ulm, Germany.
- #413 **NON-HOMOLOGOUS END JOINING AND HOMOLOGOUS RECOMBINATION REPAIR PROTECT AGAINST PARTICULATE CHROMATE-INDUCED CHROMOSOME INSTABILITY.** Wise, SS, Stackpole, MM, Camyre, E, Duzevik, EG, Wise Sr., JP. Wise Laboratory of Environmental and Genetic Toxicology, Maine Center for Toxicology and Environmental Health, Bioscience Research Institute, University of Southern Maine, Portland, ME, United States.
- #414 **FUNCTIONAL CHARACTERIZATION OF POLYMORPHISMS IN THE NUCLEOTIDE EXCISION REPAIR GENE XPD/ERCC2.** Wolfe, KJ, Hill, CE, Wickliffe, JK, Abdel-Rahman, SZ. University of Texas Medical Branch, Galveston, TX, United States.
- #415 **PHOTOREACTIVATION IN BUDDING YEAST: A TEST OF HOW LESIONS IN DNA ARE DISCOVERED.** Zhang, W, Heddle, JA. Department of Biology, York University, Toronto, ON, Canada.



#416 **POLYMORPHISMS OF DNA REPAIR GENE XPD AND DNA DAMAGE OF VCM-EXPOSED WORKERS IN CHINA.**  
*Zhu, SM, Wang, AH, Xia, ZL.* School of Public Health, Fudan University, Shanghai, China.

#417 **DEATH PATHWAYS AND P53 RESPONSE AFTER INDUCTION OF DIFFERENT DNA LESIONS ON THE DOUBLE-HELIX.**  
*Zirnberger, LF<sup>1</sup>, Roos, WP<sup>2</sup>, Kaina, B<sup>2</sup>, Menck, CFM<sup>1</sup>.* <sup>1</sup>Department of Microbiology, Institute of Biomedical Sciences, University of São Paulo, São Paulo, Brazil, <sup>2</sup>Institute of Toxicology, Division of Applied Toxicology, University of Mainz, Mainz, Germany.

4:00 PM #421 **ADVANCING AGE AMONG HEALTHY NONSMOKING MALES IS ASSOCIATED WITH REDUCED SPERM MOTILITY AND INCREASED FREQUENCIES OF SPERM WITH DNA FRAGMENTATION, CHROMOSOMAL ABNORMALITIES AND GENE MUTATIONS**  
*Andrew J. Wyrobek,* Lawrence Livermore National Laboratory, Livermore, CA, United States

4:15 PM #422 **DIETARY AND SMOKING HABITS INFLUENCE ANTI-B[a]P-DNA ADDUCTS IN ENVIRONMENTALLY LOW EXPOSED HUMANS**  
*Sofia Pavanello,* University of Padova, Italy

4:30 PM #423 **GENOTYPE AND PHENOTYPE OF GLUTATHIONE-S-TRANSFERASE PI IN PLACENTA OF MEXICAN WOMEN LIVING AT THE US-MEXICO BORDER AND RELATION TO PLACENTAL PAH-DNA ADDUCT LEVELS**  
*Penelope J.E. Quintana,* San Diego State University, San Diego, CA, United States

4:45 PM #424 **CYTOGENIC BIOMARKERS AND HUMAN CANCER RISK**  
*Hannu Norppa,* Finnish Inst. of Occupational Health, Helsinki, Finland

5:00 PM #425 **INVESTING IN GENETIC TOXICOLOGY RESEARCH IN AFRICA**  
*Wagida A. Anwar,* Ain Shams University, Cairo, Egypt

**Monday, September 5, 2005**

**3:00 PM–5:15 PM**

**Seacliff A/B**

**EMERGING ISSUES SYMPOSIUM—MUTAGENESIS AND HUMAN DISEASE**

**ADVANCES IN HUMAN BIOMONITORING**

**Chairs:** *Beatrice Pool-Zobel,* University Jena, Jena, Germany and *Lucia R. Ribeiro,* School of Medicine, Botucatu-UNESP, Brazil

3:00 PM #418 **ENVIRONMENTAL COLON CARCINOGENESIS: ASSESSING THE BALANCE OF EXPOSURE AND SUSCEPTIBILITY IN COLONOCYTES AND PERIPHERAL LEUCOCYTES—A BIOMICS APPROACH**  
*Beatrice Pool-Zobel,* University Jena, Jena, Germany

3:20 PM #419 **RELEVANCE OF BIOMARKERS OF INDIVIDUAL SUSCEPTIBILITY IN MOLECULAR EPIDEMIOLOGY STUDIES**  
*Maria Dusinska,* Slovak Medical University, Bratislava, Slovakia

3:40 PM #420 **EFFECTS OF DIETARY COMPONENTS ON GENOMIC STABILITY IN HUMANS: RESULTS OF INTERVENTION TRIALS**  
*Siegfried Knasmuller,* University Vienna, Vienna, Austria

**Monday**

**Monday, September 5, 2005**

**3:00 PM–5:00 PM**

**Grand Ballroom A**

**EMERGING ISSUES SYMPOSIUM—  
ENVIRONMENTAL MUTAGENESIS/  
CARCINOGENESIS**

**GENOTOXICOLOGY OF AQUATIC SYSTEMS**

**Chairs:** *Gisella A. Umbuzeiro*, CETESB, Sao Paolo, Brazil and  
*Yasunobu Aoki*, NIES, Tsukuba, Ibaraki, Japan

- 3:00 PM #426 **DEVELOPMENT OF IN VIVO  
MUTAGENICITY ASSAY SYSTEM USING  
*rpsL* TRANSGENIC ZEBRAFISH FOR  
MONITORING ENVIRONMENTAL  
MUTAGENS**  
*Yasunobu Aoki*, NIES, Tsukuba, Ibaraki Japan
- 3:20 PM #427 **RELEVANCE OF THE SALMONELLA  
ASSAY IN WATER QUALITY  
EVALUATION: INDICATION OF AZO  
DYES AS IMPORTANT AQUATIC  
CONTAMINANTS**  
*Gisella A. Umbuzeiro*, CETESB, Sao Paolo, Brazil
- 3:40 PM #428 **GENOTOXIC AND  
ECOTOXICOLOGICAL ASSESSMENT  
FOR DIAGNOSIS OF AQUATIC  
ECOSYSTEMS**  
*Vera M. Vargas*, FEPAM, Porto Alegre, Brazil
- 4:00 PM #429 **GENOTOXICITY BIOMARKERS IN FISH  
AND BLUE MUSSELS: RESULTS FROM  
BEEP CRUISES**  
*Claudia Bolognesi*, NIRC, Genova, Italy
- 4:15 PM #430 **GENOTOXICITY AND ACUTE  
TOXICITY ASSESSMENT IN AQUATIC  
ENVIRONMENTS**  
*Richard M. Walmsley*, Gentronix, Ltd.,  
Manchester, UK
- 4:30 PM #431 **GENOTOXICITY OF MICROCYSTIN-  
LR: IMPLICATION OF REACTIVE  
OXYGEN SPECIES**  
*Metka Filipic*, National Institute of Biology,  
Ljubljana, Slovenia
- 4:45 PM #432 **EVALUATION OF THE TERATOGENIC  
AND MUTAGENIC POTENTIAL OF  
THALIDOMIDE IN THE SMALL FISH  
MODEL JAPANESE MEDAKA**  
*Don G. Ennis*, University of Louisiana, Lafayette,  
LA, United States

**Monday, September 5, 2005**

**3:00 PM–5:15 PM**

**Bayview**

**EMERGING ISSUES SYMPOSIUM—MUTATIONAL  
MECHANISMS**

**MICROBIAL INFECTION AND MALIGNANCY**

**Chairs:** *Patricia Ostrosky-Wegman*, UNAM, Mexico City, Mexico  
and *Julie Parsonnet*, Stanford University, CA, United States

- 3:00 PM **MICROBES AND MALIGNANCY**  
*Julie Parsonnet*, Stanford University, Stanford,  
CA, United States
- 3:20 PM #433 **ADULT STEM CELL THEORY OF THE  
MULTI-STAGE, MULTI-MECHANISM  
MODEL OF CARCINOGENESIS: ROLE OF  
INFLAMMATION ON THE PROMOTION  
OF INITIATED STEM CELLS**  
*James E. Trosko*, Michigan State University, East  
Lansing, MI, United States
- 3:40 PM #434 **TUMOR VIRUSES AND THE  
“INTRACELLULAR IMMUNE  
SYSTEM”: ROLES OF TUMOR  
SUPPRESSOR PATHWAYS IN  
CONTROLLING VIRAL INFECTION**  
*Patrick S. Moore*, University of Pittsburgh,  
Pittsburgh, PA, United States
- 4:00 PM #435 **HCMV-INDUCED GENETIC  
INSTABILITY: BRAIN TUMOR CASE-  
CONTROL STUDY**  
*Randa El-Zein*, M.D. Anderson Cancer Center,  
University of Texas, Houston, TX, United States
- 4:15 PM #436 **EXPOSURE TO WOOD SMOKE AND  
GENETIC SUSCEPTIBILITY FOR  
CERVICAL NEOPASIA AMONG HPV-  
INFECTED WOMEN IN COLUMBIA**  
*Carlos H. Sierra-Torres*, Universidad del Cauca,  
Popayan, Columbia
- 4:30 PM #437 **BIOREGULATION OF MICROBES FOR  
THE ATTENUATION OF MICROBE-  
ASSOCIATED MALIGNANCY**  
*Ki Baik Hahm*, Ajou University School of  
Medicine, Suwon, South Korea
- 4:45 PM #438 **MECHANISMS OF INFECTION-  
INDUCED CARCINOGENESIS**  
*Patricia Ostrosky-Wegman*, UNAM, Mexico City,  
Mexico
- 5:00 PM #439 **CYCLIN D-RB PATHWAY IS ALTERED  
DURING CONTINUOUS EXPOSURE OF  
MOLT-3 HUMAN LYMPHOBLASTOID  
CELLS TO THE ANTIRETROVIRAL  
DRUG ZIDOVUDINE (AZT)**  
*Ofelia A. Olivero*, National Cancer Institute,  
NIH, Bethesda, MD, United States



Monday, September 5, 2005

3:00 PM–5:00 PM

Seacliff C/D

**ENVIRONMENTAL MUTAGENESIS/  
CARCINOGENESIS**

**MUTAGENIC CONSEQUENCES OF ENVIRONMENTAL EXPOSURES**

**Chairs:** *Tetsuya Kamataki*, Hokkaido University, Hakodate, Japan  
and *Emilio Rojas*, UNAM, Mexico City, Mexico

- 3:00 PM #440 **GENE AND ENVIRONMENT INTERACTION: GENETIC POLYMORPHISM OF CYP2A6 AS A DETERMINANT OF TOBACCO RELATED CANCER RISK**  
*Tetsuya Kamataki*, Hokkaido University, Hakodate, Japan
- 3:20 PM #441 **ENVIRONMENTAL TRACE ELEMENTS ASSOCIATED WITH CANCER RISK IN LUCRECIA-RN/BRAZIL**  
*Carlos F.S. Castro*, Catholic University at Brasília, Taguatinga, Brazil
- 3:40 PM #442 **GENOTOXIC CONSEQUENCES OF MEXICO CITY ATMOSPHERIC POLLUTION**  
*Emilio Rojas*, UNAM, Mexico City, Mexico
- 4:00 PM #443 **4-OXO-2-HEXENAL IN COOKED FOODS AND DNA ADDUCT FORMATION IN MOUSE ORGANS AFTER ORAL ADMINISTRATION**  
*Kazuaki Kawai*, University of Occupational and Environmental Health, Kitakyushu, Fukuoka, Japan
- 4:15 PM #444 **BIOLOGICAL PROPERTIES OF AMINOPHENYLNORHARMAN FORMED FROM NORHARMAN AND ANILINE**  
*Yukari Totsuka*, National Cancer Center Research Institute, Tokyo, Japan
- 4:30 PM #445 **PHOTOTOXICITY INCLUDING PHOTOMUTAGENICITY OF THIRTEEN SELECTED POLYCHLORINATED BIPHENYLS (PCBS) IN *Salmonella typhimurium* TA102 AND HUMAN SKIN CELLS**  
*Lei Wang*, Jackson State University, Jackson, MS, United States
- 4:45 PM #446 **ENHANCEMENT OF DNA REPAIR BY RADIO-PROTECTORS: IN VIVO STUDIES WITH ANIMAL MODELS**  
*C.K.K. Nair*, Bhabha, Atomic Research Centre, Mumbai, India

Monday, September 5, 2005

3:00 PM–5:00 PM

Grand Ballroom B

**EMERGING ISSUES SYMPOSIUM—MUTATIONAL MECHANISMS**

**SPONTANEOUS MUTAGENESIS AND HYPERMUTATION**

**Chairs:** *Nancy Maizels*, University of Washington, Seattle, WA, United States and *Karen M. Vasquez*, University of Texas M.D. Anderson Cancer Center, Science Park–Research Division, Smithville, TX, United States

- 3:00 PM #447 **BIOCHEMICAL BASIS OF SOMATIC HYPERMUTATION**  
*Myron F. Goodman*, University of Southern California, Los Angeles, CA
- 3:20 PM #448 **RECOMBINOGENIC DNA STRUCTURES IN IMMUNOGLOBULIN GENE DIVERSIFICATION AND ONCOGENESIS**  
*Nancy Maizels*, University of Washington, Seattle, WA, United States
- 3:40 PM #449 **NON-B DNA STRUCTURE-INDUCED GENETIC INSTABILITY**  
*Karen M. Vasquez*, University of Texas M.D. Anderson Cancer Center, Science Park–Research Division, Smithville, TX, United States
- 4:00 PM #450 **SPINDLE CHECKPOINT-DEPENDANT PHOSPHORYLATION OF BLM AND CHROMOSOME STABILITY**  
*Yi Wang*, Baylor University, Houston TX, United States
- 4:15 PM #451 **SPONTANEOUS MUTAGENESIS IN MICE WITH A TARGETED DISRUPTION OF THE *MutYH* GENE**  
*Teruhisa Tsuzuki*, Kyushu University, Fukuoka, Japan
- 4:30 PM #452 **ROLE OF THE CHECKPOINT IN POST-REPLICATION REPAIR PATHWAY**  
*Mihoko K. Kai*, Stanford University School of Medicine, Stanford, CA, United States
- 4:45 PM #453 **NUCLEOTIDE EXCISION REPAIR TRIGGERS H2AX PHOSPHORYLATION INDEPENDANT OF DNA DOUBLE STRANDS BREAKS**  
*Eli Hefner*, University of California, San Francisco, CA, United States

Monday, September 5, 2005  
5:00 PM–5:30 PM  
Grand Ballroom Foyer

**REFRESHMENT BREAK**

Monday, September 5, 2005  
5:30 PM–6:15 PM  
Grand Ballroom

**PLENARY LECTURE—JOHN S. MATTICK**

Sponsored by National Institute of Environmental  
Health Sciences, Center for Rodent Genetics

Introduction

*Liza Snow*, Vice President of the Mutagenesis and Experimental  
Pathology Society of Australasia (MEPSA), Deakin University,  
Victoria, Australia

#454 **RNA REGULATION: A NEW GENETICS**

*John S. Mattick*, University of Queensland, Brisbane, Australia

Monday, September 5, 2005  
6:30 PM–8:00 PM  
Bayview

**EMS BUSINESS MEETING AND AWARDS  
PRESENTATION**

EMS Awards and Travel Awards will be presented.

**Tuesday, September 6, 2005**

Tuesday, September 6, 2005  
7:30 AM–7:00 PM  
Market Street Foyer

**REGISTRATION OPEN**

Tuesday, September 6, 2005  
7:00 AM–8:30 AM

**PUBLIC RELATIONS COMMITTEE**

(Marina Room)

**DNA REPAIR SPECIAL INTEREST GROUP**

(Seacliff C/D)

**RISK ASSESSMENT SPECIAL INTEREST GROUP**

(Seacliff A/B)

Tuesday, September 6, 2005  
8:30 AM–9:15 AM  
Grand Ballroom

**PLENARY LECTURE—MARY-CLAIRE KING**

Introduction

*Wagida Anwar*, President of the Pan-African Environmental Mutagen  
Society (PAEMS), Ain Shams University, Cairo, Egypt

**A GENOMIC VIEW OF HUMAN HISTORY**

*Mary-Claire King*, University of Washington, Seattle, WA, United  
States

Tuesday, September 6, 2005  
9:15 AM–10:00 AM  
Grand Ballroom

**PLENARY LECTURE—ALAIN SARASIN**

Introduction

*Micheline Kirsch-Volders*, President of the European Environmental  
Mutagen Society, Free University, Brussels, Belgium

#455 **MOLECULAR MECHANISMS OF SUNLIGHT-INDUCED SKIN  
CANCER**

*Alain Sarasin*, Institut Gustave-Roussy, Villejuif, France

Tuesday, September 6, 2005  
10:00 AM–10:30 AM  
Grand Ballroom Foyer

**REFRESHMENT BREAK**





**Tuesday, September 6, 2005**

**10:30 AM–12:30 PM**

**Grand Ballroom A**

**CURRENT ISSUES SYMPOSIUM—DNA REPAIR**

**CHROMATIN DYNAMICS: INFLUENCE ON GENOME FUNCTION AND DNA DAMAGE RESPONSE**

**Chairs:** *Genevieve Almouzni*, Curie Institute, Paris, France and *Gary Felsenfeld*, NIH, Bethesda, MD, United States

- 10:30 AM #456 **CHROMATIN ASSEMBLY FACTORS, REPLICATION-FORK ARRESTS, AND DNA- DAMAGE RESPONSE**  
*Genevieve Almouzni*, Curie Institute, Paris, France
- 11:00 AM #457 **CHROMATIN BOUNDARIES, EPIGENETIC SIGNALS, AND THE REGULATION OF GENE EXPRESSION**  
*Gary Felsenfeld*, NIH, Bethesda, MD, United States
- 11:30 AM #458 **HISTONE PHOSPHORYLATION LINKS ATP- DEPENDENT CHROMATIN REMODELING WITH DNA DAMAGE REPAIR**  
*Haico van Attikum*, Miescher Institute Biomedical Research, Basel, Switzerland
- 11:50 AM #459 **INO80 CHROMATIN REMODELING AND DNA REPAIR**  
*Xuetong Shen*, University of Texas M.D. Anderson Cancer Center, Science Park–Research Division, Smithville, TX, United States
- 12:10 PM #460 **ROLE OF HISTONE H4 LYSINE 16 ACETYLATION IN MAMMALIAN CELLS**  
*Asifa Akhtar*, EMBL, Heidelberg, Germany

**Tuesday, September 6, 2005**

**10:30 AM–12:30 PM**

**Seacliff C/D**

**CURRENT ISSUES SYMPOSIUM—ENVIRONMENTAL MUTAGENESIS/CARCINOGENESIS**

**ENVIRONMENTAL AND GENETIC FACTORS INFLUENCING THE RISK OF COMMON NONCANCER DISEASE**

**Chairs:** *Harvey Mohrenweiser*, University California, Irvine, CA, United States and *Irene M. Jones*, Lawrence Livermore National Laboratory, Livermore, CA, United States

- 10:30 AM #461 **CARDIOVASCULAR DISEASE/ HYPERTENSION: GENETIC SUSCEPTIBILITY AND EXPOSURE FACTORS**  
*Daniel T. O'Connor*, University California, San Diego, La Jolla, CA, United States
- 11:00 AM #462 **ENVIRONMENT AND GENES IN THE ETIOLOGY OF PARKINSONISM**  
*Caroline M. Tanner*, Parkinson's Institute, Sunnyvale, CA, United States
- 11:30 AM #463 **ROLE OF EXPOSURE AND GENETICS IN INFLAMMATORY/AUTOIMMUNE DISEASE SUCH AS MULTIPLE SCLEROSIS**  
*Lisa F. Barcellos*, University California, Berkeley, CA, United States
- 11:50 AM **GENETICS AND EXPOSURE IN THE RISK OF ASTHMA AND RESPIRATORY DISEASE**  
*John R. Balmes*, University of California, San Francisco, CA, United States
- 12:10 PM #464 **CHALLENGES IN THE STUDY OF GENE BY ENVIRONMENT INTERACTION IN RISK OF COMMON DISEASES**  
*Harvey Mohrenweiser*, University California, Irvine, CA, United States

Tuesday

**Tuesday, September 6, 2005**

**10:30 AM–12:30 PM**

**Bayview**

**CURRENT ISSUES SYMPOSIUM—ENVIRONMENTAL MUTAGENESIS/CARCINOGENESIS**

**ENVIRONMENTAL MUTAGENS IN AIR**

**Chairs:** *Radim J. Sram*, Institute of Experimental Medicine, Prague, Czech Republic and *Larry D. Claxton*, US EPA, Research Triangle Park, NC, United States

- 10:30 AM #465 **OVERVIEW OF THE MUTAGENICITY OF URBAN AIR**  
*Larry D. Claxton*, US EPA, Research Triangle Park, NC, United States
- 11:00 AM #466 **BIOMARKERS OF URBAN AIR-ASSOCIATED MUTAGENICITY**  
*Radim J. Sram*, Institute of Experimental Medicine, Prague, Czech Republic
- 11:30 AM #467 **ADDUCTS AND OXIDATIVE DAMAGE OF URBAN AIR**  
*Peter B. Farmer*, University of Leicester, Leicester, United Kingdom
- 11:50 AM #468 **AIR POLLUTION AND RISKS FOR CANCER, REPRODUCTIVE EFFECTS, AND CARDIOVASCULAR DISEASE**  
*Joellen Lewtas*, University Washington, Seattle, WA, United States
- 12:10 PM #469 **AIR POLLUTION AND CHRONIC HEALTH EFFECTS: THE BAD AND THE WORSE**  
*Lilian Calderón-Garcidueñas*, Instituto Nacional de Pediatría, Mexico City, Mexico and Department of Biomedical Pharmaceutical Sciences, University of Montana, Missoula, MT, United States

**Tuesday, September 6, 2005**

**10:30 AM–12:30 PM**

**Grand Ballroom B**

**CURRENT ISSUES SYMPOSIUM—ENVIRONMENTAL MUTAGENESIS/CARCINOGENESIS**

**MUTAGENS AND CARCINOGENS FROM COOKED FOOD**

**Chairs:** *James S. Felton*, Lawrence Livermore National Laboratory, Livermore, CA, United States and *Nigel J. Gooderham*, Imperial Cancer Research Institute, London, United Kingdom

- 10:30 AM #470 **METABOLISM AND GENOTOXICITY OF HETEROCYCLIC AMINES**  
*James S. Felton*, Lawrence Livermore National Laboratory, Livermore, CA, United States
- 11:00 AM #471 **CARCINOGENICITY OF MUTAGENS/CARCINOGENS FROM COOKED FOOD**  
*Hitoshi Nakagama*, National Cancer Center Research Institute, Tokyo, Japan

- 11:30 AM #472 **HETEROCYCLIC AMINES IN COOKED MEATS IN THE SINGAPORE CHINESE DIET**  
*Adeline Seow*, University of Singapore, Singapore
- 11:50 AM #473 **IMPACT OF CHEMOPREVENTION ON THE METABOLISM AND GENOTOXICITY OF HETEROCYCLIC AMINES**  
*Nigel J. Gooderham*, Imperial Cancer Research Institute, London, United Kingdom
- 12:10 PM #474 **RISK ASSESSMENT OF ACRYLAMIDE IN FOODS**  
*Jan Alexander*, National Institute Public Health, Oslo, Norway

**Tuesday, September 6, 2005**

**10:30 AM–12:30 PM**

**Seacliff A/B**

**CURRENT ISSUES SYMPOSIUM—STUDENT/FACULTY PROGRAMS**

**SCIENCE EDUCATION IN THE UNIVERSITY: NEW TEACHING METHODS**

**Chairs:** *James M. Gentile*, Research Corporation, Tucson, AZ, United States and *Jo Handelsmann*, University Wisconsin, Madison, WI, United States

**Sponsored by Research Corporation**

- 10:30 AM #475 **BIOLOGY 2010: WHAT DOES THE FUTURE HOLD FOR SCIENCE EDUCATION?**  
*James M. Gentile*, Research Corporation, Tucson, AZ, United States
- 11:00 AM #476 **THE HHMI PROFESSORS PROGRAM: SUPPORTING SCIENTISTS TO GET DEEPLY INVOLVED IN SCIENCE EDUCATION**  
*Peter J. Bruns*, HHMI and Cornell University, Ithaca, NY, United States
- 11:30 AM #477 **ACTIVE-ENGAGEMENT TEACHING IN LARGE CLASSES: LECTURING LESS WITHOUT SACRIFICING CONTENT**  
*William B. Wood*, University of Colorado, Boulder, CO, United States
- 11:50 AM #478 **SCIENTIFIC TEACHING**  
*Jo Handelsman*, University of Wisconsin, Madison, WI, United States
- 12:10 PM #479 **REDEFINING SCIENCE EDUCATION AT ALL LEVELS**  
*Bruce M. Alberts*, University of California, San Francisco, CA, United States

Tuesday, September 6, 2005

1:00 PM–3:00 PM

Pacific Concourse

**POSTERS ATTENDED AND EXHIBITS OPEN**

**RESPONSES TO ENVIRONMENTAL AGENTS**

Odd numbered posters will be attended from 1:00 PM–2:00 PM and even numbered posters will be attended from 2:00 PM–3:00 PM.

- #480 **ANALYSIS OF LUNG DNA ALTERATIONS AND URINARY 8-HYDROXYDEOXYGUANOSINE IN WISTAR RATS EXPOSED TO A CONSTANT FLOW OF DIESEL ENGINE EXHAUST.** Aaltonen, K<sup>1</sup>, Svoboda, P<sup>2</sup>, Rynö, M<sup>1</sup>, Bion, A<sup>3</sup>, Dionnet, F<sup>4</sup>, Tamminen, N<sup>1</sup>, Harri, M<sup>1</sup>, Kasai, H<sup>2</sup>, Morin, JP<sup>3</sup>, Savela, K<sup>1</sup>. <sup>1</sup>Institute of Occupational Health, Helsinki, Finland, <sup>2</sup>University of Occupational and Environmental Health, Kitakyushu, Japan, <sup>3</sup>INSERM, Rouen, France, <sup>4</sup>CERTAM, Saint Etienne du Rouvray, France.
- #481 **INTER-LABORATORY EVALUATION OF THE BIOLUMINESCENT SALMONELLA REVERSE MUTATION ASSAY USING 10 MODEL CHEMICALS.** Ackerman, J<sup>1</sup>, Hayashi, T<sup>2</sup>, Hitchcock, J<sup>4</sup>, Li, L<sup>3</sup>, Lu, S<sup>3</sup>, Nagai, Y<sup>2</sup>, Spence, F<sup>4</sup>, Aubrecht, J<sup>1</sup>. <sup>1</sup>Pfizer Inc., Groton, CT, United States, <sup>2</sup>Pfizer Inc., Nagoya, Japan, <sup>3</sup>Pfizer Inc., La Jolla, CA, United States, <sup>4</sup>Pfizer Inc., Sandwich, United Kingdom.
- #482 **CYP1A1 AND GSTM1 GENETIC POLYMORPHISMS IN LUNG CANCER POPULATIONS EXPOSED TO ARSENIC IN DRINKING WATER.** Adonis, M, Marin, P, Martinez, V, Gil, L. <sup>1</sup>University of Chile, Santiago, Chile, <sup>2</sup>Antofagasta's Hospital, Antofagasta, Chile, <sup>3</sup>University of Chile, Santiago, Chile, <sup>4</sup>University of Chile, Santiago, Chile.
- #483 **THE POTENT CARCINOGEN 7,12-DIMETHYLBENZ[a]ANTHRACENE INDUCES TUMORS IN THE RAT MAMMARY GLAND BUT NOT IN THE UTERUS: EFFECTS OF PHYTOESTROGENS, DAIDZEIN AND GENISTEIN SUPPLEMENTATION.** Aidoo, A, Bishop, ME, Shelton, SD, Lyn-Cook, LE, Manjanatha, MG. FDA/NCTR, Jefferson, AR, United States.
- #484 **ANTIMUTAGENIC ACTIVITY OF EXTRACT OF KIWI FRUITS ON MNNG-INDUCED MUTAGENESIS.** Akbarova, GH. Baku State University, Baku, Azerbaijan.
- #485 **RESPONSES OF LYMPHOCYTES FROM ASIAN AND CAUCASIAN DIABETIC PATIENTS AND NON-DIABETICS TO HYDROGEN PEROXIDE AND SODIUM NITRITE AND 2-AMINO-3,8-DIMETHYLIMIDAZO[4,5-F] QUINOXALINE (MEIQX) IN THE COMET ASSAY.** Wyatt, NP<sup>1</sup>, Kelly, C<sup>2</sup>, Fontana, V<sup>3</sup>, Merlo, DF<sup>3</sup>, Whitelaw, D<sup>2</sup>, Anderson, D<sup>1</sup>. <sup>1</sup>University of Bradford, Yorkshire, United Kingdom, <sup>2</sup>Bradford Royal Infirmary, Yorkshire, United Kingdom, <sup>3</sup>Istituto Nazionale per la Ricerca sul Cancro, Genova, Italy.
- #486 **IN VIVO MUTAGENICITY OF DIESEL EXHAUST AND ITS COMPONENTS, BENZO[a]PYRENE AND 1,6-DINITROPYRENE, IN THE LUNGS OF gpt DELTA MICE.** Aoki, Y<sup>1</sup>, Hashimoto, AH<sup>1</sup>, Amanuma, K<sup>1</sup>, Hiyoshi, K<sup>2</sup>, Yanagisawa, R<sup>1</sup>, Takano, H<sup>1</sup>, Masumura, K<sup>3</sup>, Nohmi, T<sup>3</sup>. <sup>1</sup>National Institute for Environmental Studies, Tsukuba, Japan, <sup>2</sup>University of Tsukuba, Tsukuba, Japan, <sup>3</sup>National Institute of Health Sciences, Tokyo, Japan.
- #487 **CYTOGENETIC EFFECTS OF THE OCCUPATIONAL EXPOSURE RN-222 AND ITS DECAY PRODUCTS AMONG URANIUM MINERS FROM ONE URANIUM MINE IN BULGARIA.** Apostolova, DB<sup>1</sup>, Hadjidekova, W<sup>2</sup>, Paskalev, ZD<sup>2</sup>. <sup>1</sup>Clinic of Occupational Diseases, Medical University, Sofia, Bulgaria, <sup>2</sup>National Center of Radiobiology and Radiation Protection, Sofia, Bulgaria.
- #488 **INHIBITORY EFFECTS OF HETEROCYCLIC AMINE - INDUCED MUTATION AND DNA-ADDUCT FORMATION IN MOUSE LIVER, LUNG AND COLON BY BEER.** Arimoto-Kobayashi, S, Takata, J, Nakandakari, N, Fujioka, R, Konuma, T. Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Okayama, Japan.
- #489 **THE MUTAGENIC AIR POLLUTANT 3-NITROBENZANTHRONE FORMS DNA ADDUCTS AFTER REDUCTION BY NQO1 AND CONJUGATION BY NAT AND SULT IN HUMAN HEPATIC CYTOSOLS.** Arlt, VM<sup>1</sup>, Stiborova, M<sup>2</sup>, Henderson, CJ<sup>3</sup>, Osborne, MR<sup>1</sup>, Bieler, CA<sup>4</sup>, Frei, E<sup>4</sup>, Martinek, V<sup>2</sup>, Sopko, B<sup>2</sup>, Wolf, CR<sup>3</sup>, Schmeiser, HH<sup>4</sup>, Phillips, DH<sup>1</sup>. <sup>1</sup>Institute of Cancer Research, Sutton, Surrey, United Kingdom, <sup>2</sup>Charles University, Prague, Czech Republic, <sup>3</sup>Biomedical Research Centre, Dundee, United Kingdom, <sup>4</sup>German Cancer Research Center, Heidelberg, Germany.

- #490 **CSGMT/JEMS/MMS COLLABORATIVE STUDY FOR THE SKIN MICRONUCLEUS ASSAY.** Asano, N<sup>1</sup>, Nishikawa, T<sup>2</sup>, Kasamatsu, T<sup>3</sup>, Gibson, D<sup>4</sup>, Aardema, MJ<sup>4</sup>, Hayashi, M<sup>5</sup>. <sup>1</sup>Nitto Denko Corp., Osaka, Japan, <sup>2</sup>Lion Corp., Odawara, Japan, <sup>3</sup>Kao Corp., Tochigi, Japan, <sup>4</sup>P&G, Cincinnati, United States, <sup>5</sup>National Institute of Health Sciences, Tokyo, Japan.
- #491 **SUSCEPTIBILITY TO AND INTERVENTION OF CERVICAL CANCER.** Au, WW, Salama, SA, Sierra-Torres, CH. University of Texas Medical Branch, Galveston, TX, United States.
- #492 **THE EFFECTS OF *Gadd45α* ON PCNA REGULATED NUCLEOTIDE EXCISION REPAIR IN RESPONSE TO UVB DAMAGE.** Babiuk, JD, Tron, VA. University of Alberta, Edmonton, Alberta, Canada.
- #493 **P53-ASSOCIATED TRANSCRIPTION IN HUMAN DERMAL FIBROBLASTS AND HEPG2 CELLS IN RESPONSE TO THE CYANOBACTERIAL TOXIN CYLINDROSPERMOPHOSIN.** Bain, PA<sup>1</sup>, Shaw, GR<sup>2</sup>, Patel, BKC<sup>1</sup>. <sup>1</sup>The Eskitis Institute for Cellular and Molecular Therapies, Griffith University, Brisbane, Queensland, Australia, <sup>2</sup>National Research Centre for Environmental Toxicology, Brisbane, Queensland, Australia.
- #494 **EVALUATION AND VALIDATION OF HOUSEKEEPING GENE EXPRESSION IN RESPONSE TO IONIZING RADIATION IN HUMAN CELL LINES.** Banda, M, Bommineni, A, Kulkarni, R, Thomas, RA, Tucker, JD. Wayne State University, Detroit, MI, United States.
- #495 **COMPUTATIONAL CHARACTERIZATION AND PREDICTION OF ESTROGEN RECEPTOR ALPHA COACTIVATOR BINDING INHIBITORS.** Bennion, BJ, Kulp, KS, Cosman, M, Lightstone, FC. Lawrence Livermore National Laboratory, Livermore, CA, United States.
- #496 **GENETIC CONSEQUENCES FROM EXPOSURE TO ROCKET FUEL CHEMICALS EXPERIMENTALLY AND NATURALLY.** Kolumbaeva, SJ, Shalakhmetova, TM, Bersimbaev, RI, Begimbetova, D, Umbaev, B. Kazakh National University, Almaty, Kazakhstan.
- #497 **CYTOGENETIC BIOMONITORING OF A GROUP OF PAKISTANI WORKERS INVOLVED IN PESTICIDE PRODUCTION.** Bhalli, JA, Khan, QM. Environmental Toxicology Lab, National Institute for Biotechnology & Genetic Engineering (NIBGE), Faisalabad, Pakistan.
- #498 **STUDY ON ANTIMUTAGENIC POTENTIAL OF MYROBALAN (*Terminalia chebula* Retz.) FRUIT EXTRACT TOWARDS UV-INDUCED MUTATION.** Bhumadhana P<sup>1</sup>, Jirarungrungwong P<sup>2</sup>, Ponpanich L<sup>2</sup>, Chulasiri M<sup>1</sup>. <sup>1</sup>Mahidol University, Bangkok, Thailand, <sup>2</sup>S & J International Enterprises, Bangkok, Thailand.
- #499 **GLOBAL TRANSCRIPTIONAL RESPONSE TO IONIZING RADIATION IS ATM-DEPENDENT.** Culligan, KM, Robertson, C, Britt, AB. University of California, Davis, Davis, CA, United States.
- #500 **URBAN AIRBORNE PARTICULATE MATTER IS TOXIC TO CHICKEN EMBRYOS.** Bueno-Guimarães, HM, Pannuti, CV, Martins, RSL, Garcia, MLB, Santos, RS, Sowmy, T, Saldiva, PHN. Laboratory of Experimental Air Pollution - School of Medicine - University of São Paulo, São Paulo/São Paulo, Brazil.
- #501 **EFFECTS OF SCUTELLARIA BAICALENSIS RADIX HERBAL ACUPUNCTURE SOLUTION (SBRHA) ON THE ACUTE TOXICITY.** Byun, BH<sup>1</sup>, Park, EJ<sup>2</sup>. <sup>1</sup>Dept. of Oriental Medicine, Daegu Haany University, Daegu, South Korea, <sup>2</sup>Dept. of Food and Nutrition, Kyungnam University, Masan, South Korea.
- #502 **GENE EXPRESSION PROFILES IN THE EARLY STAGE OF BALB/C-3T3 CELLS TRANSFORMATION PROMOTED WITH 12-O-TETRADECANOYLPHORBOL 13-ACETATE.** Ao, L<sup>1</sup>, Yang, M<sup>2</sup>, Cao, J<sup>1</sup>. <sup>1</sup>Preventive Medical College, Third Military Medical University, Chongqing 400038, China, <sup>2</sup>Biochemistry Department, Hong Kong, China.
- #503 **SEASONALITY OF THE MUTAGENIC AND CYTOTOXIC RESPONSE IN AN URBAN AND RURAL AREA IN PORTO ALEGRE, RS, BRAZIL.** Cardozo, TR, Rosa, DP, Pastoriza, T, Rocha, JV, Pereira, TS, Vargas, VME. Programa de Pesquisas Ambientais, Fundação Estadual de Proteção Ambiental Henrique Luis Roessler, FEPAM, Porto Alegre, RS, Brazil.
- #504 **SKIN CANCER RISK CORRELATION WITH INCIDENT ULTRAVIOLET RADIATION IN THE DISTRITO FEDERAL - BRAZIL.** Neto, JQ, Castro, CFS, Baptista, GMM, Zara, LF. Catholic University at Brasília, Brasília, DF, Brazil.
- #505 **GENOTOXIC RESPONSE OF PATERNALLY GAMMA RAYS EXPOSED BALB-C MICE TO RADIATION AND CHEMICAL MUTAGENS.** Bhilwade, HN, Chaubey, RC. Bhabha Atomic Research Centre, Mumbai, Maharashtra, India.

- #506 **ELEVATED AMBIENT SUMMER O<sub>3</sub> IS LINKED TO CYTOGENETIC DAMAGE IN ORAL EPITHELIA OF HEALTHY COLLEGE STUDENTS.** Chen, C, Tran, C, Chen, M, Qin, H, Balmes, J, Tager, IB, Holland, N. University of California, Berkeley, CA, United States.
- #507 **INDUCTION OF DELAYED CHROMOSOMAL INSTABILITY IN NORMAL HUMAN FIBROBLAST CELLS BY LOW DOSE RADIATION.** Cho, YH<sup>1</sup>, Woo HD<sup>1</sup>, Ha SW<sup>2</sup>, Chung HW<sup>1</sup>. <sup>1</sup>School of Public Health, Seoul National University, Seoul, Korea, <sup>2</sup>College of Medicine, Seoul National University, Seoul, South Korea.
- #508 **BENZIDINE AND ITS ANALOGUES INDUCE OXIDATIVE GENOTOXICITIES.** Chung, K-T, Makena, P. The University of Memphis, Memphis, TN, United States.
- #509 **METABOLIC ACTIVATION OF DIMETHYLNITROSAMINE AND AFLATOXIN B1 WITH HUMAN LIVER S-9 IN THE MOUSE LYMPHOMA FORWARD MUTATION ASSAY.** Hew, K<sup>1</sup>, Cifone, MA<sup>2</sup>, Rundell, J<sup>3</sup>. <sup>1</sup>Purdue Pharma L.P., Ardsley, NY, United States, <sup>2</sup>Covance Laboratories Inc., Vienna, VA, United States, <sup>3</sup>Molecular Toxicology Inc., Boone, NC, United States.
- #510 **THE BENEFITS OF USING PHARMACO- AND TOXICOGENOMICS IN DRUG THERAPIES.** Clark, LS, Murphy, MP. Gentris Corporation, Morrisville, NC, United States.
- #511 **MUTAGENICITY OF CHROMIUM PICOLINATE AND ITS COMPONENTS IN *Salmonella typhimurium* AND L5178Y MOUSE LYMPHOMA CELLS.** Whittaker, P<sup>1</sup>, San, RHC<sup>2</sup>, Clarke, JJ<sup>2</sup>, Seifried, HE<sup>3</sup>, Dunkel, VC<sup>1</sup>. <sup>1</sup>Center for Food Safety and Applied Nutrition, Food and Drug Administration, College Park, MD, United States, <sup>2</sup>BioReliance, Rockville, MD, United States, <sup>3</sup>National Cancer Institute, National Institutes of Health, Bethesda, MD, United States.
- #512 **COMPARISON OF CELL PREPARATION METHODS FOR THE IN VIVO MOUSE LIVER COMET ASSAY.** Clay, P. Syngenta CTL, Macclesfield, Cheshire, United Kingdom.
- #513 **COMPARATIVE MOUSE GENOMICS CENTERS CONSORTIUM (CMGCC): TO AN IMPROVED UNDERSTANDING OF THE BIOLOGICAL SIGNIFICANCE OF HUMAN POLYMORPHISMS.** The CMGCC Steering Committee. NIEHS, Research Triangle Park, NC, United States.
- #514 **USING CO-REGULATION TO UNDERSTAND IONIZING RADIATION RESPONSIVE GENES AND PATHWAYS.** Coleman, MA<sup>1</sup>, Xin, X<sup>1</sup>, Kreff, A<sup>1</sup>, Pearson, F<sup>1</sup>, Critchlow, TJ<sup>1</sup>, Ovcharenko, I<sup>1</sup>, Marchetti, F<sup>1</sup>, Nelson, D<sup>1</sup>, Krishnan, K<sup>1</sup>, Tucker, J<sup>2</sup>, Wyrobek, AJ<sup>1</sup>. <sup>1</sup>LLNL, Biosciences directorate, Livermore, CA, United States, <sup>2</sup>Department of Biological Sciences, Wayne State University, Detroit, MI, United States.
- #515 **EFFECT OF AN ENVIRONMENTAL COMPLEX MIXTURE ON PAH-INDUCED CARCINOGENESIS IN THE TWO-STAGE SENCAR MOUSE TUMORIGENESIS MODEL.** Courter, LA<sup>1</sup>, Musafia, T<sup>1</sup>, Fischer, K<sup>2</sup>, Bildfell, R<sup>2</sup>, Giovanini, J<sup>3</sup>, Pereira, C<sup>3</sup>, Mahadevan, B<sup>1</sup>, Baird, WM<sup>1</sup>. <sup>1</sup>Department of Environmental and Molecular Toxicology, Oregon State University, Corvallis, OR, United States, <sup>2</sup>College of Veterinary Medicine, Oregon State University, Corvallis, OR, United States, <sup>3</sup>Department of Statistics, Oregon State University, Corvallis, OR, United States.
- #516 **ADAPTIVE RESPONSE IN pKZ1 MOUSE PROSTATE AFTER EXPOSURE TO VERY LOW DOSES OF X-RADIATION.** Day, TK<sup>1</sup>, Zeng, G<sup>1</sup>, Hooker, AM<sup>1</sup>, Bhat, M<sup>2</sup>, Sykes, PJ<sup>1</sup>. <sup>1</sup>Department of Haematology & Genetic Pathology, Flinders University and Medical Centre, Bedford Park, South Australia, 5042, Australia, <sup>2</sup>Department of Medical Physics, Royal Adelaide Hospital, Adelaide, South Australia, 5000, Australia.
- #517 **MICRONUCLEATED ERYTHROCYTE POPULATIONS: POTENTIAL BIOMARKERS FOR HUMAN DRUG STUDIES AS DEMONSTRATED BY HYDROXYUREA FOR PEDIATRIC SICKLE CELL DISEASE.** Dertinger, SD<sup>1</sup>, Howard, T<sup>2</sup>, Zimmerman, SA<sup>3</sup>, Ware, RE<sup>2</sup>. <sup>1</sup>Litron Laboratories, Rochester, NY, United States, <sup>2</sup>St. Jude Children's Research Hospital, Memphis, TN, United States, <sup>3</sup>Duke University Medical Center, Durham, NC, United States.
- #518 ***Bacopa monnieri*, A WETLAND PLANT, FOR IN VIVO AND IN VITRO ECO-GENOTOXICITY ASSESSMENT USING COMET ASSAY.** Vajpayee, P, Shanker, R, Dhawan, A. Industrial Toxicology Research Centre, Lucknow, Uttar Pradesh, India.
- #519 **EFFECT OF P53 HAPLODEFICIENCY ON MICRONUCLEUS INDUCTION AND HPRT MUTANT FREQUENCY IN B6C3F1 MICE TREATED PERINATALLY WITH AZT AND AZT/3TC.** Dobrovolsky, VN<sup>1</sup>, Shaddock, JG<sup>1</sup>, Bishop, ME<sup>1</sup>, Lee, FW<sup>1</sup>, Lewis, SM<sup>1</sup>, Leakey, JE<sup>1</sup>, Dunnick, JK<sup>2</sup>, Aidoo, A<sup>1</sup>, Heflich, RH<sup>1</sup>. <sup>1</sup>NCTR/FDA, Jefferson, AR, United States, <sup>2</sup>NIEHS, Research Triangle Park, NC, United States.

- #520 **INTEGRATING NEW TECHNOLOGIES INTO THE ASSESSMENT OF HERITABLE GENETIC EFFECTS.** *Elespuru, RK.* FDA, Silver Spring, MD, United States.
- #521 **IN VIVO GENOTOXICITY OF THE SYNTHETIC PYRETHROID PESTICIDE "CYPERMETHRIN" IN RAT LIVER CELLS BY COMET ASSAY.** *El-Khatib, HN, Abdel-Aziz, M, Badr, Y, Kamal, N.* Central Agricultural Pesticides Laboratory, Giza, Egypt.
- #522 **PBDEs OR PCBs WITH PERFLUORINATED COMPOUNDS: SYNERGY IN THE INDUCTION OF SE-GLUTATHIONE PEROXIDASE, CELL CYCLE ARREST, AND CYTOTOXICITY IN HUMAN HEPG2 CELLS.** *Esch, HL, Ludwig, G.* University of Iowa, Iowa City, IA, United States.
- #523 **COMPARISON OF CELL TRANSFORMATION ASSAY AND ALKALINE COMET ASSAY USING SYRIAN HAMSTER EMBRYO (SHE) CELLS.** *Escobar, PA<sup>1</sup>, Pant, K<sup>1</sup>, Gibson, DP<sup>2</sup>, Aardema, MJ<sup>2</sup>, San, RHC<sup>1</sup>.* <sup>1</sup>Genetic Toxicology Department, BioReliance, Rockville, MD, United States, <sup>2</sup>The Procter & Gamble Company, Cincinnati, OH, United States.
- #524 **N-NITROSODIETHYLAMINE MUTAGENICITY AT LOW CONCENTRATION.** *Felzenszwalb, I, Ribeiro Pinto, LF, Aiub, CAF.* Universidade do Estado do Rio de Janeiro, Rio de Janeiro, RJ, Brazil.
- #525 **EXPLORE THE ACTIVATED CELLULAR PATHWAYS IN RESPONSE TO DNA DAMAGE BY UV RADIATION.** *Feng, J, Xue, F, Li, W, Wen, L.* Dept. of Chemistry, Temple University, Philadelphia, PA, United States.
- #526 **POSSIBLE ANTI-MUTAGEN ACTION OF ORANGE JUICE AND VITAMIN C ON THE DNA DAMAGE CAUSED ON MICE BLOOD CELLS IN VIVO BY CYCLOPHOSPHAMIDE, METHYL METHANESULFONATE, FESO<sub>4</sub> AND CUSO<sub>4</sub>.** *Franke, SIR<sup>1</sup>, Prá, D<sup>1</sup>, Erdtmann, B<sup>2</sup>, Da Silva, J<sup>1</sup>, Henriques, JAP<sup>3</sup>.* <sup>1</sup>PPG em Nutrição Clínica/Curso de Nutrição/DEDFIS – UNISC; PPGBCM/PPGBM – UFRGS, Santa Cruz do Sul; Porto Alegre, RS, Brazil, <sup>2</sup>Centro de Biotecnologia – UCS, Caxias do Sul, RS, Brazil, <sup>3</sup>Curso de Biologia/Curso de Farmácia – ULBRA, Canoas, RS, Brazil.
- #527 **INHIBITION OF RAS/RHO SIGNALING BY STATINS IMPAIRS RADIATION-INDUCED STRESS RESPONSES AND INCREASES RADIORESISTANCE.** *Fritz, G, Nuebel, T, Damrot, J, von Bardeleben, R, Kaina, B.* Department of Toxicology, Mainz, Germany.
- #528 **MODIFICATION OF INDUCED CYTOCHROME P450 1A1 IN RAINBOW TROUT BY POLYCHLORINATED BIPHENYLS (PCB) IN FISH-DIET.** *Ghanem, M<sup>1</sup>, Salem, M<sup>2</sup>, Yao, J<sup>2</sup>, Rexroad, C<sup>3</sup>, Nath, J<sup>4</sup>.* <sup>1</sup>Department of Animal Medicine, College of Veterinary Medicine, Benha University, Egypt, <sup>2</sup>Department of Animal Science, West Virginia University, Morgantown, WV, United States, <sup>3</sup>National Center for Cool and Cold Water Aquaculture, Kearneysville, WV, United States, <sup>4</sup>Genetics and Developmental Biology Program, West Virginia University, Morgantown WV, United States.
- #529 **A SYSTEMATIC SCREEN OF THE YEAST *Saccharomyces cerevisiae* DELETION MUTANT COLLECTION FOR NOVEL GENES REQUIRED FOR DNA-DAMAGE INDUCED MUTAGENESIS.** *Gong, J, Kim, E, Siede, W.* University of North Texas Health Science Center, Fort Worth, TX, United States.
- #530 **IONIZING RADIATION CAUSES A DOSE-DEPENDENT INDUCTION OF ATM SER1981 PHOSPHORYLATION IN THE JUVENILE RAT BRAIN.** *Gorodetsky, E, Brooks, PJ.* NIAAA NIH, Rockville, MD, United States.
- #531 **VARIABILITY IN BONE MARROW MUTATIONAL RESPONSE IN BREAST CANCER PATIENTS TREATED WITH GENOTOXIC CHEMOTHERAPY.** *Grant, SG, Kelly III, JL, Vogel, VG, Brufsky, AM, Bigbee, WL, Latimer, JJ.* University of Pittsburgh, Pittsburgh, PA, United States.
- #532 **ASSESSMENT OF EXPOSURE TO ORGANIC SOLVENTS AND GENOTOXIC EFFECTS IN PAINT INDUSTRY WORKERS.** *Groot, H<sup>1</sup>, Varona, M<sup>2</sup>, Patiño, RI<sup>3</sup>, Sicard, D<sup>1</sup>, Torres, MM<sup>1</sup>, Cárdenas, O<sup>2</sup>, Pardo, D<sup>2</sup>.* <sup>1</sup>Universidad de los Andes, Bogotá, Colombia, <sup>2</sup>Instituto Nacional de Salud, Bogotá, Colombia, <sup>3</sup>Universidad El Bosque, Bogotá, Colombia.
- #533 **GUT MYOELECTRICAL ACTIVITY INDUCES HEAT SHOCK PROTEINS IN *E. coli* AND CACO-2 CELLS AND MODIFIES APOPTOSIS.** *Grzesiuk, E<sup>1</sup>, Sikora, A<sup>1</sup>, Lubanska, A<sup>2</sup>, Wolinski, J<sup>2</sup>, Zabielski, R<sup>2</sup>, Laubitz, D<sup>2</sup>.* <sup>1</sup>Institute of Biochemistry&Biophysics PAS, Warszawa, Poland, <sup>2</sup>The Kielanowski Institute of Animal Physiology & Nutrition PAS, Jablonna, Poland.

- #534 **DISTINCTIVE ALTERATION IN GENE EXPRESSION PROFILES BY BOTANICAL CARCINOGENS IN LIVER AND KIDNEY OF RATS.** Guo, L<sup>1</sup>, Zhang, L<sup>2</sup>, Shi, L<sup>1</sup>, Mei, N<sup>3</sup>, Sun, Y<sup>2</sup>, Fung, C<sup>2</sup>, Wicki, R<sup>2</sup>, Cassel, J<sup>2</sup>, Dragan, Y<sup>1</sup>, Chen, T<sup>3</sup>. <sup>1</sup>Division of Systems Toxicology, National Center for Toxicological Research, FDA, Jefferson, AR, United States, <sup>2</sup>Arrays and SDS Application Group, Applied Biosystems, Foster City, CA, United States, <sup>3</sup>Division of Genetic and Reproductive Toxicology, National Center for Toxicological Research, FDA, Jefferson, AR, United States.
- #535 **COMET ASSAY AS A POSSIBLE MEAN TO DIFFERENTIATE GENOTOXINS FROM CYTOTOXINS THAT PRODUCE CHROMOSOMAL DAMAGE IN VITRO.** Hashizume, T, Nakajima, Y, Horinouchi, M. Takeda Pharmaceutical Company Limited, Osaka, Japan.
- #536 **FLOW CYTOMETRIC DETECTION OF CHEMICALLY INDUCED TANDEM REPEAT MUTATIONS IN TWO MURINE CELL LINES.** Healy, C<sup>1</sup>, Wade, M<sup>2</sup>, McMahon, A<sup>2</sup>, Johnson, D<sup>3</sup>, Parfett, C<sup>1</sup>. <sup>1</sup>Mutagenesis Section, Environmental Health Sciences Bureau, HECSB, Health Canada, Ottawa, ON, Canada, <sup>2</sup>Systemic Toxicology and Pharmacokinetics Section, Environmental Health Sciences Bureau, HECSB, Health Canada, Ottawa, ON, Canada, <sup>3</sup>Biology Department, University of Ottawa, Ottawa, ON, Canada.
- #537 **GENOTOXIC EFFECTS OF DIESEL EXHAUST PARTICLE EXTRACT IN NIH/3T3 CELLS.** Heo, C<sup>1</sup>, Kim, NY<sup>1</sup>, Chung, KH<sup>2</sup>, Moon, CK<sup>3</sup>, Heo, MY<sup>1</sup>. <sup>1</sup>Kangwon National Univ, Chunchon, South Korea, <sup>2</sup>Sungkyunkwan University, Suwon, South Korea, <sup>3</sup>Seoul National University, Seoul, South Korea.
- #538 **PREVENTIVE EFFECTS OF METALLOTHIONEIN ON DNA AND LIPID METABOLISM DAMAGE CAUSED BY CHRONIC MILD STRESS DUE TO FASTING AND RESTRAINT IN HYPERLIPIDEMIC MICE.** Higashimoto, M<sup>1</sup>, Ishibashi, S<sup>2</sup>, Isoyama, N<sup>2</sup>, Suzuki, S<sup>2</sup>, Takiguchi, M<sup>3</sup>, Ogawa, N<sup>4</sup>, Umehara, A<sup>4</sup>, Tsuda, TT<sup>3</sup>, Ohnishi, Y<sup>5</sup>, Sato, M<sup>2</sup>. <sup>1</sup>Dep. Food and Nutrition, Suzugamine Women's College, Hiroshima, Japan, <sup>2</sup>Fac. Pharm. Sci., Tokushima Bunri Univ., Tokushima, Japan, <sup>3</sup>Fac. Pharm. Sci., Hiroshima Internat. Univ., Hiroshima, Japan, <sup>4</sup>Fac. Human Life Sci., Tokushima Bunri Univ., Tokushima, Japan, <sup>5</sup>Univ. Tokushima Grad. Sch., Tokushima, Japan.
- #539 **POSSIBLE ROLES OF GLUTATHIONE PEROXIDASE 1 POLYMORPHISM ON THE RISK FOR LUNG CANCER IN SMOKERS AND NONSMOKERS.** Ryk, C, Hou, YS, Lambert, B, Hou, S-M. Unit of Environmental Medicine, Center for Nutrition and Toxicology, NOVUM, S-141 57, Huddinge, Sweden.
- #540 **GENOTOXIC AND CYTOTOXIC EFFECTS OF PSYCHOACTIVE DRUGS IN CAUCA (COLOMBIA) CONSUMERS.** Hoyos, LS, Carvajal, SM, Ocampo, AP. <sup>1</sup>Universidad del Cauca, Popayán, Cauca, Colombia, <sup>2</sup>Universidad del Cauca, Popayán, Cauca, Colombia, <sup>3</sup>Colegio San José de Tarbes, Popayán, Cauca, Colombia.
- #541 **ANALYSIS OF IN SITU DNA BINDING SITES OF P53 AND P73 IN RESPONSE TO HYDROXYUREA.** Huang, VH, Kwon, YSK, Fu, XDF, Wang, JYJW. University of California, San Diego, La Jolla, CA, United States.
- #542 **APPLICATION OF A GEOGRAPHIC INFORMATION SYSTEM (GIS) AS A TOOL TO EXPLORE ASSOCIATIONS BETWEEN AIR POLLUTION AND CYTOGENETIC DAMAGE IN AFRICAN AMERICAN CHILDREN AND ADULTS.** Huen, K<sup>1</sup>, Gunn, L<sup>1</sup>, Duramad, P<sup>1</sup>, Jeng, M<sup>1</sup>, Johnson, S<sup>1</sup>, Scalf, R<sup>2</sup>, Sweeters, N<sup>3</sup>, Lubin, B<sup>3</sup>. <sup>1</sup>University of California, Berkeley, School of Public Health, Berkeley, CA, United States, <sup>2</sup>Environmental Health Investigations Branch, California Department of Health Services, Oakland, CA, United States, <sup>3</sup>Pediatric Clinical Research Center, Children's Hospital and Research Center at Oakland, Oakland, CA, United States.
- #543 **BILE ACIDS ARE MUTAGENS, CLASTOGENS AND ANEUGENS IN OESOPHAGEAL CELLS, THROUGH THEIR GENERATION OF ROS.** Jenkins, GJS<sup>1</sup>, Doak, SH<sup>1</sup>, D'Souza, FR<sup>1</sup>, Parry, JM<sup>1</sup>, Baxter, JN<sup>1</sup>, Suzen, HS<sup>2</sup>. <sup>1</sup>Swansea University, Wales, United Kingdom, <sup>2</sup>Ankara University, Ankara, Turkey.
- #544 **COMPARISON OF HYDROQUINONE-INDUCED CHROMOSOME DAMAGE IN TK6 CELLS AND HUMAN LYMPHOCYTES.** Ji, Z, Smith, MT, Woo, J, Zhang, L. Molecular Epidemiology and Toxicology Laboratory, School of Public Health, University of California, Berkeley, CA, United States.

- #545 **GENE EXPRESSION AND DNA ADDUCT FORMATION IS MODULATED BY CHLOROPHYLLIN IN NORMAL HUMAN MAMMARY EPITHELIAL CELLS EXPOSED TO BENZO[a]PYRENE (BP).**  
*John, K<sup>1</sup>, John, K<sup>2</sup>, Divi, R<sup>3</sup>, Keshava, C<sup>2</sup>, Orozco, CC<sup>3</sup>, Whipkey, DL<sup>1</sup>, Poirier, MC<sup>3</sup>, Nath, J<sup>2</sup>, Weston, A<sup>1</sup>, Weston, A<sup>2</sup>.* <sup>1</sup>Genetics and Developmental Biology Program, West Virginia University, Morgantown, WV, United States, <sup>2</sup>Toxicology and Molecular Biology Laboratory, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV, United States, <sup>3</sup>Carcinogen-DNA Interactions Section, National Cancer Institute, National Institutes of Health, Bethesda, MD, United States.
- #546 **RISK FACTORS FOR ORAL AND ESOPHAGEAL CANCER IN A DEVELOPING COUNTRY: A HOSPITAL-BASED CASE-CONTROL STUDY, NEPAL.**  
*Joshi, SD, Pandit, N, Bk, SK.* Nepal Medical College and Teaching Hospital, Kathmandu, Nepal.
- #547 **PHOTOCHEMICAL GENOTOXICITY TESTING IN VITRO: A EUROPEAN COLLABORATIVE STUDY ON THE COMET ASSAY AND THE MICRONUCLEUS TEST.** *Kasper, P<sup>1</sup>, Aeby, P<sup>2</sup>, Brendler-Schwaab, S<sup>3</sup>, Epe, B<sup>4</sup>, Froetschl, R<sup>1</sup>, Hertel, C<sup>4</sup>, Kirchner, S<sup>5</sup>, Meurer, K<sup>6</sup>, Plappert-Helbig, U<sup>7</sup>, Schmidt, E<sup>8</sup>.* <sup>1</sup>Federal Institute for Drugs and Medical Devices (BfArM), Bonn, Germany, <sup>2</sup>Cosmital SA (Wella AG), Marly, Switzerland, <sup>3</sup>Bayer HealthCare (current address 1), Wuppertal, Germany, <sup>4</sup>University of Mainz, Mainz, Germany, <sup>5</sup>F. Hoffmann-La Roche, Basel, Switzerland, <sup>6</sup>RCC Cytotest Cell Research GmbH, Rossdorf, Germany, <sup>7</sup>Novartis Pharma AG, Basel, Switzerland, <sup>8</sup>ZEBET, Federal Institute for Risk Assessment (BfR), Berlin, Germany.
- #548 **TRANSCRIPTIONAL SIGNATURES OF PRIMARY NORMAL HUMAN MAMMARY EPITHELIAL CELLS IN RESPONSE TO DIESEL PARTICULATE EXTRACT DETECTED WITH DNA MICROARRAYS.**  
*Keshava, C<sup>1</sup>, Keshava, N<sup>1</sup>, Whipkey, DL<sup>2</sup>, Weston, A<sup>2</sup>.* <sup>1</sup>National Center for Environmental Assessment, Office of Research and Development, US Environmental Protection Agency, Washington, DC, United States, <sup>2</sup>Toxicology and Molecular Biology Branch, Health Effects Laboratory Division, National Institute for Occupational Safety and Health, Centers for Disease Control and Prevention, Morgantown, WV, United States.
- #549 **METHYLMERCURY INDUCED CELL CYCLE ARREST BY ACTIVATION OF ERK1/2 DURING RETINOIC-ACID DIFFERENTIATION OF HUMAN NEURONAL CELLS.** *Kim, YJ, Kim, YS, Kim, MS, Ryu, JC.* Korea Institute Science & Technology, Seoul, South Korea.
- #550 **GENOTOXICITY PROFILES OF COMMON ALKYL HALIDES AND ALKYL ESTERS.**  
*Kirpnick, Z<sup>1</sup>, Osowski, J<sup>2</sup>, Masucci, M<sup>2</sup>, Rubitski, E<sup>2</sup>, Cheung, J<sup>2</sup>, Ackerman, J<sup>2</sup>, Ku, W<sup>2</sup>, Aubrecht, J<sup>2</sup>, Schiestl, RH<sup>1</sup>.* <sup>1</sup>UCLA, Los Angeles, CA, United States, <sup>2</sup>Pfizer, Inc., Groton, CT, United States.
- #551 **HIGHER FREQUENCY OF GENOME REARRANGEMENTS IN THE PROGENY OF STRESS-TREATED PLANTS: TRANSGENERATIONAL PLANT "BYSTANDER EFFECT"?** *Boyko, A, Zemp, F, Kovalchuk, I.* Department of Biological Sciences, University of Lethbridge, Lethbridge, AB, Canada.
- #552 **ARSENIC AND THE HUMAN DNA POLYMERASE  $\beta$  AND AP ENDONUCLEASE I PROMOTERS.**  
*Kozlovski, RM, Snow, ET.* Deakin University, Burwood, Victoria, Australia.
- #553 **A SURVEY OF LOWEST EFFECTIVE CONCENTRATIONS OF BACTERIAL MUTAGENS: DETECTION OF MUTAGENS AS IMPURITIES IN NONMUTAGENIC SUBSTANCES USING THE AMES ASSAY.** *Cyr, MO, Cheung, JR, Dobo, KL, Aubrecht, JA, Ku, WW.* Pfizer Inc., Groton, CT, United States.
- #554 **DNA-PROTEIN CROSSLINKS IN ERYTHROCYTES OF GOLDFISH FOLLOWING ACUTE EXPOSURE TO HEXAVALENT CHROMIUM IN TANK WATER.** *Kuykendall, JR, Miller, KL, Perry, MW, Bradley, MJ, Mullen, MW, Cain, AV, Rohrs, KJ.* Raabe College of Pharmacy, Ohio Northern University, Ada, OH, United States.
- #555 **OXIDATIVE DNA DAMAGE IN PATIENTS WITH GASTRITIS AND GASTRIC CANCER INFECTED BY *Helicobacter pylori*.** *Ladeira, MSP<sup>1</sup>, Rodrigues, MAM<sup>1</sup>, Pinto, CLS<sup>1</sup>, Prado, RP<sup>1</sup>, Queiroz, DMM<sup>2</sup>, Guerra, J<sup>2</sup>, Salvadori, DMF<sup>1</sup>.* <sup>1</sup>UNESP, Botucatu, SP, Brazil, <sup>2</sup>UFMG, Belo Horizonte, MG, Brazil.
- #556 **WITHDRAWN**
- #557 **EFFECT OF ESTROGEN RECEPTOR (ER) ON BENZO[a]PYRENE-DNA ADDUCT FORMATION IN HUMAN BREAST CANCER CELLS.** *Lee, BM, Kang, SC.* Sungkyunkwan University, Suwon, South Korea.
- #558 **MUTAGENICITY OF THE MYCOTOXIN ALTERNARIOL IN CULTURED MAMMALIAN CELLS.** *Brugger, EM, Podlech, J, Metzler, M, Lehmann, L.* University of Karlsruhe, Karlsruhe, Germany.





- #559 **BIOMONITORING OF GENOTOXIC EFFECTS USING COMET ASSAY IN NATIVE FISH FROM SINOS RIVER, RS, BRAZIL.** Lemos, CT, Lubianca, JM, Oliveira, NCD. Divisão de Biologia, Programa de Pesquisas Ambientais, Fundação Estadual de Proteção Ambiental Henrique Luís Roessler - FEPAM, Avenida Dr. Salvador França, 1707, CEP 90690-000., Porto Alegre, RS, Brazil.
- #560 **EVALUATION OF THE POTENTIAL FOR RENAL FAILURE AND URINARY TRACT CARCINOMA IN POPULATIONS EXPOSED TO BOTANICALS CONTAINING ARISTOLOCHIC ACID.** Levy, DD. US Food & Drug Administration, College Park, MD, United States.
- #561 **EXPLORING THE RELATIONSHIP BETWEEN POLYMORPHISM OF CYSTATHIONINE BETA SYNTHASE GENE AND CONGENITAL HEART DISEASE IN CHINESE NUCLEAR FAMILIES.** Li, Y. Peking University, Beijing, China.
- #562 **CELLULAR AND SUBCELLULAR DISTRIBUTIONS OF RADIATION-INDUCED TRANSCRIPT AND PROTEIN EXPRESSION AFTER LOW-DOSE IRRADIATION OF BRAIN TISSUE.** Lowe, X, Marchetti, F, Lu, X, Ahn, S, Wyrobek, AJ. Biosciences Directorate, Lawrence Livermore National Laboratory, Livermore, CA, United States.
- #563 **EVALUATING LIVER DNA FROM BIG BLUE MICE TREATED WITH ACRYLAMIDE AND GLYCIDAMIDE FOR MUTATIONS USING THE TET-SELECTION ASSAY.** Manjanatha, MG<sup>1</sup>, Shelton, SD<sup>1</sup>, Ennis, DG<sup>2</sup>, Heflich, RH<sup>1</sup>. <sup>1</sup>Food and Drug Administration, National Center For Toxicological Research, Jefferson, AR, United States, <sup>2</sup>University Of Louisiana, Lafatette, LA, United States.
- #564 **GENOMIC CHANGES IN THE HUMAN TRANSCRIPTOME DEFINE THE CELLULAR RESPONSE TO LOW DOSE EXPOSURES TO IONIZING RADIATION.** Manohar, CF, Krishnan, K, Coleman, MA, Pearson, F, Furtado, MR, Nelson, D, Wyrobek, AJ. Lawrence Livermore National Laboratory, Livermore, CA, United States.
- #565 **CHEMOPROTECTION OF ROOIBOS AND HONEYBUSH HERBAL TEAS AGAINST CANCER PROMOTION INDUCED BY FUMONISIN B1 IN RAT LIVER.** Marnewick, JL<sup>1</sup>, Van der Westhuizen, FH<sup>2</sup>, Joubert, E<sup>4</sup>, Swanevelder, S<sup>1</sup>, Sniyman, P<sup>1</sup>, Swart, P<sup>3</sup>, Gelderblom, WCA<sup>1</sup>. <sup>1</sup>Medical Research Council, Tygerberg, South Africa, <sup>2</sup>Northwest University, Potchefstroom, South Africa, <sup>3</sup>Stellenbosch University, Stellenbosch, South Africa, <sup>4</sup>Agricultural Research Council, Stellenbosch, South Africa.
- #566 **EVALUATION OF THE MODIFIED COMET ASSAY: THE USE OF LESION SPECIFIC REPAIR ENDONUCLEASES TO DISTINGUISH OXIDATIVE DAMAGE FROM OTHER DNA LESIONS.** Martin, EA, Smith, CC, O'Donovan, M. AstraZeneca, Alderley Park, Macclesfield, Cheshire, United Kingdom.
- #567 **MUTAGENIC POTENTIAL OF CONTROL (OR PRESUMED CONTROL) SOIL SAMPLES.** Le Curieux, F<sup>2</sup>, Courty, B<sup>1</sup>, Laboudigue, A<sup>3</sup>, Belkessam, L<sup>3</sup>, Marzin, D<sup>1</sup>. <sup>1</sup>Institut Pasteur de Lille, Lille, France, <sup>2</sup>Faculty of Pharmacy, Lille, France, <sup>3</sup>National Research Center on Polluted Sites and Soils (CNRSSP), Douai, France.
- #568 **GENOTOXICITY OF THIOPHENE DERIVATIVES.** May, K, Kitching, J, Mason, C, Burlinson, B, Smith, BJ, Hawkins, DR. Huntingdon Life Sciences Ltd, Huntingdon, Cambridgeshire, United Kingdom.
- #569 **WITHDRAWN**
- #570 **MUTAGENICITY OF TAMOXIFEN INDUCED DNA ADDUCTS IN HUMAN CELLS: EVIDENCE FOR REMOVAL BY THE NUCLEOTIDE EXCISION REPAIR (NER) PATHWAY.** McLuckie, KIE<sup>1</sup>, Crookston, RJR<sup>1</sup>, Gaskell, M<sup>1</sup>, Routledge, MN<sup>2</sup>, Martin, EA<sup>3</sup>, Farmer, PB<sup>1</sup>, Brown, K<sup>1</sup>. <sup>1</sup>Cancer Biomarkers and Prevention Group, The Biocentre, University of Leicester, Leicester, United Kingdom, <sup>2</sup>Molecular Epidemiology Unit, University of Leeds, Leeds, United Kingdom, <sup>3</sup>Genetic Toxicology, AstraZeneca, Alderley Park, Macclesfield, United Kingdom.
- #571 **DOES MULTIGENERATIONAL EXPOSURE TO ENVIRONMENTAL RADIATION (CHORNOBYL, UKRAINE) AFFECT MINISATELLITE VARIATION IN *Clethrionomys glareolus*.** Meeks, HN, Kendall, GC, Wickliffe, JK, Maltbie, M, Hooper, SR, Rodgers, BE, Chesser, RK, Baker, RJ. Texas Tech University, Lubbock, TX, United States.

- #572 **THE MUTANT FREQUENCIES AND TYPES OF MUTATIONS INDUCED BY COMFREY IN THE LUNGS OF TRANSGENIC BIG BLUE RATS.** Mei, XB<sup>1</sup>, Chen, T<sup>2</sup>. <sup>1</sup>Central High School, Little Rock, AR, United States, <sup>2</sup>National Center for Toxicological Research, FDA, Jefferson, AR, United States.
- #573 **REAL-TIME IMAGING OF PHOTO-CONTROLLED DNA POLYMERISATION.** Perrins, RD<sup>1</sup>, Martin-Fernandez, ML<sup>2</sup>, Tobin, MJ<sup>2</sup>, Wharton, CW<sup>1</sup>, Meldrum, RA<sup>1</sup>. <sup>1</sup>University Of Birmingham, Birmingham, United Kingdom, <sup>2</sup>CCLRC, Daresbury Laboratories, Warrington, Cheshire, United Kingdom.
- #574 **MUTAGENICITY AND ANTIMUTAGENICITY OF HYDRO-ETHANOLIC AND BOILED EXTRACTS OF TWO CULTIVARS OF IRANIAN SAFFLOWER FLORETS BY SOS/umu ASSAY.** Mohseni, M<sup>1</sup>, Ohe, T<sup>2</sup>, Azizi, E<sup>1</sup>, Ostad, SN<sup>1</sup>, Hamed, MM<sup>1</sup>, Shariatpanahi, SM<sup>1</sup>, Fazeli, M<sup>1</sup>. <sup>1</sup>Tehran University of Medical Sciences-Faculty of Pharmacy, Tehran, Iran, <sup>2</sup>Kyoto Women's University, Kyoto, Japan.
- #575 **MULTICOLOR SPECTRAL KARYOTYPING OF THE L5178Y/Tk<sup>+/-</sup>-3.7.2C MOUSE LYMPHOMA CELL LINE.** Sawyer, JR<sup>1</sup>, Binz, RL<sup>1</sup>, Wang, J<sup>2</sup>, Moore, MM<sup>2</sup>. <sup>1</sup>Cytogenetics Laboratory, Department of Pathology, University of Arkansas for Medical Sciences, Little Rock, AR, United States, <sup>2</sup>Division of Genetic and Reproductive Toxicology, National Center for Toxicological Research, Jefferson, AR, United States.
- #576 **ELUCIDATING THE SIGNIFICANCE OF POLYPLOIDY INDUCTION IN THE HUMAN LYMPHOCYTE CHROMOSOMAL ABERRATION ASSAY BY FLOW CYTOMETRY.** Muehlbauer, P, Spellman, R. Pfizer Global R&D, Groton, CT, United States.
- #577 **THE ROLE OF CASPASE 2 IN DNA MISMATCH REPAIR-DEPENDENT APOPTOSIS AFTER DNA DAMAGE.** Narine, KD, Young, LC, Tron, VA, Andrew, SE. University of Alberta, Edmonton, Alberta, Canada.
- #578 **ISOLATION AND CHARACTERIZATION OF ANTIMUTAGENIC FACTOR(S) IN THE EDIBLE MUSHROOM *Agrocybe cylindracea*.** Shiozawa, A, Taira, K, Miyashita, Y, Okamoto, K, Arimoto, S, Negishi, T. Okayama University, Okayama, Japan.
- #579 **THE EMERGENCE OF MUTAGENIC MECHANISMS IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE.** Nguyen, TN, Colletti, RC, O'Neill, PO, Messier, TM, Finette, BF. University of Vermont, Burlington, United States.
- #580 **IDENTIFICATION OF ENVIRONMENTAL SENESCEGENS USING A *S. cerevisiae* SCREENING ASSAY.** Olaharski, AJ, Rine, J, Babiarz, J, Zhang, L, Smith, MT. University of California, Berkeley, Berkeley, CA, United States.
- #581 **GENERATION OF MUTAGENIC COMPOUNDS FROM THE REACTION OF AZO DYES AND CHLORINE DURING THE PRODUCTION OF DRINKING WATER.** Oliveira, DPO<sup>1</sup>, Carneiro, PAC<sup>2</sup>, Rech, CMR<sup>3</sup>, Zanoni, MVBZ<sup>2</sup>, Umbuzeiro, GAU<sup>3</sup>. <sup>1</sup>Universidade de São Paulo, São Paulo, SP, Brazil, <sup>2</sup>Universidade Estadual de São Paulo, Araraquara, Brazil, <sup>3</sup>Companhia de Tecnologia de Saneamento Ambiental, São Paulo, Brazil.
- #582 **INDUCTION OF SISTER-CHROMATID EXCHANGES AND CHROMOSOMAL ABERRATIONS BY ACRYLAMIDE AND GLYCIDAMIDE.** Martins, C<sup>1</sup>, Gaspar, J<sup>1</sup>, Martins, V<sup>1</sup>, Gamboa da Costa, G<sup>2</sup>, Marques, MM<sup>2</sup>, Rueff, J<sup>1</sup>, Oliveira, NG<sup>3</sup>. <sup>1</sup>Dep. Genetics, Faculty of Medical Sciences, New University of Lisbon, Lisbon, Portugal, <sup>2</sup>Centro de Química Estrutural, Instituto Superior Técnico, Lisbon, Portugal, <sup>3</sup>Faculty of Pharmacy, University of Lisbon, Lisbon, Portugal.
- #583 **CONTINUOUS EXPOSURE OF MICE TO NON-RADIOACTIVE CESIUM CHLORIDE INDUCES DNA BREAKAGE AND APOPTOSIS PROCESSES IN SPLEEN CELLS.** Osipov, AN, Elakov, AL. Scientific and Industrial Association "Radon", Moscow, Russia.
- #584 **IS X-RAY IRRADIATION OF FEEDER CELLS NECESSARY FOR SYRIAN HAMSTER EMBRYO (SHE) CELL TRANSFORMATION ASSAY?** Pant, K, Sly, JE, Emory, BR, Bruce, SW, San, R. BioReliance, Invitrogen bioservices, Rockville, MD, United States.
- #585 **EFFECT OF *Bacillus polyfermenticus* SCD SUPPLEMENTATION ON ANTIOXIDANT SYSTEM AND COLON CARCINOGENESIS IN F344 MALE RAT.** Park, EJ<sup>1</sup>, Park, JS<sup>2</sup>, Byun, BH<sup>3</sup>, Paik, HD<sup>2</sup>. <sup>1</sup>Dept. of Food and Nutrition, Kyungnam University, Masan, South Korea, <sup>2</sup>Div. of Animal Life Science, Konkuk University, Seoul, South Korea, <sup>3</sup>Dept. of Oriental Medicine, Daegu Haany University, Daegu, South Korea.

- #586 **ASSOCIATION BETWEEN ENVIRONMENTAL AND HUMAN MONITORING IN IMPACT AREAS REGARDING THE RELEASE OF GENOTOXINS: PRELIMINARY DATA.** *Pereira, TS<sup>2</sup>, Salvadori, DMF<sup>3</sup>, Vargas, VMF<sup>1</sup>.*  
<sup>1</sup>Programa de Pesquisas Ambientais, Fundação Estadual de Proteção Ambiental Henrique Luis Roessler, Porto Alegre, RS, Brazil, <sup>2</sup>Pós-graduação em Ecologia- Universidade Federal do Rio Grande do Sul – UFRGS, Porto Alegre, RS, Brazil, <sup>3</sup>Universidade Estadual Paulista – UNESP, Botucatu, SP, Brazil.
- #587 **EFFECTS OF SKIN METABOLISM ON THE GENOTOXIC POTENTIAL OF SELECTED HAIR DYES.** *Pfuhler, S<sup>1</sup>, Zeller, A<sup>2</sup>.*  
<sup>1</sup>Wella AG, Darmstadt, Germany, <sup>2</sup>Cosmital SA, Marly, Switzerland.
- #588 **CYP2E1 AND CYP3A4 SINGLE NUCLEOTIDE POLYMORPHISMS AND RELATIONSHIPS TO mRNA LEVELS IN PERIPHERAL BLOOD LYMPHOCYTES.** *Phillips, S, Previte, R, Blanton, H, Clark, S.* Gentris Corporation, Morrisville, NC, United States.
- #589 **GENETIC CONSEQUENCES OF WORK AT LEAD MINE AND DYE-HOUSES.** *Pour-Jafari, H, Pour-Jafari, B.* Hamadan University of Medical Sciences, Hamadan, Hamadan, Iran.
- #590 **FOOD COMPOSITION AS A CONFOUNDING FACTOR IN THE COMET ASSAY IN VIVO.** *Prá, D<sup>1</sup>, Franke, SIR<sup>1</sup>, Yoneama, ML<sup>2</sup>, Giulian, R<sup>3</sup>, Dias, JF<sup>3</sup>, Erdtmann, B<sup>4</sup>, Henriques, JAP<sup>5</sup>.* <sup>1</sup>PPG em Nutrição Clínica/Curso de Nutrição/DEDFIS UNISC; PPGBCM/PPGBM – UFRGS, Santa Cruz do Sul; Porto Alegre, RS, Brazil, <sup>2</sup>UNISINOS, São Leopoldo, RS, Brazil, <sup>3</sup>Instituto de Física - UFRGS, Porto Alegre, RS, Brazil, <sup>4</sup>Centro de Biotecnologia - UCS, Caxias do Sul, RS, Brazil, <sup>5</sup>Curso de Farmácia - ULBRA, Canoas, RS, Brazil.
- #591 **DOSE-RESPONSE COMPARISON OF MICRONUCLEATED RETICULOCYTE FREQUENCIES IN MOUSE PERIPHERAL BLOOD WITH FOUR GENOTOXIC AGENTS BY FLOW CYTOMETRY AND SLIDE-BASED ENUMERATION.** *Recio, L<sup>1</sup>, Caspary, B<sup>2</sup>, Kissling, G<sup>3</sup>, Torous, D<sup>4</sup>, Witt, KL<sup>2</sup>.*  
<sup>1</sup>ILS, Inc, Research Triangle Park, NC, United States, <sup>2</sup>Environmental Toxicology Program NIEHS, Research Triangle Park, NC, United States, <sup>3</sup>Biostatistics Branch NIEHS, Research Triangle Park, NC, United States, <sup>4</sup>Litron Laboratories, Rochester, NY, United States.
- #592 **ASSESSMENT OF GENE EXPRESSIONS FOR ENVIRONMENTAL CONTAMINANTS TOXICITY MONITORING WITH THE NEMATODE *Caenorhabditis elegans*.** *Roh, J, Park, S, Choi, J.* University of Seoul, Faculty of Environmental Engineering, Seoul, South Korea.
- #593 **DOWN-REGULATION OF SELENOPROTEIN W AS MOLECULAR TARGET OF METHYLMERCURY IN HUMAN NEURONAL CELLS IS ROS INDEPENDENT AND GSH DEPLETION DEPENDENT.** *Ryu, JC, Kim, YJ, Jeon, HK, Kim, MJ.* Korea Institute of Science & Technology, Seoul, South Korea.
- #594 **GENOTOXICITY OF DIPHENYL DISELENIDE IN CHINESE LUNG HAMSTER FIBROBLAST.** *Saffi, J<sup>1</sup>, Saffi, J<sup>2</sup>, Rosa, RM<sup>1</sup>, Hoch, N<sup>1</sup>, Santos, RS<sup>1</sup>, Moura, DJ<sup>1</sup>, Picada, JN<sup>1</sup>, Henriques, JAP<sup>1</sup>, Henriques, JAP<sup>2</sup>.*  
<sup>1</sup>Biophysics Department– Federal University of Rio Grande do Sul, Porto Alegre, S, Brazil, <sup>2</sup>Lutheran University of Brazil, Canoas, RS, Brazil.
- #595 **CELLULAR RESPONSES TO THE GENOTOXIC STRESS INDUCED BY CISPLATIN AND TEMOZOLOMIDE IN ASTROCYTIC CELL LINE (U343 MG-A).** *Bahia, MO<sup>1</sup>, Carminati, PO<sup>2</sup>, Carlotti, CG<sup>3</sup>, Sakamoto-Hojo, ET<sup>4</sup>.* <sup>1</sup>Departamento de Patologia, Universidade Federal do Pará, Pará, SP, Brazil, <sup>2</sup>Departamento de Genética, Faculdade de Medicina de Ribeirão Preto, USP, Ribeirão Preto, SP, Brazil, <sup>3</sup>Departamento de Cirurgia e Anatomia, Faculdade de Medicina de Ribeirão Preto, USP, Ribeirão Preto, SP, Brazil, <sup>4</sup>Departamento de Biologia, Faculdade de Filosofia Ciências e Letras de Ribeirão Preto, USP, Ribeirão Preto, SP, Brazil.
- #596 **GENOTOXICITY OF AMPHETAMINES.** *Salazar, AM, Miranda, E, Sordo, M, Ostrosky-Wegman, P.* Universidad Nacional Autonoma de Mexico (UNAM), Mexico, DF, Mexico.
- #597 **ABNORMAL EXPRESSION OF *Bcl-2* AND *Bax* DURING RAT TONGUE CARCINOGENESIS INDUCED BY 4-NITROQUINOLINE 1-OXIDE.** *Ribeiro, DA, Salvadori, DMF, Marques, MEA.* UNESP, Botucatu, SP, Brazil.
- #598 **POLYMORPHIC METABOLIZING GENES AND SUSCEPTIBILITY TO CORONARY ARTERY DISEASE.** *Bazo, AP, de Camargo, EA, da Silva, GN, Salvadori Jr., D, Salvadori, RAF, Ribeiro, LR, de Camargo, JLV, Salvadori, DMF.* UNESP, Botucatu, SP, Brazil.

- #599 **INVESTIGATING THE MUTAGENIC EFFECTS OF THE TOBACCO-DERIVED NITROSAMINE, NNK, IN *Msh6*-DEFICIENT MICE.** *Sandercock, LE, Hahn, JN, Giesbrecht, JL, Jirik, FR.* University of Calgary, Calgary, Alberta, Canada.
- #600 **DNA LESIONS AND RESPONSE TO INDUCED DNA DAMAGE IN LYMPHOCYTES OF BREAST CANCER PATIENTS.** *Santos, RA<sup>1</sup>, Carrara, HHA<sup>3</sup>, Andrade, JM<sup>3</sup>, Takahashi, CS<sup>2</sup>.* <sup>1</sup>Departamento de Genética da Faculdade de Medicina de Ribeirão Preto- USP, Ribeirão Preto, SP, Brazil, <sup>2</sup>Departamento de Biologia da Faculdade de Filosofia Ciências de Letras de Ribeirão Preto-USP, Ribeirão Preto, SP, Brazil, <sup>3</sup>Departamento de Ginecologia e Obstetrícia da Faculdade de Medicina de Ribeirão Preto-USP, Ribeirão Preto, SP, Brazil.
- #601 **DIESEL EXHAUST PARTICLES CAUSE INCREASED LEVELS OF DNA DELETIONS AND DNA ADDUCT FORMATION AFTER TRANSPLACENTAL EXPOSURE IN MICE.** *Reliene, R<sup>1</sup>, Hlavacova, A<sup>1</sup>, Mahadevan, B<sup>2</sup>, Baird, WM<sup>2</sup>, Schiestl, RH<sup>1</sup>.* <sup>1</sup>UCLA, Los Angeles, CA, United States, <sup>2</sup>Oregon State University, Corvallis, OR, United States.
- #602 **INHIBITORY EFFECTS OF THE POLYCHLORINATED PESTICIDE CHLORDANE AND CONSTITUENT COMPOUNDS/METABOLITES ON HUMAN CYTOCHROME P450 ISOZYME ACTIVITY *IN VITRO*.** *Schrader, TJ,* Langlois, I. Toxicology Research Division, Health Canada, Ottawa, Ontario, Canada.
- #603 **COMPARISON OF RAT PERIPHERAL BLOOD AND BONE MARROW ERYTHROCYTE MICRONUCLEUS FREQUENCY USING FLOW CYTOMETRIC ANALYSIS.** *Engel, ME, Weiner, SK, Schuler, MJ.* PGRD Groton Laboratories, Pfizer Inc., Groton, CT, United States.
- #604 **DIFFERENTIAL GENE EXPRESSION IN RAT KIDNEYS: INFLUENCE OF STRAIN, SEX, AND DIET.** *Seidel, SD, Hung, S-C, Kan, HL, Gollapudi, BB.* Toxicology and Environmental Research & Consulting, The Dow Chemical Company, Midland, MI, United States.
- #605 ***IN VITRO* GENOTOXICITY OF PAH MIXTURES AND ORGANIC EXTRACT FROM URBAN AIR PARTICLES.** *Sevastyanova, O<sup>1</sup>, Binkova, B<sup>1</sup>, Topinka, J<sup>1</sup>, Kalina, I<sup>2</sup>, Popov, T<sup>3</sup>, Suchankova, Z<sup>1</sup>, Farmer, PB<sup>4</sup>, Sram, RJ<sup>1</sup>.* <sup>1</sup>Institute of Experimental Medicine AS CR and Health Institute of Central Bohemia, Prague, Czech Republic, <sup>2</sup>University PJ Safarik, Kosice, Slovakia, <sup>3</sup>National Center of Hygiene, Sofia, Bulgaria, <sup>4</sup>Biocentre, University of Leicester, Leicester, United Kingdom.
- #606 **EVALUATION OF RADIATION INDUCED DNA DAMAGE AND DNA REPAIR IN PROSTATE AND BREAST CANCER PATIENTS USING ALKALINE AND NEUTRAL COMET ASSAY.** *Shahidi, M<sup>1</sup>, Mozdarani, H<sup>2</sup>.* <sup>1</sup>Mazandaran University of Medical Sciences, Sari, Iran, <sup>2</sup>Tarbiat Modarres University, Tehran, Iran.
- #607 **BIMOLANE INDUCES MULTIPLE TYPES OF CHROMOSOMAL ABERRATIONS IN HUMAN LYMPHOCYTES *IN VITRO*: A CONVENTIONAL AND MOLECULAR CYTOGENETIC STUDY.** *Shambhu Kumar, R<sup>1</sup>, Shambhu Kumar, R<sup>2</sup>,* Eastmond, DA<sup>1</sup>. <sup>1</sup>University of California, Riverside, Riverside, CA, United States, <sup>2</sup>SITEK Research Laboratories, Rockville, MD, United States.
- #608 **GLOBAL GENE EXPRESSION, DNA DAMAGE, AND INHIBITION OF SPONTANEOUS MUTAGENESIS AT *HPRT* BY VANILLIN AND CINNAMALDEHYDE.** *Shaughnessy, DT<sup>1</sup>,* King, A<sup>2</sup>, Ducharme, DM-K<sup>3</sup>, DeMarini, DM<sup>4</sup>, Klein, CB<sup>2</sup>. <sup>1</sup>Laboratory of Molecular Carcinogenesis, NIEHS, Research Triangle Park, NC, United States, <sup>2</sup>New York University School of Medicine, Nelson Institute of Environmental Medicine, Tuxedo, NY, United States, <sup>3</sup>Microarray Group, NIEHS, Research Triangle Park, NC, United States, <sup>4</sup>Environmental Carcinogenesis Division, US Environmental Protection Agency, Research Triangle Park, NC, United States.
- #609 **PREDICTING MUTAGENICITY IN THE AMES TEST USING A BATTERY OF SAR SYSTEMS.** *Sjögren, M, Carlsson, L, Boyer, S, Bolcsfoldi, G.* Safety Assessment, AstraZeneca R&D, Stockholm, Sweden.
- #610 **MICROARRAY ANALYSIS OF MONONUCLEAR CELL GENE EXPRESSION IN WORKERS EXPOSED TO BENZENE.** *Zhang, L<sup>1</sup>, Lan, Q<sup>2</sup>, Li, G<sup>3</sup>, Hubbard, AE<sup>1</sup>, Forrest, MS<sup>1</sup>, McHale, CM<sup>1</sup>, Vermeulen, R<sup>2</sup>, Zhao, X<sup>1</sup>, Shen, M<sup>2</sup>, Yin, S<sup>3</sup>, Smith, MT<sup>1</sup>, Rothman, N<sup>2</sup>.* <sup>1</sup>School of Public Health, University of California, Berkeley, CA, United States, <sup>2</sup>Division of Cancer Epidemiology and Genetics, NCI, Bethesda, MD, United States, <sup>3</sup>Chinese Center for Disease Control and Prevention, Beijing, China.
- #611 **TOXICOLOGICAL RESPONSES OF HUMAN CELLS TO LOW DOSE AS - IMPLICATIONS FOR RISK ASSESSMENT.** *Snow, ET.* Deakin University, Burwood, Victoria, Australia.

- #612 **GENETIC POLYMORPHISMS OF PON1 AND THEIR ROLE ON THE SUSCEPTIBILITY TO DNA DAMAGE.** Rojas, E<sup>1</sup>, Quintanilla, B<sup>1</sup>, Solis, M<sup>1</sup>, Sordo, M<sup>2</sup>, Ostrosky, P<sup>2</sup>. <sup>1</sup>Sección Externa de Toxicología, Centro de Investigación y de Estudios Avanzados del IPN, Mexico City, Mexico, <sup>2</sup>Instituto de Investigaciones Biomédicas de la UNAM, México City, Mexico.
- #613 **A CONTAMINATED FISH DIET AND GERMLINE MUTATIONS AT REPETITIVE DNA LOCI IN LAB MICE.** Somers, CM<sup>1</sup>, Somers, CM<sup>2</sup>, Valdes, EV<sup>3</sup>, Kjoss, VA<sup>1</sup>, Vallaincourt, AM<sup>4</sup>, Quinn, JS<sup>1</sup>. <sup>1</sup>McMaster University, Department of Biology, Hamilton, ON, Canada, <sup>2</sup>The University of Regina, Department of Biology, Regina, SK, Canada, <sup>3</sup>Nutrition Centre, Metropolitan Toronto Zoo, Scarborough, ON, Canada, <sup>4</sup>Ontario Ministry of Natural Resources, Sport Fish Monitoring Program, Etobicoke, ON, Canada.
- #614 **GENERAL ENHANCEMENT OF MUTAGENIC POTENCY OF VARIOUS MUTAGENS DUE TO DELETED GENES IN THE  $\Delta$ uvrB STRAINS TA98 AND TA100 OF SALMONELLA COMPARED WITH STRAINS CONTAINING ONLY A POINT MUTATION IN *uvrB*.** Swartz, CD<sup>1</sup>, Parks, N<sup>2</sup>, Schaaper, RM<sup>3</sup>, DeMarini, DM<sup>2</sup>. <sup>1</sup>University of North Carolina, Chapel Hill, NC, United States, <sup>2</sup>Environmental Carcinogenesis Division, USEPA, Research Triangle Park, NC, United States, <sup>3</sup>Laboratory of Molecular Carcinogenesis, NIEHS, Research Triangle Park, NC, United States.
- #615 **PROTECTIVE EFFECT OF THE PROPOLIS AGAINST CHROMOSOMAL DAMAGE INDUCED BY DOXORUBICIN IN VIVO AND IN VITRO.** Tavares, DC<sup>1</sup>, Tonin, CCC<sup>1</sup>, Barcelos, GRM<sup>1</sup>, Silva, LF<sup>1</sup>, Takahashi, CS<sup>2</sup>, Bastos, JK<sup>2</sup>. <sup>1</sup>Universidade de Franca, Franca, SP, Brazil, <sup>2</sup>FFCLRP-Universidade de São Paulo, Ribeirão Preto, SP, Brazil, <sup>3</sup>FCFRP-Universidade de São Paulo, Ribeirão Preto, SP, Brazil.
- #616 **BIOMARKERS OF AIR POLLUTION EXPOSURE-STUDY IN POLICEMEN IN PRAGUE.** Topinka, J, Binkova, B, Sevastyanova, O, Chvatalova, I, Milcova, A, Lnenickova, Z, Suchankova, Z, Solansky, I, Sram, RJ. Institute of Experimental Medicine AS CR and Health Institute of Central Bohemia, Prague, Czech Republic.
- #617 **GENETIC POLYMORPHISMS AND ENVIRONMENTAL FACTORS INVOLVED IN GASTRIC CANCER IN TWO COLOMBIAN POPULATIONS.** Torres, MM<sup>1</sup>, Sicard, DM<sup>1</sup>, Silva, IZ<sup>1</sup>, Salej, J<sup>2</sup>, Groot, H<sup>1</sup>. <sup>1</sup>Universidad de los Andes, Bogotá, Colombia, <sup>2</sup>Hospital Militar Central, Bogotá, Colombia.
- #618 **APPLICATION OF THE ALKALINE COMET ASSAY IN MEASURING DNA REPAIR CAPACITY IN HUMAN POPULATIONS.** Trzeciak, AR<sup>1</sup>, Barnes, J<sup>1</sup>, Ejiogu, N<sup>3</sup>, Foster, K<sup>3</sup>, Zonderman, AB<sup>2</sup>, Evans, MK<sup>1</sup>. <sup>1</sup>DNA Repair Unit, Laboratory of Cellular and Molecular Biology, National Institute on Aging, National Institutes of Health, Baltimore, MD, United States, <sup>2</sup>Cognition Section, Laboratory of Personality and Cognition, National Institute on Aging, National Institutes of Health, Baltimore, MD, United States, <sup>3</sup>Health Disparities Research Section, Clinical Research Branch, National Institute on Aging, National Institutes of Health, Baltimore, MD, United States.
- #619 **THE FLEMISH HEALTH AND ENVIRONMENT BIOMONITORING PROGRAM: ASSOCIATIONS BETWEEN EXPOSURE OF NEONATES MEASURED IN CORD BLOOD AND CLINICAL PARAMETERS AT BIRTH.** Bruckers, L<sup>1</sup>, Neelen, V<sup>2</sup>, Koppen, G<sup>3</sup>, Bilau, M<sup>4</sup>, Van De Mierop, E<sup>2</sup>, Brits, E<sup>3</sup>, Goeyens, K<sup>5</sup>, Covaci, A<sup>6</sup>, Baeyens, W<sup>3</sup>, Schoeters, G<sup>3</sup>, van Larebeke, N<sup>4</sup>. <sup>1</sup>Limburgs Universitair Centrum, Diepenbeek, Belgium, <sup>2</sup>Provincial Institute for Hygiene, Antwerp, Belgium, <sup>3</sup>Flemish Institute of Technological Research, Mol, Belgium, <sup>4</sup>Ghent University, Ghent, Belgium, <sup>5</sup>Vrije Universiteit Brussel, Brussel, Belgium, <sup>6</sup>University of Antwerp, Antwerp, Belgium.
- #620 **A MODIFIED COMET-ASSAY TO ASSESS NUCLEOTIDE EXCISION REPAIR.** Langie, SAS, Godschalk, RWL, Knaapen, AM, Brauers, KJJ, Van Schooten, FJ. Maastricht University, Maastricht, Netherlands.
- #621 **NUTRACEUTICALS WITH ANTI-SKIN TUMOR ACTIVITY.** Villaseñor, IM, Bravo, NFC, Ortega, KJL, Simon, MKB, Villanueva, AMA. Institute of Chemistry, University of the Philippines, Diliman, Quezon City, Philippines.
- #622 **SEASONAL GENOTOXICITY BIOMONITORING OF THE GUAÍBA LAKE BASIN USING THE GOLDEN MUSSEL AS SENTINEL ORGANISM.** Villela, IV<sup>1</sup>, Oliveira, IM<sup>1</sup>, Silveira, J<sup>1</sup>, Silva, J<sup>2</sup>, Henriques, JAP<sup>2</sup>. <sup>1</sup>Centro de Biotecnologia Universidade federal do Rio Grande do Sul, Porto Alegre, RS, Brazil, <sup>2</sup>Curso de Biologia e Farmácia Universidade Luterana do Brasil, Canoas, RS, Brazil.

- #623 **MAMMALIAN CELL CYTOTOXICITY AND GENOTOXICITY OF NEW DRINKING WATER DISINFECTION BY-PRODUCTS.** *Wagner, ED<sup>1</sup>, Muellner, MG<sup>1</sup>, Richardson, SD<sup>2</sup>, Plewa, MJ<sup>1</sup>.* <sup>1</sup>University of Illinois at Urbana-Champaign, Urbana, IL, United States, <sup>2</sup>U.S. Environmental Protection Agency, Athens, GA, United States.
- #624 **SOMATIC MACROINDEL OCCUR FREQUENTLY IN YOUNG MICE.** *Wang, J<sup>1</sup>, Gonzalez, K<sup>1</sup>, Hill, K<sup>2</sup>, Tsai, B<sup>1</sup>, Scaringe, W<sup>1</sup>, Sommer, S<sup>1</sup>.* <sup>1</sup>City of Hope/Beckman Research Institute, Duarte, CA, United States, <sup>2</sup>University of Western Ontario, London, ON Canada, Canada.
- #625 **MUTATIONAL AND TRANSCRIPTIONAL RESPONSES OF STATIONARY- AND LOG-PHASE SALMONELLA TO MX: CORRELATION OF MUTATIONAL RESPONSE TO CHANGES IN GENE EXPRESSION.** *Ward, WO<sup>1</sup>, Swartz, C<sup>1</sup>, Porwollik, S<sup>2</sup>, Hanley, NM<sup>1</sup>, Warren, SH<sup>1</sup>, McClelland, M<sup>2</sup>, DeMarini, DM<sup>1</sup>.* <sup>1</sup>EPA, Research Triangle Park, NC, United States, <sup>2</sup>Sidney Kimmel Cancer Center, San Diego, CA, United States.
- #626 **PHOTOMUTAGENIC PROPERTY OF A FLAVORING MALTOL WITH UVA-IRRADIATION IN BACTERIAL CELLS.** *Watanabe-Akanuma, M<sup>1</sup>, Ohta, T<sup>2</sup>.* <sup>1</sup>Kureha Chemical Industry, Tokyo, Japan, <sup>2</sup>Tokyo Univ. of Pharmacy and Life Science, Hachioji, Tokyo, Japan.
- #627 **DNA-DAMAGE REDUCING EFFECTS OF QUERCETIN AND QUERCETIN-RICH FRUIT JUICE IN HUMAN LYMPHOCYTES.** *Wilms, LC, Kleinjans, JCS.* Maastricht University, Maastricht, Netherlands.
- #628 **MUTAGENESIS INDUCED BY BENZO[a]PYRENE WAS AGE-DEPENDENT IN MURINE SPERMATOGENIC CELLS AND GENERALLY LOWER THAN FOR LIVER.** *Xu, GX<sup>1</sup>, McMahan, CAM<sup>2</sup>, Walter, CAW<sup>1</sup>.* <sup>1</sup>Department of Cellular & Structural Biology, The University of Texas Health Science Center at San Antonio, San Antonio, TX, United States, <sup>2</sup>Department of Pathology, The University of Texas Health Science Center at San Antonio, San Antonio, TX, United States.
- #629 **THE EFFECT OF (-)-EPIGALLOCATECHIN GALLATE ON REACTIVE OXYGEN SPECIES INDUCED GENOTOXICITY.** *Yu, T-WY, Dashwood, RD.* Oregon State University, Corvallis, OR, United States.
- #630 **ANTI-GENOTOXIC EFFECT OF *Aloysia triphylla* INFUSION AGAINST ACRYLAMIDE-INDUCED DNA DAMAGE AS SHOWN BY THE COMET ASSAY TECHNIQUE.** *Zamorano-Ponce, E<sup>1</sup>, Morales, C<sup>1</sup>, Ramos, D<sup>1</sup>, Sepúlveda, C<sup>1</sup>, Cares, S<sup>1</sup>, Rivera, P<sup>1</sup>, Fernández, J<sup>1</sup>, Carballo, MA<sup>2</sup>.* <sup>1</sup>Laboratorio de Genética Toxicológica (GENETOX), Departamento de Ciencias Básicas, Facultad de Ciencias, Universidad del Bío-Bío, Chillán, Chile, <sup>2</sup>Citogenética y Genética Toxicológica, CIGETOX, Departamento de Bioquímica Clínica, Facultad de Farmacia y Bioquímica, Buenos Aires, Argentina.
- #631 **THE EFFECT OF SATURATED AND UNSATURATED FATTY ACIDS ON GENOTOXIC ACTIVITY OF FOOD MUTAGEN 2-AMINO-3-METHYLIMIDAZO[4,5-F]QUINOLINE (IQ).** *Zegura, B<sup>1</sup>, Duh, T<sup>2</sup>, Kac, J<sup>2</sup>, Mlinaric, A<sup>2</sup>, Filipic, M<sup>1</sup>.* <sup>1</sup>Department of Genetic Toxicology and Cancer Biology, National Institute of Biology, Ljubljana, Slovenia, <sup>2</sup>Faculty of Pharmacy, Department of Pharmaceutical Biology, University of Ljubljana, Ljubljana, Slovenia.
- #632 **INHIBITORY EFFECT OF GRAPE PROCYANIDINS ON ETHANOL-INDUCED ABNORMAL EXPRESSION OF APOPTOSIS-RELATING GENES IN RAT HEPATOCYTES.** *Zhong, JY, Duan, XY, Zhang, LH.* Nutrition Institute, Medical College of Qingdao University, Qingdao, Shandong, China.
- LB24 **INDUSTRIAL EMISSIONS AND HEALTH HAZARDS AMONG SELECTED INDUSTRY WORKERS AT ELEME, NIGERIA.** *Ana, Gree, Sridhar, MKC.* Department of Environmental Health Sciences, Faculty of Public Health, College of Medicine, Ibadan, Nigeria.
- LB25 **ROLE OF DNA DAMAGE CHECKPOINTS Chk1 AND Chk2 IN BRCA2-Rad51 INTERACTION.** *Bahassi, EM, Penner, G, Stambrook, P.* Department of Cell Biology, Neurobiology and Anatomy; University of Cincinnati, Cincinnati, OH, United States.
- LB26 **CHANGES IN FISHER RAT HEPATIC TRANSCRIPTOME DUE TO DIETARY EXPOSURE TO AROCLOR 1254.** *Basford, TM, Means, JC.* Department of Chemistry and Great Lakes Environmental and Molecular Science Center, Western Michigan University, Kalamazoo, MI, United States.

- LB27 **GENOTOXICITY OF SICK HOUSE SYNDROME AND ATOPIC DERMATITIS PATIENTS.** Lee, E<sup>1,2,3</sup>, Oh, E<sup>2</sup>, Lee, J<sup>2,3</sup>, Park, S<sup>2,3</sup>, Hong, E<sup>2,3</sup>. <sup>1</sup>Department of Preventive Medicine, School of Medicine, Korea University, Seoul, South Korea, <sup>2</sup>Medical Research Center for Toxicogenomics and Proteomics, School of Medicine, Korea University, Seoul, South Korea, <sup>3</sup>Department of Public Health, School of Medicine, South Korea University, Seoul, South Korea.
- LB28 **INCREASED DNA DAMAGE OF LYMPHOCYTES AND SPERM IN WASTE INCINERATION WORKERS.** Oh, E<sup>1</sup>, Lee, E<sup>1,2,3</sup>, Kim, Y<sup>1</sup>, Lee, J<sup>1,3</sup>, Lim, Y<sup>1</sup>, Sul, D<sup>1,4</sup>. <sup>1</sup>Medical Research Center for Toxicogenomics and Proteomics, School of Medicine, Korea University, Seoul, Korea, <sup>2</sup>Department of Preventive Medicine, School of Medicine, Korea University, Seoul, South Korea, <sup>3</sup>Department of Public Health, School of Medicine, Korea University, Seoul, South Korea, <sup>4</sup>Graduate School, Korea University, Seoul, South Korea.
- LB29 **ASSESSMENT OF ALKYL PHENOLS-INDUCED DNA DAMAGE BY COMET ASSAY AND QSAR ANALYSIS.** Liu, Z. Chinese Research Academy of Environmental Sciences, Beiyuan Andingmenwai, Beijing, China.
- LB30 **RESEARCH ON CHROMOSOMAL ABERRATIONS IN HUMAN SPERM AND LYMPHOCYTES EXPOSED TO LARGE-DOSE  $\gamma$ -RAY.** Lu, Y, Baohua, Fu, Yuhao, Chen. Department of Toxicology, Henan Institute of Occupational Medicine, Zhengzhou, P.R.China.
- LB31 **WITHDRAWN**
- LB32 **MICRONUCLEUS FREQUENCY IN CHILDREN ENVIRONMENTALLY EXPOSED TO LEAD.** Moreno-Godínez, ME<sup>1,2</sup>, Florencio-Rios, A<sup>1</sup>, Illades-Aguir, B<sup>1</sup>, Acosta-Saavedra, LC<sup>2</sup>, Cebrián, M<sup>2</sup>, Calderón-Aranda, ES<sup>2</sup>, Sordo, M<sup>3</sup>, Ostrosky-Wegman, P<sup>3</sup>. <sup>1</sup>Facultad de Ciencias Químico-Biológicas, Universidad Autónoma de Guerrero, Chilpancingo, Guerrero, México, <sup>2</sup>Toxicología, Centro de investigación y de Estudios Avanzados, México. DF, <sup>3</sup>Instituto de Investigaciones Biomédicas, Universidad Nacional Autónoma de México, México, DF.
- LB33 **WITHDRAWN**
- LB34 **BASIC RESEARCH RESULTS THAT DO NOT SUPPORT THE BEIR VII REPORT CONCLUSION REGARDING THE LINEAR-NO-THRESHOLD RISK HYPOTHESIS.** Scott, BR, Haque, M, Di Palma, J. Lovelace Respiratory Research Institute, Albuquerque, NM, United States.
- LB35 **EFFECTS OF LOW-DOSE  $\gamma$ -IRRADIATION ON NORMAL FIBROBLASTS AND KERATINOCYTES FROM CERVIX CANCER PATIENTS.** Slonina, D<sup>1</sup>, Biesaga, B<sup>1</sup>, Urbanski, K<sup>2</sup>, Kojs, Z<sup>2</sup>; Waligorski, M<sup>3</sup>. <sup>1</sup>Dept. of Radiation Biology, Centre of Oncology, Kraków, Poland, <sup>2</sup>Dept. of Gynaecological Oncology, Centre of Oncology, Kraków, Poland <sup>3</sup>Dept. of Medical Physics, Centre of Oncology, Kraków, Poland
- LB36 **METABOLISM OF THE FOOD ASSOCIATED CARCINOGEN 2-AMINO-1-METHYL-6-PHENYLIMIDAZO[4,5-b]PYRIDINE (PhIP) BY HUMAN INTESTINAL MICROBIOTA.** Vanhaecke, L<sup>1</sup>, Van Hoof, N<sup>2</sup>, Verstraete, W<sup>1</sup>. <sup>1</sup>Laboratory of Microbial Ecology and Technology (LabMET), Ghent University, Ghent, Belgium. <sup>2</sup>Department of Veterinary Public Health and Food Safety, Ghent University, Ghent, Belgium.
- LB37 **GENOTOXICITY OF N-NITROSO PROPOXUR TO HUMAN GASTRIC CELL IN CULTURE.** Wang, TC. Institute of Cellular and Organismic Biology, Academia Sinica, Taiwan.
- LB38 **INTER-LABORATORY VALIDATION OF THE GENTRONIX GREENSCREEN GC ASSAY: RESULTS FROM 66 REFERENCE COMPOUNDS.** Roberts, KJ<sup>1</sup>, Hastwell, PW<sup>1</sup>, Harvey, JS<sup>1</sup>, Billinton, N<sup>2</sup>, Walmsley, RM<sup>2</sup>, Rees, RW<sup>1</sup>. <sup>1</sup>GlaxoSmithKline Research and Development, Ware, Hertfordshire, United Kingdom, <sup>2</sup> Faculty of Life Sciences, University of Manchester, Manchester, United Kingdom.
- LB39 **GENOMIC INSTABILITY INDUCED BY LOW DOSES OF GAMMA RADIATION IN TK6 HUMAN LYMPHOBLASTS.** Gibbons, CF<sup>1,2</sup>, Kadhim, MA<sup>2</sup>, Grosovsky, AJ<sup>1</sup>. <sup>1</sup>University of California, Riverside, CA, United States, <sup>2</sup>Radiation and Genome Stability Unit, Medical Research Council, Harwell, Oxfordshire, United Kingdom.
- LB45 **CONSUMPTION OF BRUSSELS SPROUTS PROTECTS PERIPHERAL HUMAN LYMPHOCYTES AGAINST 2-AMINO-1-METHYL-6-PHENYLIMIDAZO[4,5-b]PYRIDIN.** Hoelzl, C<sup>1</sup>, Glatt, H<sup>2</sup>, Kollok, R<sup>2</sup>, Haidinger, G<sup>1</sup>, Kundi, M<sup>3</sup>, Chakraborty, A<sup>1</sup>, Bichler, J<sup>1</sup>, Ferk, F<sup>1</sup>, Knasmueller, S<sup>1</sup>. <sup>1</sup>Institute of Cancer Research, Medical University of Vienna, Vienna, Austria, <sup>2</sup>Department of Toxicology, German Institute of Human Nutrition (DIfE), Pottsdam-Rehbruecke, Germany, <sup>3</sup>Institute of Environmental Hygiene, University of Vienna, Vienna, Austria.

LB46 TOWARD THE CHARACTERIZATION OF THE MOLECULAR SIGNATURE AND MECHANISM OF ACTION OF THE ANTICANCER DRUGS BY GENE PROFILING. *Le Fhvre, A-C<sup>1,2</sup>*, Boitier, E<sup>1</sup>, Marchandeu, J-P<sup>1</sup>, Sarasin, A<sup>2</sup>, Thybaud, V<sup>1</sup>.  
<sup>1</sup>Sanofi aventis, Drug Safety Evaluation, Vitry-Sur-Seine Cedex, France, <sup>2</sup>Laboratory of Genetic Instability and Cancer, Institut Gustave Roussy, Villejuif, France.

**Tuesday, September 6, 2005**  
**3:00 PM–5:00 PM**  
**Seacliff A/B**

**EMERGING ISSUES SYMPOSIUM—RISK ASSESSMENT**

**COMPUTATIONAL TOXICOLOGY: AN ALTERNATIVE TO ANIMALS**

**Chairs:** *R. Daniel Benz*, US FDA, Rockville, MD, United States and *Philip N. Judson*, Lhasa, University of Leeds, Leeds, United Kingdom

- 3:00 PM #633 AN INTRODUCTION TO COMPUTATIONAL TOXICOLOGY  
*R. Daniel Benz*, US FDA, Rockville, MD, United States
- 3:20 PM #634 PREDICTIVE TOXICOLOGY METHODOLOGY AND PERFORMANCE  
*Edwin J. Matthews*, US FDA, Rockville, MD, United States
- 3:40 PM #635 PREDICTING PHARMACEUTICAL EFFICACY USING 3-D DESCRIPTORS  
*Josep R. Prous*, Prous Science, Barcelona, Spain
- 4:00 PM #636 USE OF SAR/QSAR IN EUROPE  
*Philip N. Judson*, Lhasa, University of Leeds, Leeds, United Kingdom
- 4:15 PM #637 MC4PC PREDICTION OF THE GENETIC TOXICITY POTENTIAL OF ORGANIC MOLECULES  
*Gilles Klopman*, MultiCASE, Beachwood, OH, United States
- 4:30 PM #638 PREDICTING MAXIMUM RECOMMENDED DAILY DOSE  
*Naomi Kruhlak*, US FDA, Rockville, MD, United States
- 4:45 PM #639 PREDICTING ABSORPTION, DISTRIBUTION, METABOLISM AND EXCRETION (ADME)  
*Michael B. Bolger*, SimulationsPlus, Lancaster, CA, United States

**Tuesday, September 6, 2005**  
**3:00 PM–5:00 PM**  
**Grand Ballroom A**

**EMERGING ISSUES SYMPOSIUM—MUTATIONAL MECHANISMS**

**DNA DAMAGE AND MUTATIONAL SPECIFICITY**

**Chairs:** *Kathleen A. Hill*, University Western Ontario, ON, Canada and *Gerald P. Holmquist*, City of Hope, Duarte, CA, United States

- 3:00 PM #640 NUCLEOTIDE EXCISION REPAIR RATES OF R-BAND, G-BAND AND C-BAND DNA IN MAMMALIAN CELLS  
*Gerald P. Holmquist*, City of Hope, Duarte, CA, United States
- 3:20 PM #641 ISSUES IN MUTAGENESIS EMERGING FROM IN VIVO ANALYSIS OF GERMLINE AND SOMATIC SPONTANEOUS MUTATIONS IN HUMAN AND MOUSE  
*Kathleen A. Hill*, University of Western Ontario, ON, Canada
- 3:40 PM #642 DNA ADDUCTS, MUTANT FREQUENCIES, TYPES OF MUTATIONS AND MICROARRAY GENE EXPRESSION PROFILES INDUCED BY ARISTOLOCHIC ACID IN KIDNEY AND LIVER OF BIG BLUE TRANSGENIC RATS  
*Nan Mei*, National Center for Toxicological Research, US FDA, Jefferson, AR, United States
- 4:00 PM #643 TRACING NUCLEOSIDE INCORPORATION AND ESTROGEN-DEPENDANT DNA OXIDATION IN MCF-7 BREAST CANCER CELLS USING ACCELERATOR MASS SPECTROMETRY  
*Paul T. Henderson*, Lawrence Livermore National Laboratory, Livermore Livermore, CA, United States
- 4:15 PM #644 DNA LESIONS INDUCED BY ULTRAVIOLET A AND B RADIATION IN HUMAN CELLS: COMPARATIVE ANALYSIS IN THE OVERALL GENOME AND THE P53 TUMOR SUPPRESSOR GENE  
*Ahmad Besaratinia*, City of Hope, Duarate, CA, United States
- 4:30 PM #645 DYNAMIC MITOCHONDRIAL DNA RESPONSES TO OXIDATIVE DAMAGE IN HUMAN CANCER CELLS  
*Junjian Z. Chen*, McGill University Health Center, Montreal, Quebec, Canada
- 4:45 PM #646 INHIBITION EFFECTS OF GREEN VEGETABLE OR FRUITS AGAINST 8-OH-dG INDUCED BY NITROPHENANTHRENE DERIVATIVES IN VITRO AND IN VIVO  
*Nobuyuki Sera*, Fukuoka Institute of Health and Environmental Sciences, Fukuoka, Japan





Tuesday, September 6, 2005

3:00 PM–5:00 PM

Seacliff C/D

**EMERGING ISSUES SYMPOSIUM—DNA REPAIR**

**ENDOGENOUS DNA DAMAGE: COMPARISON WITH ENVIRONMENTAL GENOTOXICANTS**

**Chairs:** *P.J. Brooks*, NIH, Bethesda, MD, United States and *David H. Phillips*, Institute of Cancer Research, Sutton, United Kingdom

- 3:00 PM #647 **WHAT MEASURING DNA DAMAGE DOES AND DOES NOT TELL US ABOUT CAUSES OF CANCER AND MUTATION**  
*David H. Phillips*, Institute of Cancer Research, Sutton, United Kingdom
- 3:20 PM #648 **TOXICOGENOMICS OF ENDEMIC NEPHROPATHY, AN ENVIRONMENTAL DISEASE**  
*Arthur P. Grollman*, SUNY Stony Brook, Stony Brook, NY, United States
- 3:40 PM #649 **BIOLOGICAL EFFECTS OF 8, 5'-CYCLOPURINES: A UNIQUELY TOXIC FORM FOR ENDOGENOUS OXIDATIVE DNA DAMAGE**  
*P.J. Brooks*, NIAAA, NIH, Bethesda, MD, United States
- 4:00 PM #650 **MEASUREMENT OF IN VIVO OXIDATIVE DNA DAMAGE BY LIQUID CHROMATOGRAPHY/MASS SPECTROMETRY**  
*Miral Dizdaroglu*, National Institute of Standards and Technology, Gaithersburg, MD, United States
- 4:15 PM #651 **GENOTOXICITY OF ARSENIC AND CADMIUM: OXIDATIVE DNA DAMAGE, DNA REPAIR, ZINC FINGER PROTEINS AND P53**  
*Tanja Schwerdtle*, Technical University of Berlin, Berlin, Germany
- 4:30 PM #652 **SPONTANEOUS DNA DAMAGE DUE TO MITOCHONDRIAL METABOLISM TRIGGERS CHECKPOINT ACTIVATION IN REPAIR DEFICIENT *Saccharomyces cerevisiae***  
*Wolfram Siede*, University of North Texas Health Science Center, Fort Worth, TX, United States
- 4:45 PM #653 **GENOME INSTABILITY CAUSED BY ENDOGENOUS NUCLEOTIDE LESIONS**  
*Tatsuo Nunoshiba*, Tohoku University, Sendai, Japan

Tuesday, September 6, 2005

3:00 PM–5:00 PM

Bayview

**EMERGING ISSUES SYMPOSIUM—MUTATIONAL MECHANISMS**

**GENE EXPRESSION AND GENOMIC CHANGES**

**Chairs:** *Cynthia A. Afshari*, Amgen, Thousand Oaks, CA, United States and *Keiji Wakabayashi*, Cancer Prevention Basic Research Project, Kyoto, Japan

- 3:00 PM #654 **CAN THE APPLICATION OF GENOMICS IMPACT THE DISCIPLINE OF GENETIC TOXICOLOGY?**  
*Cynthia A. Afshari*, Amgen, Inc., Thousand Oaks, CA, United States
- 3:20 PM #655 **ENDOGENOUS AND EXOGENOUS ORIGINS OF ABERRANT DNA METHYLATION**  
*Toshikazu Ushijima*, National Cancer Center Research Institute, Tokyo, Japan
- 3:40 PM #656 **GENE ALTERATIONS AND CHANGES OF GENE EXPRESSION IN COLON CARCINOGENESIS OF ANIMALS**  
*Keiji Wakabayashi*, Cancer Prevention Basic Research Project, Kyoto, Japan
- 4:00 PM #657 **PRELIMINARY VALIDATION OF A HIGH-THROUGHPUT MAMMALIAN IN VITRO GENOTOXICITY SCREENING ASSAY: GREENSCREEN TK**  
*Paul W. Hastwell*, GlaxoSmithKline, Hertfordshire, UK
- 4:15 PM #658 **CELL DIFFERENTIATION AND DOMINANT SIGNALING PATHWAY SIGNATURES IN THE MOLECULAR CLASSIFICATION OF HUMAN BREAST CANCER CELL LINES**  
*Cindy A. Wilson*, University of California Los Angeles, Los Angeles, CA United States
- 4:30 PM #659 **EFFECT OF P53 GENOTYPE ON GENE EXPRESSION PROFILES IN MURINE LIVER**  
*Suzanne M. Morris*, FDA/NCTR, Jefferson, AR, United States
- 4:45 PM #660 **PhIP-INDUCED GLOBAL CHANGES IN GENOME EXPRESSION IN HUMAN PROSTATE CELLS**  
*Chitra F. Manohar*, Lawrence Livermore National Laboratory, Livermore, CA, United States

Tuesday, September 6, 2005

3:00 PM–5:00 PM

Grand Ballroom B

**EMERGING ISSUES SYMPOSIUM—MUTATIONAL MECHANISMS**

**NEW TECHNOLOGIES IN MUTATIONAL ANALYSIS FOR GENOMIC AND GENETIC TOXICOLOGY STUDIES**

**Chairs:** *Rosalie K. Elespuru*, US FDA, Rockville, MD, United States and *Matthew E. Hurler*, Wellcome Trust Sanger Institute, Cambridge, United Kingdom

3:00 PM **HIGH-THROUGHPUT DNA SEQUENCE ANALYSIS**  
*Daixing Zhou*, Solexa Inc., Hayward, CA, United States

3:20 PM #661 **NEW ASSAYS FOR GERMLINE MUTATION: IDENTIFYING DE NOVO CHROMOSOMAL REARRANGEMENTS IN SPERM GENOMES**  
*Matthew E. Hurler*, Wellcome Trust Sanger Institute, Cambridge, United Kingdom

3:40 PM #662 **MEASUREMENT OF SOMATIC MUTATION LOAD IN HUMAN SOLID TISSUES**  
*Steve S. Sommer*, City of Hope, Duarte, CA, United States

4:00 PM #664 **STATISTICAL ISSUES ASSOCIATED WITH MICROARRAY-BASED GENOME PROFILING**  
*Ru Fang Yeh*, University of California, San Francisco, CA, United States

4:15 PM #665 **GENOTYPING SELECTION: MONITORING P53 MUTATIONS DURING TUMOR DEVELOPMENT**  
*Barbara L. Parsons*, NCTR, Jefferson, AR, United States

4:30 PM **SEARCHING FOR CAUSES OF HUMAN GENETIC DISEASE**  
*Rosalie K. Elespuru*, US FDA, Rockville, MD, United States

4:45 PM **GENE EXPRESSION PROFILING USING HIGH-DENSITY MICROARRAYS**  
*Alexander Kohlmann*, Roche Molecular Systems, Pleasanton, CA, United States

Tuesday, September 6, 2005

5:00 PM–5:30 PM

Grand Ballroom Foyer

**REFRESHMENT BREAK**

Tuesday, September 6, 2005

5:30 PM–6:15 PM

Grand Ballroom

**PLENARY LECTURE—JAN HOEIJMAKERS**

Introduction

*Toshihiro Ohta*, Secretary General of the Japanese Environmental Mutagen Society (JEMS), Tokyo University of Pharmacy and Life Science, Tokyo, Japan

**CANCER AND AGING**

*Jan Hoeijmakers*, Erasmus University, Rotterdam, Netherlands

**Wednesday, September 7, 2005**

Wednesday, September 7, 2005

7:30 AM–12:30 PM

Market Street Foyer

**REGISTRATION OPEN**

Wednesday, September 7, 2005

7:00 AM–8:30 AM

EDUCATION AND STUDENT AFFAIRS COMMITTEE

(Garden A/B)

HOLLAENDER COMMITTEE

(Marina Room)

GENOMICS AND NEW TECHNOLOGIES SPECIAL INTEREST GROUPS

(Seacliff C/D)

Wednesday, September 7, 2005

8:30 AM–9:15 AM

Grand Ballroom

**PLENARY LECTURE—EUGENIA DOGLIOTTI**

Introduction

*Silvio De Flora*, President of the 10<sup>th</sup> ICEM, University of Genoa, Italy

#666 **CELL-TYPE SPECIFICITY IN DNA DAMAGE RESPONSE: THE EXAMPLE OF SKIN CELLS**

*Eugenia Dogliotti*, Istituto Superiore di Sanità, Rome, Italy

Wednesday, September 7, 2005

9:15 AM–10:00 AM

Grand Ballroom

**PLENARY LECTURE—INDER M. VERMA**

Introduction

*C. K. K. Nair*, Representative of the Indian Environmental Mutagen Society (IEMS), Bhabha Atomic Research Centre, Mumbai, India

#667 **THE PROMISES AND PITFALLS OF GENE THERAPY**

*Inder M. Verma*, The Salk Institute, La Jolla, CA, United States

Tuesday



**Wednesday, September 7, 2005**

**10:00 AM–10:30 PM**

**Grand Ballroom Foyer**

**REFRESHMENT BREAK**

**Wednesday, September 7, 2005**

**10:30 AM–12:30 PM**

**Grand Ballroom B**

**CURRENT ISSUES SYMPOSIUM—ENVIRONMENTAL MUTAGENESIS/CARCINOGENESIS**

**ANIMAL MODELS FOR ENVIRONMENTAL CARCINOGENESIS AND PREVENTION**

**Chairs:** *Toby G. Rossman*, New York University, Tuxedo, NY, United States and *Silvio De Flora*, University Genoa, Genoa, Italy

**Sponsored by US EPA, Office of Research and Development**

10:30 AM #668 IDENTIFICATION OF HUMAN CANCER MODIFIER GENES USING MOUSE MODELS

*Allan Balmain*, University California, San Francisco, CA, United States

11:00 AM INFILTRATIVE IMMUNE REGULATION OF TUMOR ANGIOGENESIS

*Douglas Hanahan*, University California, San Francisco, CA, United States

11:30 AM #669 TRANSPLACENTAL CARCINOGENESIS BY ENVIRONMENTAL AGENTS

*Michael P. Waalkes*, NIEHS, Research Triangle Park, NC, United States

11:50 AM #670 THE HAIRLESS MOUSE MODEL FOR COCARCINOGENESIS AND CHEMOPREVENTION

*Toby G. Rossman*, New York University, Tuxedo, NY, United States

12:10 PM #671 PREVENTION OF TOBACCO AND UV CARCINOGENESIS

*Silvio De Flora*, University Genoa, Genoa, Italy

**Wednesday, September 7, 2005**

**10:30 AM–12:30 PM**

**Bayview**

**CURRENT ISSUES SYMPOSIUM—DNA REPAIR**

**APOPTOSIS: MECHANISMS AND THERAPEUTIC TARGETS**

**Chairs:** *Bernd Kaina*, University Mainz, Mainz, Germany and *Mats Ljungman*, University of Michigan, Ann Arbor, MI, United States

10:30 AM #672 DNA DAMAGE-TRIGGERED APOPTOSIS: CRITICAL LESIONS AND PATHWAYS

*Bernd Kaina*, University Mainz, Mainz, Germany

11:00 AM #673 ROLE OF APOPTOSIS IN CANCER THERAPY AND TISSUE TOXICITY  
*Andrei V. Gudkov*, Cleveland Clinic, Cleveland, OH, United States

11:30 AM #674 REGULATION OF DIFFERENTIATION AND APOPTOSIS BY GENOTOXIC STRESS

*Jean Y.J. Wang*, University of California, San Diego, CA, United States

11:50 AM #675 TRANSCRIPTION AS A THERAPEUTIC APOPTOSIS-INDUCING TARGET

*Mats Ljungman*, University of Michigan, Ann Arbor, MI, United States

12:10 PM #676 DNA DAMAGE AND REPLICATION INVOLVED IN UV-INDUCED APOPTOSIS IN DNA REPAIR DEFICIENT HUMAN CELLS

*Carlos F. Menck*, University Sao Paulo, Sao Paulo, Brazil

**Wednesday, September 7, 2005**

**10:30 AM–12:30 PM**

**Grand Ballroom A**

**CURRENT ISSUES SYMPOSIUM—DNA REPAIR**

**ENVISIONING DNA DAMAGE AND REPAIR**

**RESPONSES: STRUCTURAL BIOLOGY FROM ATOMS TO CELLS**

**Chairs:** *John A. Tainer*, The Scripps Research Institute, La Jolla, CA, United States and *Roland Kanaar*, Erasmus University, Rotterdam, Netherlands

10:30 AM #677 MULTI-PROTEIN REPAIR MACHINES: FROM MIRACLES TO MOLECULES

*John A. Tainer*, The Scripps Research Institute, La Jolla, CA, United States

11:00 AM #678 SUPRAMOLECULAR ASSEMBLIES FOR CELLULAR DNA REPAIR

*Claire Wyman*, Erasmus University, Rotterdam, Netherlands

11:30 AM #679 NONHOMOLOGOUS END-JOINGING BY CELL-FREE EXTRACTS

*Gilbert Chu*, Stanford University Medical Center, Stanford, CA, United States

11:50 AM #680 STRUCTURE AND MECHANISM OF *RecBCD*

*Dale B. Wigley*, London Research Institute, Hertfordshire, United Kingdom

12:10 PM #681 MANAGING DNA STRAND BREAKS: CRYSTAL STRUCTURES AND CATALYTIC SELECTIVITIES OF DNA LIGASES

*Tom Ellenberger*, Harvard Medical School, Boston, MA, United States

Wednesday, September 7, 2005

10:30 AM–12:30 PM

Seacliff C/D

**CURRENT ISSUES SYMPOSIUM—MUTAGENESIS AND HUMAN DISEASE****NUTRIGENOMICS: A SYSTEMS BIOLOGY APPROACH TO STUDYING GENE-DIET INTERACTIONS**

**Chairs:** *Lynn R. Ferguson*, University Auckland Medical School, Auckland, New Zealand and *Michael Fenech*, CSIRO, Adelaide, SA, Australia

**Sponsored by National Institutes of Health, Office of Dietary Supplements**

- 10:30 AM #682 **NUTRITIONAL GENOMICS: THE NEXT FRONTIER IN THE POST-GENOMIC ERA**  
*James Kaput*, UC Davis Centre of Excellence in Nutrigenomics, Davis, CA, United States
- 11:00 AM #683 **SEEING THE TREES IN THE FOREST: REDUCING THE DIMENSIONALITY OF COMPLEX DATASETS**  
*Kevin Dawson*, UC Davis Centre of Excellence in Nutrigenomics, Davis, CA, United States
- 11:30 AM #684 **FOLATE, MTHFR POLYMORPHISMS AND GENOME INSTABILITY**  
*Michael Fenech*, CSIRO, Adelaide, SA, Australia
- 11:50 AM **HUMAN DIVERSITY AND GENETIC EPIDEMIOLOGY**  
*Jose M. Ordovas*, USDA, Tufts University, Boston, MA, United States
- 12:10 PM #685 **UNCOUPLING GENE-DIET INTERACTIONS IN INFLAMMATORY BOWEL DISEASE**  
*Lynn R. Ferguson*, University Auckland Medical School, Auckland, New Zealand

Wednesday, September 7, 2005

10:30 AM–12:30 PM

Seacliff A/B

**CURRENT ISSUES SYMPOSIUM—RISK ASSESSMENT****TOXICO-INFORMATICS: EMERGING CAPABILITIES FOR IMPROVED PUBLIC DATA ACCESS AND EXPLORATION**

**Chairs:** *Ann M. Richard*, US EPA, Research Triangle Park, NC, United States and *Andrew Worth*, Institute for Health and Consumer Protection, Ispra, Italy

**Sponsored by National Institute of Environmental Health Sciences and US EPA National Center for Computational Toxicology**

- 10:30 AM #686 **TOXICO-CHEMOINFORMATICS: EMERGING CAPABILITIES FOR IMPROVED PUBLIC DATA ACCESS AND EXPLORATION**  
*Ann M. Richard*, US EPA, Research Triangle Park, NC, United States
- 11:00 AM #687 **OPEN-SOURCE TECHNOLOGIES FOR DATABASE PROCESSING AND ANALYSIS**  
*Marc C. Nicklaus*, NIH/NCI, Bethesda, MD, United States
- 11:30 AM #688 **A STANDARDIZED GENETIC TOXICITY DATABASE FOR IMPROVED (Q)SAR IN COLLABORATION WITH US FDA**  
*Chihae Yang*, Leadscope, Inc., Columbus, OH, United States
- 11:50 AM #689 **QSAR AND TOXICITY DATABASES WITHIN THE EUROPEAN UNION**  
*Andrew Worth*, Institute for Health and Consumer Protection, Ispra, Italy
- 12:10 PM #690 **BUILDING A TOXICOGENOMICS KNOWLEDGE BASE**  
*Michael D. Waters*, NIEHS, Research Triangle Park, NC, United States

Wednesday, September 7, 2005

**OPEN AFTERNOON (OPTIONAL TOURS)**

See page 10 for departure information.



## Thursday, September 8, 2005

Thursday, September 8, 2005

7:30 AM–1:30 PM

Market Street Foyer

### REGISTRATION OPEN

Thursday, September 8, 2005

7:00 AM–8:30 AM

2006 PROGRAM COMMITTEE MEETING, 2ND MEETING

(Garden AB)

IAEMS BUSINESS MEETING, 2ND MEETING

(Seacliff A/B)

Thursday, September 8, 2005

8:30 AM–9:15 AM

Grand Ballroom

### PLENARY LECTURE—TAKEHIKO NOHMI

Introduction

*Jia Cao*, Vice President of the Chinese Environmental Mutagen Society (CEMS), Third Military Medical University, Chongqing, P.R. China

#691 **ENVIRONMENTAL MUTAGENESIS: FROM MOLECULES TO MAN**

*Takehiko Nohmi*, NIHS, Tokyo, Japan

Thursday, September 8, 2005

9:15 AM–10:00 AM

Grand Ballroom

### PLENARY LECTURE—SAM H. WILSON

Introduction

*Malyn Chulasiri*, President of the Thai Environmental Mutagen Society (TEMS), Mahidol University, Bangkok, Thailand

#692 **ROLE OF POLYMERASES IN MUTAGENESIS AND DNA REPAIR**

*Sam H. Wilson*, NIEHS, Research Triangle Park, NC, United States

Thursday, September 8, 2005

10:00 AM–10:30 AM

Grand Ballroom Foyer

### REFRESHMENT BREAK

Thursday, September 8, 2005

10:30 AM–12:30 PM

Grand Ballroom A

### CURRENT ISSUES SYMPOSIUM—ENVIRONMENTAL MUTAGENESIS/CARCINOGENESIS

#### ENVIRONMENTAL FACTORS ASSOCIATED WITH HUMAN CANCER

Chairs: *Martina L. Veigl*, Case Western Reserve University, Cleveland, OH, United States and *Young-In Kim*, University Toronto, Toronto, ON, Canada

Sponsored by Berlex, Inc.

10:30 AM TBA

11:00 AM #694 **ENVIRONMENTAL FACTORS ASSOCIATED WITH HUMAN CANCER: BREAST CANCER**  
*P. David Josephy*, University Guelph, Guelph, ON, Canada

11:30 AM #695 **H2AX IS A MARKER OF NUCLEOTIDE EXCISION REPAIR AND DNA REPLICATION IN XERODERMA PIGMENTOSUM AND COCKAYNE SYNDROME**  
*James E. Cleaver*, University California, San Francisco, CA, United States

11:50 AM #696 **ENVIRONMENTAL FACTORS ASSOCIATED WITH COLON CANCER**  
*Young-In Kim*, University of Toronto, Toronto, ON, Canada

12:10 PM #697 **ENVIRONMENTAL ESTROGENS AS CANCER RISK FACTORS**  
*Suzanne E. Fenton*, US EPA, Research Triangle Park, NC, United States

Thursday

**Thursday, September 8, 2005**

**10:30 AM–12:30 PM**

**Seacliff C/D**

**CURRENT ISSUES SYMPOSIUM—ENVIRONMENTAL  
MUTAGENESIS/CARCINOGENESIS**

**ENVIRONMENTAL MUTAGENS IN WATER, SOIL, AND SEDIMENT**

**Chairs:** Takeshi Ohe, Kyoto Women's University, Kyoto, Japan and  
Kirby C. Donnelly, Texas A&M University, College Station, TX,  
United States

10:30 AM #698 **EPIDEMIOLOGY OF DRINKING WATER**  
*Kenneth Cantor, NIH/NCI, Bethesda, MD,  
United States*

11:00 AM #699 **MUTAGENS IN DRINKING WATER**  
*Michael J. Plewa, University of Illinois, Urban,  
IL, United States*

11:30 AM #700 **MUTAGENS IN SURFACE WATERS**  
*Tetsushi Watanabe, Kyoto Pharmaceutical  
University, Kyoto, Japan*

11:50 AM #701 **MUTAGENIC HAZARDS OF AQUATIC  
SEDIMENTS**  
*Guosheng Chen, Health Canada, Ottawa, ON,  
Canada*

12:10 PM #702 **GENOTOXICITY OF SOILS**  
*Kirby C. Donnelly, Texas A&M University,  
College Station, TX, United States*

**Thursday, September 8, 2005**

**10:30 AM–12:30 PM**

**Bayview**

**CURRENT ISSUES SYMPOSIUM—MUTATIONAL  
MECHANISMS**

**NEW FRONTIERS IN GERM-CELL RESEARCH**

**Chairs:** Carole L. Yauk, Health Canada, Ottawa, ON, Canada and  
Carol D. Swartz, US EPA, Research Triangle Park, NC United States

10:30 AM #703 **LONG-TERM EFFECTS OF EXPOSURE TO  
RADIATION**  
*Yuri E. Dubrova, University of Leicester,  
Leicester, United Kingdom*

11:00 AM #704 **MOLECULAR MECHANISMS OF  
PATERNALLY TRANSMITTED  
CHROMOSOMAL DAMAGE**  
*Francesco Marchetti, Lawrence Livermore  
National Laboratory, Livermore, CA, United  
States*

11:30 AM #705 **TRANS GENERATIONAL EPIGENETIC  
ACTIONS OF ENDOCRINE DISRUPTORS  
ON THE MALE GERM LINE**  
*Michael K. Skinner, Washington State University,  
Pullman, WA, United States*

11:50 AM #706 **THE CONSERVED PROTEIN-CODING  
TRANSCRIPTOME OF MAMMALIAN  
MALE GERM CELLS**

*Michael Primig, Biozentrum and Swiss  
Institute of Bioinformatics, Basel, Switzerland*

12:10 PM #707 **ROLE OF EPIGENETIC  
CHANGES IN RADIATION-  
INDUCED TRANSGENERATION  
CARCINOGENESIS**

*Olga Kovalchuk, University of Lethbridge,  
Lethbridge, AB, Canada*

**Thursday, September 8, 2005**

**10:30 AM–12:30 PM**

**Seacliff A/B**

**CURRENT ISSUES SYMPOSIUM—RISK ASSESSMENT  
RISK ASSESSMENT AND GENETIC TOXICOLOGY**

**Chairs:** Lutz Müller, Hoffmann-La Roche, Basel, Switzerland and  
Kerry L. Dearfield, US EPA, Washington, DC, United States

**Sponsored by Johnson & Johnson Pharmaceutical  
Research & Development**

10:30 AM #708 **INCORPORATION OF MOLECULAR  
ENDPOINTS INTO QUANTITATIVE  
CANCER RISK ASSESSMENTS**  
*R. Julian Preston, US EPA, Research Triangle  
Park, NC, United States*

11:00 AM #709 **RISK FROM LOW DOSE EXPOSURE  
TO GENOTOXINS—STRATEGY  
AND EXAMPLES FROM GENOTOXIC  
IMPURITIES IN DRUG SUBSTANCES**  
*Lutz Müller, Hoffmann-La Roche, Basel,  
Switzerland*

11:30 AM #710 **RISK ASSESSMENT OF METALS:  
COBALT AS AN EXAMPLE**  
*Micheline Kirsch-Volders, Free University  
of Brussels, Brussels, Belgium*

11:50 AM #711 **GERM CELL RISK ASSESSMENT OF  
ACRYLAMIDE**  
*Kerry L. Dearfield, USDA, Washington, DC,  
United States*

12:10 PM #712 **PATHOGEN INACTIVATION BY  
PHOTOCHEMICAL TREATMENT OF  
PLATELETS: GENOTOXICITY TESTING  
AND RISK ASSESSMENT**  
*Günter Speit, University of Ulm, Ulm, Germany*



**Thursday, September 8, 2005**

**10:30 AM–12:30 PM**

**Grand Ballroom B**

**CURRENT ISSUES SYMPOSIUM—MUTATIONAL MECHANISMS**

**TRANSLESION DNA SYNTHESIS**

**Chairs:** *Fumio Hanaoka*, Osaka University, Osaka, Japan and *Helle D. Ulrich*, London Research Institute, Herts, United Kingdom

10:30 AM #713 **TRANSLESION DNA SYNTHESIS IN 3D**  
*Wei Yang*, NIH/NIDDK, Bethesda, MD, United States

11:00 AM #714 **INTERPLAY BETWEEN DNA POLYMERASES AND ACCESSORY FACTORS DURING LESION BYPASS AND MUTAGENESIS**  
*Robert P. Fuchs*, CNRS, Illkirch, France

11:30 AM #715 **LAGGING-STRAND DNA SYNTHESIS AND GENOMIC STABILITY IN YEAST**  
*Motoshi Suzuki*, Nagoya University School of Medicine, Nagoya, Japan

11:50 AM #716 **CONTROL OF DNA DAMAGE TOLERANCE BY UBIQUITIN AND SUMO**  
*Helle D. Ulrich*, London Research Institute, Herts, United Kingdom

12:10 PM #717 **BIOCHEMICAL PROPERTIES OF DNA POLYMERASE ETA**  
*Fumio Hanaoka*, Osaka University, Osaka, Japan

**Thursday, September 8, 2005**

**1:00 PM–3:00 PM**

**Seacliff A/B**

**CURRENT ISSUES SYMPOSIUM—RISK ASSESSMENT**

**DECISION-MAKING WITH GENETIC TOXICITY DATA**

**Chairs:** *David J. Kirkland*, Covance Laboratories, Ltd., North Yorkshire, United Kingdom and *Marilyn J. Aardema*, Procter & Gamble, Cincinnati, OH, United States

**Sponsored by Covance, Inc.**

1:00 PM #718 **LESSONS FROM ANALYSES OF PREDICTION OF CARCINOGENICITY FROM GENOTOXICITY RESULTS**  
*David J. Kirkland*, Covance Laboratories, Ltd., North Yorkshire, United Kingdom

1:30 PM #719 **ROLE OF IN VIVO TRANSGENIC MUTATION MODELS IN GENOTOXICITY TESTING**  
*George R. Douglas*, Health Canada, Ottawa, ON, Canada

2:00 PM #720 **FDA POSITION ON INTERPRETATION OF POSITIVE GENOTOXICITY DATA**  
*David Jacobson-Kram*, US FDA, Rockville, MD, United States

2:20 PM #721 **USE OF GENETIC TOXICOLOGY DATA IN ESTABLISHING A CARCINOGENIC MODE OF ACTION**  
*Rita Schoeny*, US EPA, Washington, DC, United States

2:40 PM #721A **COMPARISON OF GENOTOXIC EFFECTS USING THE COMET ASSAY IN TISSUES OF FEMALE Cyp2E1<sup>-/-</sup> AND WILD-TYPE MICE TREATED WITH ACRYLAMIDE: EVIDENCE CONSISTENT WITH A GLYCIDAMIDE-MEDICATED EFFECT**  
*Leslie Recio*, Integrated Laboratory Systems, Research Triangle Park, NC, United States

**Thursday, September 8, 2005**

**1:00 PM–3:00 PM**

**Seacliff C/D**

**CURRENT ISSUES SYMPOSIUM—MUTAGENESIS AND HUMAN DISEASE**

**EPIGENETIC MECHANISMS LEADING TO HUMAN DISEASE**

**Chair:** *W. David Sedwick*, Case Western Reserve University, Cleveland, OH, United States and *Jeffrey M. Besterman*, MethylGene, Montreal, QC, Canada

1:00 PM #722 **EPIGENETICS, EVOLUTION, AND HEALTH**  
*Randy L. Jirtle*, Duke University, Durham, NC, United States

1:30 PM #723 **EPIGENETIC REPROGRAMMING: MECHANISMS AND CONSEQUENCES**  
*Victor V. Lobanenko*, NIH/NIAID, Bethesda, MD, United States

2:00 PM **HYPERMETHYLATION AND MECHANISMS OF GENE SILENCING IN CANCER**  
*James G. Herman*, Johns Hopkins University, Baltimore, MD, United States

2:20 PM #724 **MECHANISMS UNDERLYING DRUG-INDUCED EPIGENETIC HETEROGENEITY IN CANCER CELLS**  
*Martina Veigl*, Case Western Reserve University, Cleveland, OH, United States

2:40 PM #725 **EPIGENETIC REGULATION BY MG98 AND MGCD0103: FROM BENCH TO CLINIC**  
*Jeffrey M. Besterman*, MethylGene, Montreal, QC, Canada

Thursday

**Thursday, September 8, 2005**

**1:00 PM–3:00 PM**

**Grand Ballroom B**

**CURRENT ISSUES SYMPOSIUM—MUTAGENESIS  
AND HUMAN DISEASE**

**INHERITED DEFECTS, MUTAGENESIS, AND DNA REPAIR IN  
HUMAN NEUROLOGICAL DISEASE**

**Chairs:** *Cynthia T. McMurray*, Mayo Clinic, Rochester, MN, United States and *Keith W. Caldecott*, University Sussex, Brighton, United Kingdom

- 1:00 PM #726 **CHROMOSOMAL SINGLE-STRAND BREAK REPAIR AND NEURODEGENERATIVE DISEASE**  
*Keith W. Caldecott*, University Sussex, Brighton, United Kingdom
- 1:30 PM **WHEN DNA REPAIR BECOMES MUTAGENIC: OGG1 AND MSH2/MSH3 COOPERATE TO CAUSE CAG EXPANSION EVENTS AND NEURONAL TOXICITY IN HUNTINGTON'S DISEASE**  
*Cynthia T. McMurray*, Mayo Clinic, Rochester, MN, United States
- 2:00 PM #727 **DOUBLE-STRAND DNA BREAK REPAIR: IMPLICATIONS FOR OXIDATIVE DNA DAMAGE, NEURONS, AND AGING**  
*Michael R. Lieber*, University of Southern California, Los Angeles, CA, United States
- 2:20 PM #728 **UBIQUITIN-ACTIVATING ENZYME E1 CORRECTS THE IMPAIRMENT IN NUCLEOTIDE EXCISION REPAIR IN TERMINALLY DIFFERENTIATED CELLS**  
*Thierry Nospikel*, Stanford University, Stanford, CA, United States
- 2:40 PM #729 **ATAXIA TELANGIECTASIA: LINKING ATM AND DNA DAMAGE TO NEURODEGENERATION**  
*Peter J. McKinnon*, St. Jude Childrens Research Hospital, Memphis, TN, United States

**Thursday, September 8, 2005**

**1:00 PM–3:00 PM**

**Bayview**

**CURRENT ISSUES SYMPOSIUM—DNA REPAIR  
MODELS AND MECHANISMS FOR PROCESSING DNA DAMAGE**

**Chairs:** *John M. Essigmann*, MIT, Cambridge, MA, United States and *Robert H. Schiestl*, UCLA, Los Angeles, CA, United States

- 1:00 PM #730 **GENOTOXICITY AND REPAIR OF MODIFIED DNA BASES POSSIBLY RESPONSIBLE FOR SPONTANEOUS MUTAGENESIS**  
*John M. Essigmann*, MIT, Cambridge, MA, United States

- 1:30 PM #731 **GENETIC AND ENVIRONMENTAL EFFECTS OF NON-HOMOLOGOUS END JOINING**  
*Robert H. Schiestl*, UCLA, Los Angeles, CA, United States

- 2:00 PM #732 **TRANSCRIPTION PAST DNA ADDUCTS: BIOCHEMICAL AND COMPUTER MODELING STUDIES**  
*David A. Scicchitano*, New York University, New York, NY, United States

- 2:20 PM #733 **REGULATION OF HUMAN NUCLEOTIDE EXCISION REPAIR BY TUMOR SUPPRESSOR GENES**  
*James M. Ford*, Stanford University Medical School, Stanford, CA, United States

- 2:40 PM **UV-DDB-BASED UBIQUITIN LIGASE AND NUCLEOTIDE EXCISION REPAIR**  
*Vesna Rapic Otrin*, University of Pittsburgh Cancer Institute, Pittsburgh, PA, United States

**Thursday, September 8, 2005**

**1:00 PM–3:00 PM**

**Grand Ballroom A**

**CURRENT ISSUES SYMPOSIUM—DNA REPAIR  
POST-TRANSLATIONAL MODIFICATION OF DNA REPAIR  
ENZYMES**

**Chairs:** *Alan D. D'Andrea*, Harvard Medical School, Boston, MA, United States and *Jesper Q. Svejstrup*, London Research Institute, Herts, United Kingdom

- 1:00 PM #734 **FUNCTIONAL ASPECTS OF SUMOYLATION OF HUMAN THYMINE DNA GLYCOSYLASE IN BASE EXCISION REPAIR**  
*Roland Steinacher*, University of Basel, Basel, Switzerland

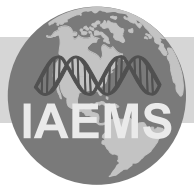
- 1:30 PM #735 **ACETYLATION OF DNA BASE EXCISION REPAIR PROTEINS IN MAMMALIAN CELLS**  
*Sankar Mitra*, University of Texas, Galveston, TX, United States

- 2:00 PM #736 **UBIQUITINATION OF DAMAGE RECOGNITION FACTORS INVOLVED IN NUCLEOTIDE EXCISION REPAIR**  
*Kaoru Sugasawa*, RIKEN Institute, Saitama, Japan

- 2:20 PM #737 **REGULATION OF THE FANCONI ANEMIA PATHWAY BY MONOUBIQUITINATION**  
*Alan D. D'Andrea*, Harvard Medical School, Boston, MA, United States

- 2:40 PM #738 **UBIQUITINATION AND DEGRADATION OF RNA POLYMERASE II DURING DNA DAMAGE**  
*Jesper Q. Svejstrup*, London Research Institute, Herts, United Kingdom





**Thursday, September 8, 2005**  
**3:30 PM–5:30 PM**  
**Marina Room**

**EMS COUNCIL MEETING**

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**Thursday, September 8, 2005**  
**6:30 PM–10:30 PM**  
**San Francisco City Hall**

**BANQUET (MUST HAVE TICKET)**

Transportation departs at 6:30 PM from Market Street Lobby.

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## Notes



# Exhibitors

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Internet: www.eems2006.org

36<sup>th</sup> Annual Meeting of the European Environmental Mutagen Society is held in Prague, Czech Republic in July 2-6, 2006 as an International Conference from Genes to Molecular Epidemiology. The major thematic areas include: Biomarkers and molecular epidemiology, DNA damage and repair, toxicogenomics, impact of genetic polymorphisms, oxidative stress, germ-cell mutagenesis.

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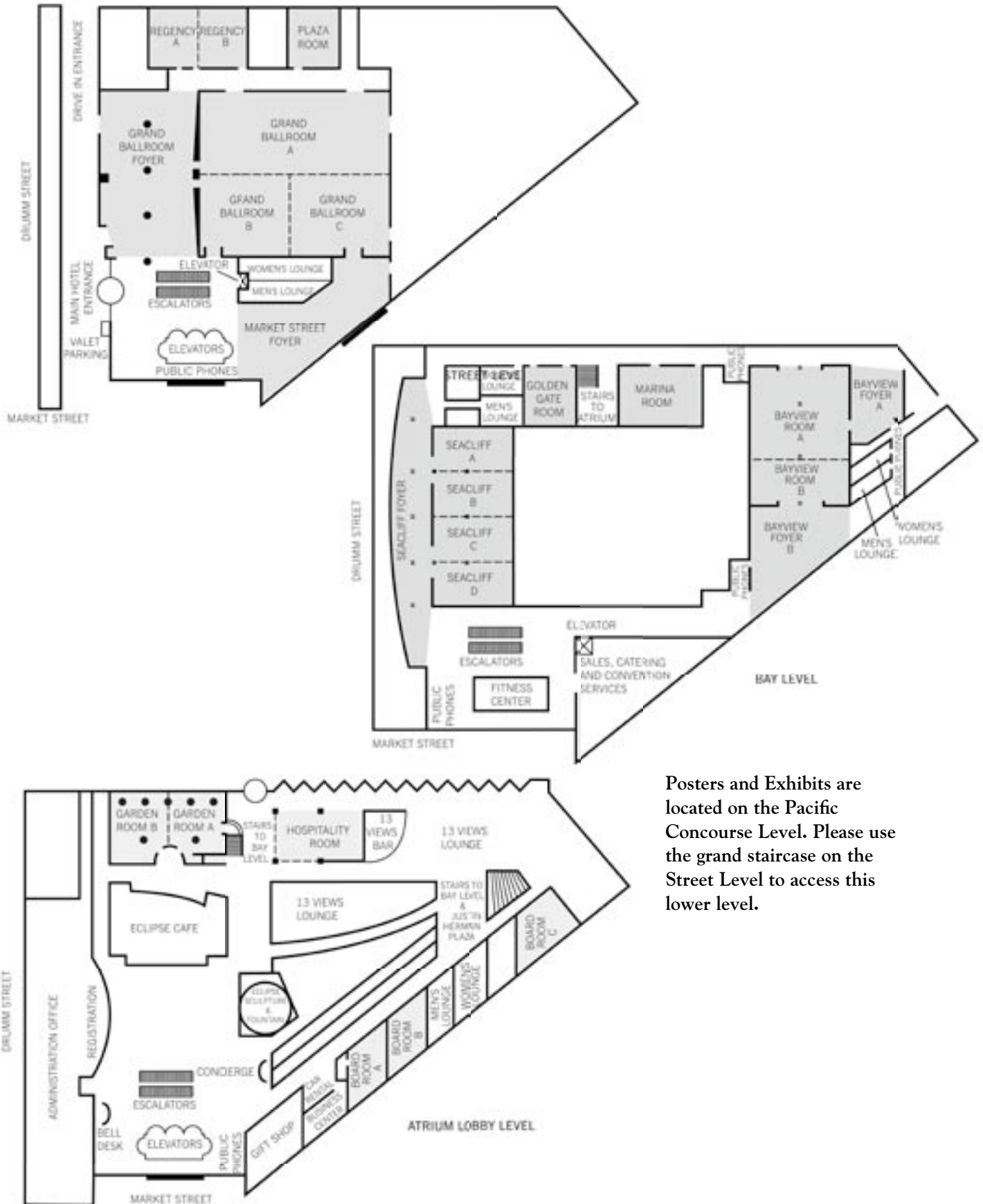
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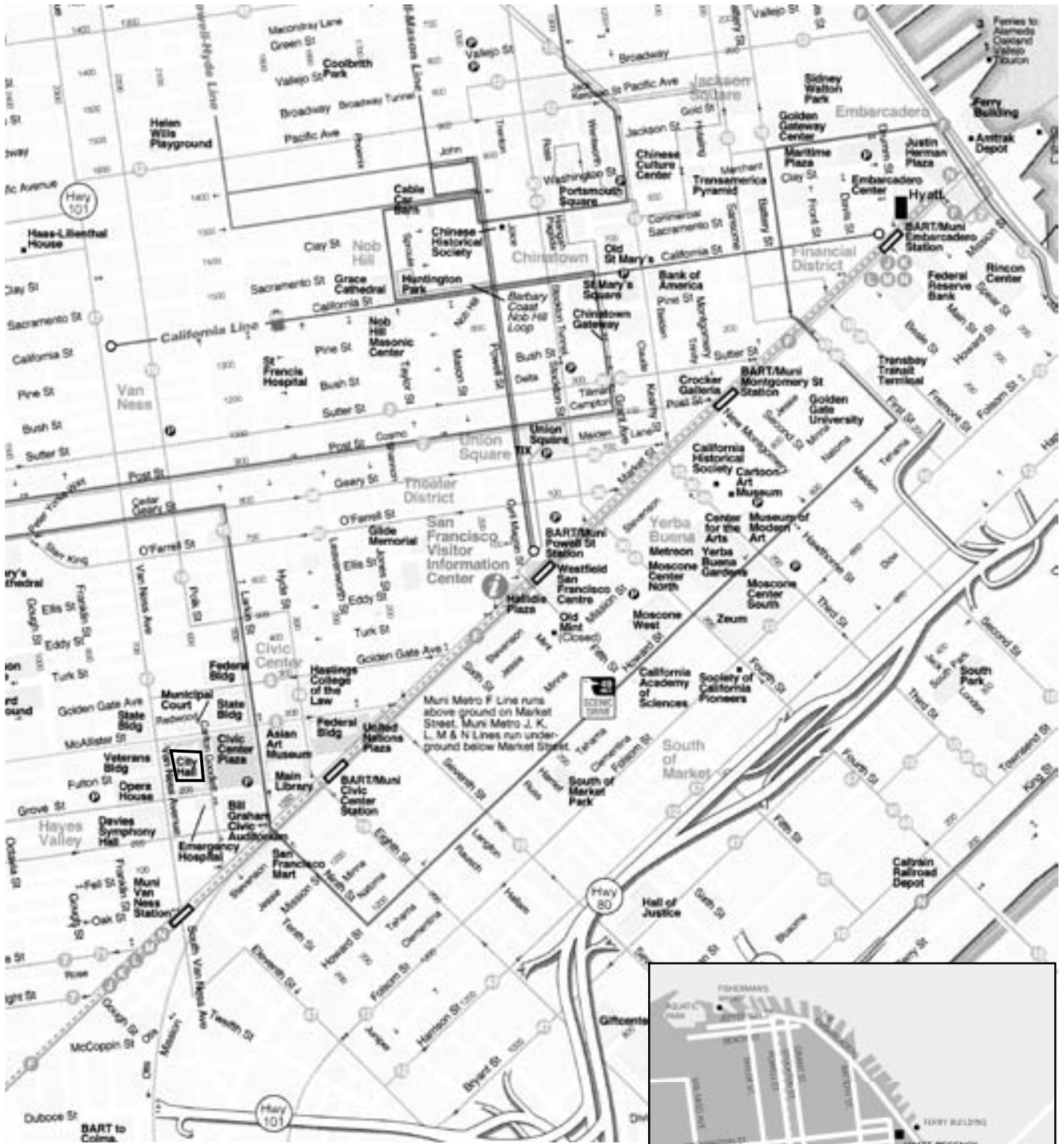
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# Map of Area

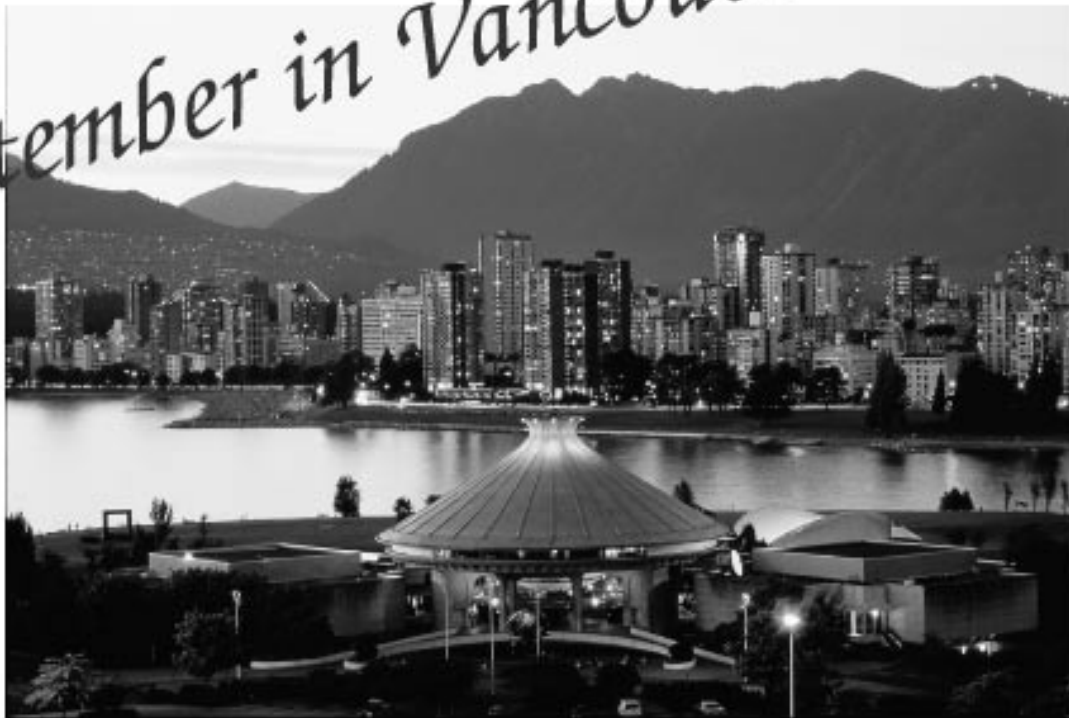


Maps

DETAIL OF AREA SURROUNDING HYATT



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