6th ICEM

SIXTH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL MUTAGENS

"Environment & Genes: Issues for the 21st Century"

CONFERENCE PROGRAMME

World Congress Centre
Melbourne, Australia

FEBRUARY 21 - 26 1993

The Sixth International Conference on Environmental Mutagens is proudly hosted by the Australia New Zealand Mutagen Society on behalf of the International Association of Environmental Mutagen Societies.

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ACKNOWLEDGEMENTS

The Sixth International Conference on Environmental Mutagens Steering Committee extends its sincere thanks to the following for their generous support:

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Thanks to Companies and Organisations who gave support towards specific Symposia or streams:

Department of Health & Community Services, Victoria	— Risk Assessment Stream
Glaxo Group Research Limited	— Positive In Vitro Cytogenetic Response Regulatory and Industry Perspectives
International Life Science Institute Australia	— The Practicalities of Risk Assessment
Merck & Co Inc, Rahway NJ USA, Research Laboratories	— Molecular Mechanisms of Mutagenesis
Parke Davis	— Positive In Vitro Cytogenetic Response Regulatory and Industry Perspectives
Proctor and Gamble Company	— International Regulatory Requirements for Mutagenicity Testing of New Chemical Entities — Cell Transformation — Transgenic Mice For Study of Mutagenesis
Sterling Winthrop	— Positive In Vitro Cytogenetic Response Regulatory and Industry Perspectives
American Industrial Health Council	— International Regulatory Requirements for MutagenicityTesting of New Chemical Entities
The Upjohn Company	— Positive In Vitro Cytogenetic Response Regulatory and Industry Perspectives
United States Environmental Protection Agency	— Female Reproduction and Genetic Risk
United Nations Environmental Program	— Global Consequences of Elevated Genetic Burdens from Exposure to Environmental Mutagens — Issues for Developing Nations
Wellcome Foundation	— International Regulatory Requirements for Mutagenicity Testing of New Chemical Entities

In addition to the Companies and Organisations listed above, we are most grateful to those that have funded the attendance of their representatives to the Conference, and equally, to those delegates paying their own way.

CONTENTS

Conference Venue:

World Congress Centre

The World Congress Centre is the venue for all scientific sessions, the Exhibition and some social events. In the heart of the city on the banks of the Yarra River, the World Congress Centre is well serviced with public transport and car parking. The Centra Melbourne on the Yarra Hotel is adjacent to the Centre and has direct access to the Congress Centre.

The Scientific Sessions will be held throughout three levels of the Congress. A floor plan is enclosed to assist in familiarising yourself with the venue.

In summary the levels are as follows:

LEVEL TWO:	Conference Tour Desk Centra Melbourne on the Yarra Hotel Foyer Latrobe Theatre — SYMPOSIA SESSION Howqua Room Press Room
LEVEL THREE:	Conference Registration Office Speakers Preparation Room John Batman Theatre — OPENING CEREMONY Atrium — Exhibition, Morning & Afternoon Teas Poster Presentations Access to Corryong Rooms — SYMPOSIA SESSION Public Catering Area
LEVEL FOUR:	Bellarine Six — SYMPOSIA SESSION

MESSAGES

A message facility will be set up for persons wishing to contact delegates during the meeting. Messages will be recorded at the Conference Registration Office and delegates should check regularly for messages.

The following contact details are important for leaving messages:

World Congress Centre Melbourne
Corner Spencer & Flinders Streets
Melbourne Victoria 3000

Telephone: (61 3) 613 4918
Facsimile: (61 3) 613 4919

WORLD TRADE CENTRE SHOPPING ARCADE

The World Congress Centre adjoins the World Trade Centre Arcarde. Services include a pharmacy, medical clinic, hair and beauty salon, florist, gymnasium, newsagency, banks, print and photocopy service, same day photography, restaurants, cafes and bars. Information regarding hours of operation are detailed in the General Information Section of the Programme.

Final Scientific Programme and Satellite Meetings

The theme of the Sixth International Conference on Environmental Mutagens is "Environment and Genes: Issues for the 21st Century".

The programme includes plenary lectures, symposia and poster presentations. The following pages offer a schedule of each day's activities and details of each session. The Steering Committee reserve the right to re-schedule sessions or replace speakers should the need arise.

There are four basic streams of symposia within the Programme:

Stream 1: Basic Mechanisms of Mutagenesis

Stream 2: Mutagens — Simple and Complex and Exposure through the Environment and Occupation

Stream 3: Human Effects — Birth Defects and Cancer

Stream 4: Regulatory Aspects of Mutagenesis — Test Development and Interpretation, Risk Assessment and Epidemiology

Generally four concurrent sessions run from 8.30am-10.00am, 10.30am-12.00pm, 2.00-4.00pm with two concurrent plenary lectures daily from 12.05-1.00pm.

Poster Presentations will be held on Monday, Tuesday and Thursday from 4.00-5.30pm with authors present during this time to discuss their work. Posters will be displayed from 8.30am each day to allow viewing time.

To complement this Programme, a number of Satellite Symposia have been scheduled. Details are enclosed.

SCIENTIFIC PROGRAMME

SUNDAY			
MONDAY	**9.30am-10.30am**	**10.30am-11.00am**	**11.00am-12.00pm**
	• Opening Ceremony John Batman Theatre	Morning Tea	• Plenary Lecture John Batman Theatre
TUESDAY	**8.30am-10.00am**	**10.00am-10.30am**	**10.30am-12.00pm**
	• Frameshift Mutations Corryong 1 • Diet Heterocyclic Amines 1 Corryong 3 • Germinal & Heritable Mutations in The Human & Other Mammals 1 Bellarine 6 • New Methods 1 Latrobe Theatre	Morning Tea	• Replication & Mutagenesis Corryong 1 • Diet Heterocyclic Amines 2 — Corryong 3 • Germinal & Heritable Mutations in the Human & Other Mammals 2 Bellarine 6 (10.30am-11.00am) • Germ Cell Mutations & the Risk of Cancer Bellarine 6 (11.00am-12.00pm) • New Methods 2 — Latrobe Theatre
WEDNESDAY	**8.30am-10.00am**	**10.00am-10.30am**	**10.30am-12.00pm**
	• Recombination/DNA Methylation 1 Corryong 1 • Indirect Mechanisms of Mutagenesis & Carcinogenesis 1 Corryong 3 • Mutation Spectra 1 Bellarine 6 • Positive In Vitro Cytogenetic Response Regulatory & Industry Perspectives 1 Latrobe Theatre	Morning Tea	• Recombination/DNA Methylation 2 Corryong 1 • Indirect Mechanisms of Mutagenesis Carcinogenesis 2 Corryong 3 (10.30am-11.30am) • Environment/Occupation 1 Corryong 3 (11.30am-12.00pm) • Mutation Spectra 2 — Bellarine 6 • Postive In Vitro Cytogenetic Response Regulatory & Industry Perspectives 2 Latrobe Theatre
THURSDAY	**8.30am-10.00am**	**10.00am-10.30am**	**10.30am-12.00pm**
	• DNA Repair Genes Corryong 1 • Environment/Occupation 2 Corryong 3 • Metabolism Genotoxicity Carcinogenesis 1 Latrobe Theatre • Genetic Risk Analysis Current Status & Future Directions 1 Bellarine 6 (8.30am-10.10am)	Morning Tea	• Inducible Responses to DNA Damage Corryong 1 • Environment/Occupation 3 Corryong 3 • Metabolism Genotoxicity Carcinogenesis 2 Latrobe Theatre • Genetic Risk Analysis Current Status & Future Directions 2 Bellarine 6 (10.40am-12.00pm)
FRIDAY	**8.30am-10.00am**	**10.00am-10.30am**	**10.30am-12.00pm**
	• Formation & Repair of Strand Breaks Corryong 1 • Nitrosamines Corryong 3 • UV & Skin Cancer 1 Latrobe Theatre • Intl Regulatory Requirements for Mutagenicity Testing of New Chemical Entities Bellarine 6 (8.00am-9.40am)	Morning Tea	• Directed Mutagenesis Corryong 1 (10.30am-11.30am) • Cell Transformation 1 Corryong 1 (11.30am-12.00pm) • Radiation/Radon 1 — Corryong 3 • UV & Skin Cancer 2 Latrobe Theatre • Intl Regulatory Requirements for Mutagenicity Testing of New Chemical Entities 2 Bellarine 6 (10.20am-12.00pm)

12.00pm-1.00pm		2.00pm-4.00pm	4.00pm-6.00pm
Registration		Registration	Registration
			5.00pm-7.00pm
			Aussie Welcome

12.00pm-1.00pm	1.00pm-2.00pm	2.00pm-4.00pm	4.00pm-5.30pm
• Plenary Lecture John Batman Theatre	Lunch	• Genome — Stable or Unstable Corryong 1 • Diet & Free Radicals John Batman Theatre • Female Reproduction & Genetic Risk — Corryong 3 • Transgenic Mice for Study of Mutagenesis — Latrobe Theatre	Poster Presentations **6.00pm-8.00pm** President's Reception

12.05pm-1.00pm	1.00pm-2.00pm	2.00pm-4.00pm	4.00pm-5.30pm
Concurrent Plenary Lectures Latrobe Theatre Bellarine 6	Lunch	• Molecular Mechanisms of Mutagenesis Corryong 1 • Antimutagenesis Bellarine 6 • Molecular Genetics of Cancer Corryong 3 • Aneuploidy as a Genotoxic Endpoint Latrobe Theatre	Poster Presentations

12.05pm-1.00pm	1.00pm-2.00pm	2.00pm-4.00pm	4.00pm-5.30pm
Concurrent Plenary Lectures Latrobe Theatre Bellarine 6	Lunch	Afternoon Free	

12.05pm-1.00pm	1.00pm-2.00pm	2.00pm-4.00pm	4.00pm-5.30pm
Concurrent Plenary Lectures Latrobe Theatre Bellarine 6	Lunch	• Heterogeneity of DNA Repair following UV Damage — Corryong 1 • Environment/Occupation 4 Corryong 3 • Inherited Predisposition to Cancer Latrobe Theatre • The Practicalities of Risk Assessment Corryong 5 (2.00pm-4.30pm) • Issues for Developing Countries Bellarine 6	Poster Presentations **6.00pm-11.00pm** Conference Dinner

12.05pm-1.00pm	1.00pm-2.00pm	2.00pm-4.00pm	4.00pm-5.30pm
Concurrent Plenary Lectures Latrobe Theatre Bellarine 6	Lunch	• Cell Transformation 2 Corryong 1 • Radiation/Radon 2 Corryong 3 • Human Biomonitoring Latrobe Theatre (2.00pm-4.05pm) • The Global Ecosphere & Environmental Mutagens Ballarine 6	Closing Ceremony Latrobe Theatre

12.00pm-1.00pm		2.00pm-4.00pm	4.00pm-6.00pm
Registration		Registration	Registration
			5.00pm-7.00pm
			Aussie Welcome

12.00pm-1.00pm	1.00pm-2.00pm	2.00pm-4.00pm	4.00pm-5.30pm
• Plenary Lecture John Batman Theatre	Lunch	• Genome — Stable or Unstable Corryong 1 • Diet & Free Radicals John Batman Theatre • Female Reproduction & Genetic Risk — Corryong 3 • Transgenic Mice for Study of Mutagenesis — Latrobe Theatre	Poster Presentations **6.00pm-8.00pm** President's Reception

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MONDAY FEBRUARY 22 1993

9.30am-10.30am — **OPENING CEREMONY — John Batman Theatre**

10.30am-11.00am — **MORNING TEA — ATRIUM**

11.00am-1.00pm — **PLENARY LECTURES — John Batman Theatre**
Chair: R Haynes, President IAEMS, Annual Reviews, USA

Understanding the Causes of Aging and Cancer (00352)
B Ames, University of California, USA
Carcinogens and Mutagens: Prioritisation of Hazards (00493)
J Ashby, ICI Central Toxicology Laboratory, UNITED KINGDOM

1.00pm-2.00pm — **LUNCH**

2.00pm-4.00pm — **THE GENOME — STABLE OR UNSTABLE? — Corryong 1**
Chair: L Loeb, University of Washington, USA
R Moore, Peter MacCallum Cancer Institute, AUSTRALIA

2.00pm-2.30pm — Instability in the Eucaryotic Genome (00420)
L Loeb, University of Washington, USA

2.30pm-3.00pm — Evolutionary Consequences of Genetic Instability (00028)
J Sved, Sydney University, AUSTRALIA

3.00pm-3.30pm — Genetic Regulation of Genomic Rearrangements in Normal and Neoplastic Cells (00470)
P Jonczyk, UNC Lineberger Comprehensive Cancer, USA

3.30pm-4.00pm — **A REPORT OF THE SATELLITE CONFERENCE — Corryong 1**
Molecular Basis of Chromosome Aberration (00469)
R Moore, Peter MacCallum Cancer Institute, AUSTRALIA

2.00pm-3.30pm — **DIET & FREE RADICALS — John Batman Theatre**
Chair: M Fenech, CSIRO, AUSTRALIA

2.00pm-2.30pm — Oxidative Damage to DNA Detected By 32p-Postlabelling (00425)
DH Phillips, Institute of Cancer Research, UNITED KINGDOM

2.30pm-3.00pm — Oxidants, Dietary Antioxidants and Degenerative Diseases (00494)
B Ames, University of California, USA

3.00pm-3.30pm — Formation of 8-Hydroxyguanine in DNA and its Repair in Mammalian Cells (00268)
H Kasai, National Cancer Centre Research Institute, JAPAN

3.30pm-4.00pm — Diet and Aromatic Amine Metabolism in Colorectal Cancer Poly and Control Patients (00311)
N Lang, University of Arkansas, USA

2.00pm-4.00pm — **FEMALE REPRODUCTION & GENETIC RISK — Corryong 3**
Chair: V Dellarco, US Environmental Protection Agency, USA
S Perrault, US Environmental Protection Agency, USA

2.00pm-2.30pm — Aspects of Folliculogenesis Conferring Resiliency or Vulnerability (00090)
A Hirshfield, University of Maryland, USA

2.30pm-3.00pm — Chromatin Remodelling in the Oocyte and Zygote (00340)
S Perreault, US Environmental Protection Agency, USA

3.00pm-3.30pm — Parental Imprinting in Human Gynecologic and Reproductive Disorders (00467)
G Mutter, Brigham and Women's Hospital, USA

3.30pm-4.00pm — Critical Female Exposures for Genetic and Developmental Effects (00466)
W Generoso, Oak Ridge National Laboratory, USA

2.00pm-4.00pm — **TRANSGENIC MICE FOR STUDY OF MUTAGENESIS — Latrobe Theatre**
Chair: R Albertini, University of Vermont, USA

2.00pm-2.20pm — Modern Trends in Animal Transgenesis (00448)
A Dunn, Ludwig Institute for Cancer Research, AUSTRALIA

2.20pm-2.40pm — Transgenic Mice and Rats for Selective and Non-Selective Screening of Mutations (00112)
J Short, Stratagene, USA

2.40pm-3.00pm — In Vivo Mutagenesis Assays at the lacZ Locus Using Positive Selection for Mutants from Mutamouse Tissues (00468)
B Myhr, Hazelton Washington, USA

3.00pm-3.20pm — Perspectives in Use of Transgenic Animals for Study of Mutagenesis In Vivo (00395)
H Malling, National Institute of Environmental Health Sciences, USA

3.20pm-4.00pm — A Data Update for the Big Blue Assay (00511)
J Ashby, ICI Central Toxicology Laboratory, UNITED KINGDOM

4.00pm-5.30pm — **POSTER PRESENTATIONS — ATRIUM**

TUESDAY FEBRUARY 23 1993

8.30am-10.00am **FRAMESHIFT MUTATIONS — Corryong 1**
Chair: L Ripley, New Jersey Medical School, USA

8.30am-9.00am Linking Frameshift Specificities to Mechanisms (00472)
L Ripley, New Jersey Medical School, USA

9.00am-9.30am Diverse Mechanisms Account for Frameshift Mutations That Revert the hisD3052 Allele of Salmonella typhimurium (00177)
D DeMarini, US Environmental Protection Agency, USA

9.30am-10.00am Frameshift Events Recovered In Vivo in Human Somatic Cells: Their Sequences and Likely Origins (00399)
B Glickman, University of Victoria, CANADA

8.30am-10.00am **DIET — HETEROCYCLIC AMINES 1 — Corryong 3**
Chair: S Thorgeirsson, National Cancer Institute, USA
J Felton, Lawrence Livermore National Laboratory, USA

8.30am-9.00am Prevalence and Mutagenic Activity of Hetrocyclic Amines in Foods (00360)
J Felton, Lawrence Livermore National Laboratory, USA

9.00am-9.30am Chemical Analysis of Dietary Heterocyclic Amines (00331)
S Murray, Royal Postgraduate Medical School, UNITED KINGDOM

9.30am-10.00am Metabolic Activation Pathway for PHIP-DNA Adduct Formation in Humans and Experimental Animals in Relation to Colon Carcinogenesis (00355)
F Kadlubar, National Centre for Toxicology Research, USA

8.30am-10.00am **GERMINAL & HERITABLE MUTATIONS IN THE HUMAN AND OTHER MAMMALS 1 — Bellarine 6**
Chair: M Mendelsohn, Radiation Effects Research Foundation, JAPAN

8.30am-9.00am Detection of Sex-Chromosomal and Autosomal Aneuploidies in Sperm by Fluorescence IN SITU Hybridization (00391)
A Wyrobek, Lawrence Livermore National Laboratory, USA

9.00am-9.30am A Pilot Study for the Detection of Mutations in the Children of Atomic Bomb Survivors (00105)
C Satoh, Radiation Effects Research Foundation, JAPAN

9.30am-10.00am Animal Data and the Estimation of Human Genetic Risk (00240)
J Favor, Institute fur Saugetiergenetik, GERMANY

8.30am-10.00am **NEW METHODS 1 — Latrobe Theatre**
Chair: J Heddle, York University, CANADA

8.30am-8.50am The New Development of Chromosome Painting Probes for the Mouse (00278)
J Tucker, Lawrence Livermore National Laboratory, USA

8.50am-9.10am The Alkaline Single Cell Gel (SCG) Assay: A Sensitive Technique for Evaluating DNA Damage in In Vitro and In Vivo Eukaryote Cell Systems (00141)
R Tice, Integrated Laboratory Systems Inc, USA

9.10am-9.30am Conversion of Excision-Repairable DNA Lesions to Micronuclei within One Cell in Human Lymphocytes (00330)
M Fenech, CSIRO, AUSTRALIA

9.30am-10.00am Accelerator Mass Spectrometry in Molecular Dosimetry: New Technology for Defining the Effects of Chemicals on DNA at Environmental Exposure (00357)
K Turteltaub, Lawrence Livermore National Laboratory, USA

10.00am-10.30am **MORNING TEA — ATRIUM**

10.30am-12.00pm **REPLICATION & MUTAGENESIS — Corryong 1**
Chair: T Kunkel, National Institute of Environmental Health Sciences, USA
K Negishi, Okayama University, JAPAN

10.30am-11.00am Fidelity of DNA Replication in Human Cell Extracts (00211)
T Kunkel, National Institute of Environmental Health Sciences, USA

11.00am-11.30am Mammalian DNA Polymerases: Mutant Enzymes Involved in Mutagenesis (00424)
L Loeb, University of Washington, USA

11.30am-12.00pm Structure Function Studies of DNA Polymerase I (Klenow Fragment) (00322)
C Joyce, Yale University, USA

10.30am-12.00pm **DIET — HETEROCYCLIC AMINES 2 — Corryong 3**
Chair: S Thorgeirsson, National Cancer Institute, USA
J Felton, Lawrence Livermore National Laboratory, USA

10.30am-11.00am Genetic Changes in Tumors Induced by Heterocyclic Amines (00216)
M Nagao, National Cancer Centre Research Institute, JAPAN

11.00am-11.30am Possible Relationship between Tissue Distribution of DNA Adducts and Genotoxicity of Heterocyclic Amines (00419)
S Thorgeirsson, National Cancer Institute, USA

11.30am-12.00pm Heterocyclic Amines: Extrahepatic Metabolism and Interactions with the Dioxin Receptor (00303)
E Overvik, Karolinska Institute, SWEDEN

10.30am-11.00am **GERMINAL & HERITABLE MUTATIONS IN THE HUMAN AND OTHER MAMMALS 2 — Bellarine 6**
Chair: M Mendelsohn, Radiation Effects Research Foundation, JAPAN

10.30am-10.45am Alterations in the Reproductive Patterns of Female Mice by Exposure to Xenobiotics (00027)
J Bishop, National Institute Environmental Health Sciences, USA

10.45am-11.00am Multiple-Endpoint Germinal Mutation Detection in The Mouse (00134)
S Lewis, Research Triangle Institute, USA

11.00am-12.00pm **GERM CELL MUTATIONS & THE RISK OF CANCER — Bellarine 6**
Chair: M Shelby, National Institute of Environmental Health Sciences, USA

11.00am-11.30am The Phenotypic Effects of Min: A Mutation in the Murine Apc Gene (00464)
A Moser, University of Wisconsin, USA

11.30am-12.00pm Experimental Evidence of an Induced Heritable Risk of Cancer (00496)
M Shelby, National Institute of Environmental Health S

10.30am-12.00pm **NEW METHODS 2 — Latrobe Theatre**
Chair: J Ford, Queen Elizabeth Hospital, AUSTRALIA
J Heddle, York University, CANADA

10.30am-10.50am Practical Usefulness of Cryopreserved Hamster Oocytes in the In Vitro Human Sperm Chromosome Assay (00401)
K Mikamo, Asahikawa College, JAPAN

10.50am-11.10am Sensitive Methods to Detect Mutations in Oncogenes and Tumor-Suppressor Genes before Tumor Appearance; Application to Mechanistic and Epidemiological Studies on Cancer Causation (00343)
H Yamasaki, International Agency for Research on Cancer, FRANCE

11.10am-11.30am New Sensitive Method for the Detection of Mutagenicities of Environmental Nitroarenes, Aromatic Amines and Alkyating Agents (00283)
T Nohmi, National Institute of Hygienic Sciences, JAPAN

11.30am-12.00pm The Chemical Cleavage Method as a Mutation Screening Method (00460)
RG Cotton, Royal Children's Hospital, AUSTRALIA

12.05pm-1.00pm **PLENARY LECTURES**
Chair: J Gentile, City of Hope Medical Centre, USA — **Bellarine 6**
Heritable Unstable DNA (00369)
G Sutherland, Womens Childrens Hospital, AUSTRALIA

Chair: C Roberts, ANZEMS President, Independent Consultant AUSTRALIA — **Latrobe Theatre**
Multiple Genetic Alteration and Multiple Step Carcinogenesis: Impact of the Concept on Environmental Mutagen Science (00186)
T Sugimura, National Cancer Centre, JAPAN

1.00pm-2.00pm **LUNCH**

2.00pm-4.00pm **MOLECULAR MECHANISMS OF MUTAGENESIS — Corryong 1**
Chair: R Fuchs, IBMC-CNRS, FRANCE
P Hanawalt, Stanford University, USA

2.00pm-2.30pm Carcinogen-Induced Frameshift Mutagenesis in Repetitive Sequences (00342)
R Fuchs, IBMC-CNRS, FRANCE

2.30pm-3.00pm Heat Induced Deamination of 5-Methylcytosine in DNA: Its Detection by a Genetic Method and Polymerase Chain Reaction (00058)
K Negishi, Okayama University, JAPAN

3.00pm-3.30pm Molecular Mechanisms for Preventing Mutations Due to Oxidation Damage (00107)
M Sekiguchi, Kyushu University, JAPAN

3.30pm-4.00pm What Controls Mutagenic Specificity for Bulky Carcinogens? (00088)
E Loechler, Boston University, USA

2.00pm-4.00pm **ANTIMUTAGENESIS — Bellarine 6**
Chair: D Shankel, University of Kansas, USA
Y Kuroda, Azabu University, Japan

Introduction Antimutagens — A Symposium (00400)
D Shankel, University of Kansas, USA

2.00pm-2.30pm Host-Addressed Strategies in the Prevention of Mutation-Related Diseases (00371)
S De Flora, University of Genoa, ITALY

2.30pm-3.00pm Formation of Mutagen Porphyrin Complex as a Mechanism in Antimutagenesis (00184)
H Hayatsu, Okayama University, JAPAN

3.00pm-3.30pm Natural Anti-Mutagenic Agents (00309)
L Mitscher, Univeristy of Kansas, USA

3.30pm-4.00pm Antimutagenicity Profiles (00150)
H Brockman, Illinois State University, USA

2.00pm-4.00pm **MOLECULAR GENETICS OF CANCER — Corryong 3**
Chair: M Garson, St Vincent's Hospital, AUSTRALIA

2.00pm-2.30pm Virus Infections Associated with Human Cancers (00497)
C Burrell, Institute of Medical and Veterinary Sciences, AUSTRALIA

2.30pm-3.00pm Molecular and Cellular Biology of Immortalization in Carcinogenesis (00124)
R Reddel, Childrens Medical Research Institute, AUSTRALIA

3.00pm-3.30pm Transgenic Mouse Models for Haemopoietic Neoplasia (00498)
S Cory, The Walter & Elizabeth Hall Institute, AUSTRALIA

3.30pm-4.00pm Molecular Genetics of Breast Cancer (00499)
R Sutherland, Garvin Institute of Medical Research, AUSTRALIA

2.00pm-4.30pm **ANEUPLOIDY AS A GENOTOXIC ENDPOINT — Latrobe Theatre**
Chair: ID Adler, Institut fur Saugetiergenetik, GERMANY

2.00pm-2.30pm Mechanisms of Aneuploidy Induction and Detection of Aneugens by Micronucleus Assays (00034)
ID Adler, Institut fur Saugetiergenetik, GERMANY

2.30pm-3.00pm Multicolor Fluorescence In Situ Hybridization to Detect Aneuploidy and Chromosome Breakage in the Interphase Cells and Micronuclei (00341)
D Eastmond, University of California, USA

3.00pm-3.30pm Observed and Implied Aneuploidy in Human Germ Cells (00210)
J Ford, The Queen Elizabeth Hospital, AUSTRALIA

3.30pm-4.00pm Numerical Aberrations of Chromosome 1 in Benign and Malignant Breast Tumours and Premaligant Cervical Smears (00002)
M Kirsch-Volders, Vrije University, BELGIUM

4.00pm-4.30pm Cytogenetic Studies on Sex Chromosome Elimination in Humans (00180)
J Nath, West Virginia University USA

4.00pm-5.30pm **POSTER PRESENTATIONS — ATRIUM**

WEDNESDAY FEBRUARY 24 1993

8.30am-10.00am **RECOMBINATION/DNA METHYLATION 1 — Corryong 1**
Chair: R Holliday, CSIRO, AUSTRALIA

8.30am-9.00am Molecular Characterization of the Werner Syndrome Hyperrec Phenotype (00036)
R Monnat, University of Washington, USA

9.00am-9.30am Title to be announced (00500)
M Radman, Institute Jacques Monod, FRANCE

9.30am-10.00am Exploring Genomic Stability in Saccharomyces Cerevisiae (00354)
R Rothstein, Columbia University, USA

8.30am-10.00 **INDIRECT MECHANISMS OF MUTAGENESIS & CARCINOGENESIS — Corryong 3**
Chair: A Murray, Flinders University, AUSTRALIA
J MacGregor, SRI International, USA

8.30am-9.00am Control of Gap Junction Permeability by Tumour Promoters and Growth Factors: Possible Molecular Mechanisms (00453)
A Murray, Flinders University, AUSTRALIA

9.00am-9.30am Aberrant Intercellular Communication as a Nongenotoxic Mechanism of Carcinogenesis (00193)
H Yamasaki, International Agency Research of Cancer, FRANCE

9.30am-10.00am Spontaneous Genetic Damage in Man:Presumptive Association with Nucleotide Pool and Cell Cycle Disturbances (00089)
J MacGregor, SRI International, USA

8.30am-10.00am **MUTATION SPECTRA 1 — Bellarine 6**
Chair: I Jones, Lawrence Livermore National Laboratory, USA
V Maher, Michigan State University, USA

8.30am-9.00am Insight into Molecular Spectrum of Mutations from Lesions Causing Human Genetic Disease (00276)
H Mohrenweiser, Lawrence Livermore National Laboratory, USA

9.00am-9.30am A Mouse Model for the Study of In Vivo Mutational Spectra Sequence Specificity of Ethylene at the HPRT Locus (00164)
T Skopek, University of North Carolina, USA

9.30am-10.00am Insights into the UV Hypermutability of XP Variant Cells (00182)
V Maher, Michigan State University, USA

8.30am-10.00am **POSITIVE IN VITRO CYTOGENETIC RESPONSE, REGULATORY AND INDUSTRY PERSPECTIVES 1 — Latrobe Theatre**
Chair: C Aaron, The Upjohn Company, USA
F Oleson, Pharmaceutical Research Institute, USA

Positive In Vitro Cytogenetic Responses: Regulatory and Industry Perspectives (00289)
C Aaron, The Upjohn Company, USA
Positive In Vitro Cytogenetic Response Regulatory Perspectives (00387)
L Muller, Federal Health Office, GERMANY
B Elliott, ICI Central Toxicology Laboratory, UNITED KINGDOM
S Venitt, The Royal Marsden Hospital, UNITED KINGDOM

10.00am-10.30 **MORNING TEA — ATRIUM**

10.30am-12.00pm **RECOMBINATION/DNA METHYLATION 2 — Corryong 1**
Chair: R Holliday, CSIRO, AUSTRALIA

10.30am-11.00am Non-Genotoxic Carcinogens and the Induction of Recombinations (00285)
R Fahrig, Fraunhofer Institute, GERMANY

11.00am-11.30am The Reality of Epimutations (00291)
R Holliday, CSIRO, AUSTRALIA

11.30am-12.00pm DNA Methylation as an Endogenous Mutagenic Process in Tumor Suppressor Genes (00368)
P Jones, University of Southern California, USA

10.30am-11.30pm **INDIRECT MECHANISMS OF MUTAGENESIS AND CARCINOGENESIS — Corryong 3**

10.30am-11.00am Genetic Consequences of Nucleotide Pool Imbalance (00465)
R Haynes, Annual Reviews, USA

11.00am-11.30am Deoxyribonculeotide Pool Imbalance and the Specificity of Alkylation Mutagenesis (00451)
B Kunz, University of Manitoba, CANADA

11.30am-12.00pm **ENVIRONMENT/OCCUPATION 1 — Corryong 3**
Chair: M Waters, US Environmental Protection Agency, USA
M Sorsa, Insitute of Occupational Health, FINLAND

11.30am-12.00pm Molecular Biomarkers in the Study of Environmental Cancer Aetiology: Information or Decoration (00443)
AJ McMichael, University of Adelaide, AUSTRALIA

10.30am-12.00pm **MUTATION SPECTRA 2 — Bellarine 6**
Chair: G Mohn, RIVM, THE NETHERLANDS
B Lambert, Karolinska Institute, SWEDEN

10.30am-10.55am HPRT Mutation Spectra in Human Populations (00054)
H Vrieling, State University Leiden, THE NETHERLANDS

10.55am-11.20am Spectrum of Mutations Present in the HPRT Gene of Human Lymphocytes of a Control Population (00277)
I Jones, Lawrence Livermore National Laboratory, USA

11.20am-11.40am HLA-A Mutations Studied by Southern Blotting and PCR (00384)
A Morley, Flinders Medical Centre, AUSTRALIA

11.40-12.00pm Mutational Spectra of Human In Vitro HPRT Mutations (00148)
J Nicklas, University of Vermont, USA

10.30am-12.00pm **POSITIVE IN VITRO CYTOGENETIC RESPONSE REGULATORY AND INDUSTRY PERSPECTIVES 2 — Latrobe Theatre**
Chair: C Aaron, The Upjohn Company, USA
F Oleson, Pharmaceutical Research Institute, USA
S Galloway, Merck Research Laboratory, USA

Positive In Vitro Cytogenetic Response. Regulatory and Industry Perspectives (00212)
M Hayashi, National Institute of Hygienic Sciences, JAPAN
A Carere, Institute Superiore di Sanita, ITALY
There is Life After Positive In Vitro Chromosomal Aberrations (00167)
LM Schechtman, US Food & Drug Administration, USA

12.05pm-1.00pm **PLENARY LECTURES**
Chair: P Lohman, University of Leiden, THE NETHERLANDS — **Latrobe Theatre**
Role of Gene Expression in DNA Repair (00326)
P Hanawalt, Stanford University, USA

Chair: M McManus, Queensland University, AUSTRALIA — **Bellarine 6**
Genetic Polymorphisms of Drug and Carcinogen Metabolism in Relation to Cancer Risk (00442)
U Meyer, Stanford University, USA

1.00pm-2.00pm **LUNCH**

Free Afternoon

ADDITIONAL WORKSHOP

8.30am-10.00am
10.30am-12.00pm **WORKSHOP ON MICROGEL ELECTROPHORESIS TECHNIQUES FOR DETECTING DNA DAMAGE IN SINGLE CELLS — Corryong 5**
Chair: R Tice, Integrated Laboratory Systems, USA

THURSDAY FEBRUARY 25 1993

8.30am-9.30am **DNA REPAIR GENES — Corryong 1**
Chair: L Thompson, Lawrence Livermore National Laboratory, USA

8.30am-9.00am Characterization of Human Genes Involved in Excision Repair and Strand Break Repair (00388)
H Thompson, Lawrence Livermore National Laboratory, USA

9.00am-9.30am Structural and Functional Relationships between DNA Repair Genes of Human and Yeast: ERCC5 and RAD2 (00403)
M McInnes, Los Almos National Laboratory, USA

9.30am-10.00am **MUTATION RESEARCH TRAVEL AWARD LECTURE**
Chair: F Sobels, Editor, Mutation Research, THE NETHERLANDS

9.30am-10.00am Molecular Mechanism of Transcription-Repair Coupling (00402)
C Selby, University of North Carolina, USA

8.30am-10.00am **ENVIRONMENT/OCCUPATION 2 — Corryong 3**
Chair: M Waters, US Environmental Protection Agency, USA
M Sorsa, Institute of Occupational Health, FINLAND

8.30am-9.00am Introduction to Biomarkers of Exposure and of Genotoxic Effects of Individual Agents and of Complex Mixtures (00351)
M Waters, US Environmental Protection Agency, USA

9.00am-9.30am Genotoxicity of Tamoxifen (00059)
D Phillips, Institute of Cancer Research, UNITED KINGDOM

9.30am-10.00am Multi-Endpoint Biomonitoring of Occupationally Exposed Populations (00250)
AD Tates, Sylvius Laboratory, THE NETHERLANDS

8.30am-10.00am **METABOLISM GENOTOXICITY, CARCINOGENESIS 1 — Latrobe Theatre**
Chair: F Gonzalez, National Cancer Institute, USA
D Davies, Royal Postgraduate Medical School, UNITED KINGDOM

8.30am-8.55am Role of Human Cytochromes P450 in Susceptibility to Environmentally Based Disease (00332)
F Gonzalez, National Cancer Institute, USA

8.55am-9.20am The Pharmacogenetics of Chemical Mutagenesis (00507)
B Penman, Gentest Corporation, USA

9.20am-9.40am UDP Glucuronosyltransferases and Carcinogen Metabolism (00356)
P Mackenzie, Flinders Medical Centre, AUSTRALIA

9.40am-10.00am Glutathione Transferases: Their Evolutionary Response to Environmental Challenges (00359)
P Board, John Curtin School of Medicine, AUSTRALIA

8.30am-10.10am **GENETIC RISK ANALYSIS: CURRENT STATUS & FUTURE DIRECTIONS 1 — Bellarine 6**
Chair: F de Serres, Research Triangle Institute, USA
U Ehling, Institut fur Saugetiergenetik, GERMANY

8.30am-8.40am Introduction
U Ehling, Institut fur Saugetiergenetik, GERMANY

8.40am-9.10am Assessing the Risk of Genetic Damange (00395)
P Lohman, Leiden University, THE NETHERLANDS

9.10am-9.40am The Need for a Harmonized Approach and the Information Requirements of the Regulator Responsible for Genetic Risk Decisions (00349)
K Dearfield, US Environmental Protection Agency, USA

9.40am-10.10am Future Directions in Genetic Risk Assesment (00385)
D Brusick, Hazelton Washington, USA

10.00am-10.30am **MORNING TEA — ATRIUM**

10.30am-12.00pm **INDUCIBLE RESPONSES TO DNA DAMAGE — Corryong 1**
Chair: G Walker, Massaschusetts Insitute of Technology, USA

10.30am-11.00am Intertwining of Regulation and Function in UV and Chemical Mutagenesis (00165)
G Walker, Massachusetts Institute of Technology, USA

11.00am-11.30am Modulation of DNA repair activity in Mammalian Cells Affecting Resistance Against Effects of Alkylating Agents (00323)
B Kaina, Institute of Genetics, GERMANY

11.30am-12.00pm Ionizing Radiation Activated DNA-Binding Protein in Human Cells (00404)
M Lavin, Queensland Institute of Medical Research, AUSTRALIA

10.30am-12.00pm **ENVIRONMENT/OCCUPATION 3 — Corryong 3**
Chair: M Waters, US Environmental Protection Agency, USA
M Sorsa, Institute of Occupational Health, FINLAND

10.30am-11.00am Predictability of Assays for Chromosome Damage (00416)
D Anderson, Bibra Toxicology International, UNITED KINGDOM

11.00am-11.30am Dose Monitoring and Risk Assesment of Endogeneous and Exogenous Carcinogens (00230)
M Tornqvist, Stockholm University, SWEDEN

11.30am-12.00pm Urban Air Pollution: Integration of Chemical and Biological Data (00389)
D DeMarini, US Environmental Protection Agency, USA

10.30am-12.00pm **METABOLISM GENOTOXICITY CARCINOGENESIS 2 — Latrobe Theatre**
Chair: F Gonzalez, National Cancer Institute, USA
D Davies, Royal Postgraduate Medical School, UNITED KINGDOM

10.30am-11.00am Enzymic Activation of Dietary Mutagenic Amines by Human Liver Enzymes In Vitro and In Vivo (00448)
DS Davies, Royal Postgraduate Medical School, UNITED KINGDOM

11.00am-11.30am Mutagenic Activation of Heterocyclic Amines in Human Tissues (00325)
M McManus, University of Queensland, AUSTRALIA

11.30am-12.00pm Use of Gene Transfer Techniques in Elucidating the Role of Sulfotransferases in the Activation and Inactivation of Mutagens (00172)
H Glatt, University of Mainz, GERMANY

10.40am-12.00pm **GENETIC RISK ANALYSIS: CURRENT STATUS & FUTURE DIRECTIONS 2 — Bellarine 6**
Chair: F de Serres, Research Triangle Institute, USA
U Ehling, Institut fur Saugetiergenetik, GERMANY

10.40am-10.50am Introduction
F de Serres, Research Triangle Park Institute, USA

10.50am-11.20am Discussion on the Use of Uncertainty (Safety) Factors in Genetic Risk Assesment (00397)
H V Malling, National Institute of Health Services, USA

11.20am-12.00pm A Method to Assess Gen/Tox Data and Rank Genotoxins (00183)
M Mendelsohn, Radiation Effects Research Foundation, JAPAN

12.05pm-1.00pm **PLENARY LECTURES**
Chair: D MacPhee, La Trobe University, AUSTRALIA — **Latrobe Theatre**
Spontaneous Mutation in the Context of Genetic Risk Assessment and Persisting Hypermutable Status (00161)
B Bridges, University of Sussex, UNITED KINGDOM

Chair: H Hayatsu, Okayama University, JAPAN — **Bellarine 6**
Environmental Mutagens as Causal Factors in Inherited Human Disease (00405)
HJ Evans, West General Hospital, UNITED KINGDOM

1.00pm-2.00pm **LUNCH**

2.00pm-4.00pm **HETEROGENEITY OF DNA REPAIR FOLLOWING UV DAMAGE — Corryong 1**
Chair: L Mullenders, Sylvius Laboratory, THE NETHERLANDS

2.00pm-2.30pm Genomic Heterogeneity of UV-Induced Repair and Chromatin Structure (00026)
L Mullenders, Leiden University, THE NETHERLANDS

2.30pm-3.00pm Repair at the Nucleosome Level (00272)
F Thoma, Institut fur Zellbiologie, SWITZERLAND

3.00pm-3.30pm V-Induced Damage and Repair Along Individual Nucleotide Sequences of a Human PGK-1 Gene (00305)
G Holmquist, City of Hope Medical Centre, USA

3.30pm-4.00pm Relationship between DNA Repair of UV Damage in Specific Genes and Molecular Mutation Spectra (00139)
A Van Zeeland, Leiden University, THE NETHERLANDS

2.00pm-4.15pm **ENVIRONMENT/OCCUPATION 4 — Corryong 3**
Chair: M Water, US Environmental Protection Agency, USA
M Sorsa, Institute of Occupational Health, FINLAND

2.00pm-2.30pm Genetic Damage and Repair in Stainless Steel Welders (00159)
L Knudsen, National Institute of Occupational Health, DENMARK

2.30pm-3.00pm Complex Exposure Monitoring and Epidemiology of Pesticide Applicators (00415)
A Abbondandolo, National Institute for Research on Cancer, ITALY

3.00pm-3.30pm Chromosome Aberrations, Sister Chromatid Exchanges and Micronuclei in Blood Lymphocytes of Power Lineman Exposed to 50 Hz Electric and Magnetic Fields (00109)
H Norppa, Institute of Occupational Health, FINLAND

3.30pm-4.00pm Human Genetic Biomonitoring — Applications and Ethical Issues in Occupational Studies (00108)
M Sorsa, Institute of Occupational Health, FINLAND

4.00pm-4.15pm Evaluation of Genotoxicity and Toxicity of 2-Methoxyethanol (00022)
W Au, University of Texas Medical Branch, USA

2.00pm-4.00pm **INHERITED PREDISPOSITION TO CANCER — Latrobe Theatre**
Chair: D Turner, Flinders University, AUSTRALIA

2.00pm-2.30pm Population Aspects of DNA Repair (00125)
J Hall, International Agency for Research on Cancer, FRANCE

2.30pm-3.00pm Single Gene Disorders Predisposing to Cancer (00267)
BW Stewart, University of New South Wales, AUSTRALIA

3.00pm-3.30pm Occupational Cancer: Getting it out of the Too-Hard Basket (00461)
D Kilpatrick, Kilpatrick & Associates, AUSTRALIA

3.30pm-4.00pm Genetic Predisposition to Cancer: Biological Determinism in a Social Context (00292)
D Turner, Flinders University, AUSTRALIA

2.00pm-4.30pm **THE PRACTICALITIES OF RISK ASSESSMENT — Corryong 5**
Chair: R Drew, ICI Australia, AUSTRALIA
C Roberts, ANZEMS President, Independent Consultant, AUSTRALIA

2.00pm-2.30pm Assessing Chemicals for Rodent Carcinogenic Bioassay (00478)
J Ashby, ICI Central Toxicology Laboratory, UNITED KINGDOM

2.30pm-3.00pm Understanding and Communicating Risk: Tension and Dilemma Between Experts and Ordinary People (00479)
S Gifford, Latrobe University, AUSTRALIA

3.00pm-3.30pm Electromagnetic Fields — What are the Risks? (00480)
A Wood, Swinburne University of Technology, AUSTRALIA

3.30pm-4.00pm Perspectives in Risk Assessment (00490)
R Baker, ICF Prop, AUSTRALIA

4.00pm-4.30pm Environmental Risk Assessment — Some Regulatory Issues (00491)
B Robinson, Environment Protection Authority, AUSTRALIA

2.00pm-4.00pm **ISSUES FOR DEVELOPING COUNTRIES — Bellarine 6**
Chair: P Ostrowsky, UNAM, MEXICO

2.00pm-2.20pm Issues for Developing Nations Universal vs Approaches for Environmental Protection (00492)
P Ostrowsky, UNAM, MEXICO

2.20pm-2.40pm Toxicological Geneticists: Society and Law in Developing Nations (00463)
N Bianchi, IMBICE, ARGENTINA

2.40pm-3.00pm Schistosomiasis and Praziquantel: Mutagenicity, Co-Mutagenicity and Antimutagenicity (00255)
W Anwar, Ain Shams University, EGYPT

3.00pm-3.20pm Mutagenesis Research in Brazil (00505)
C Takahashi, University of San Paulo FFRCP, BRAZIL

3.20pm-4.00pm Progress of Molecular and Environmental Research in China (506)
J Hsueh, Fudan University, PR OF CHINA

4.00pm-5.30pm **POSTER PRESENTATIONS — ATRIUM**

ADDITIONAL WORKSHOP

4.00pm-5.00pm **INDIVIDUAL PREDISPOSITION ON MUTAGENESIS AND CARCINOGENESIS — Corryong 1**

FRIDAY FEBRUARY 26 1993

8.30am-10.00am **FORMATION & REPAIR OF STRAND BREAKS — Corryong 1**
Chair: H Evans, Case Western Reserve University, USA

8.30am-9.00am DNA Double-Strand Break Rejoining & Radiation Sensitivity: A Review (00168)
H Evans, Case Western Reserve University, USA

9.00am-9.30am DNA Strand Break Formation by Oxidising Radicals (00018)
J Ward, University of California, USA

9.30am-10.00am Induction and Rejoining of DNA Double-strand Breaks (00282)
W Morgan, University of California, USA

8.30am-10.00am **NITROSAMINES — Corryong 3**
Chair: H Bartsch, International Agency for Research on Cancer, FRANCE

8.30am-9.00am Endogenously Formed N-Nitroso Compounds (NOC) and Nitrosating Agents in Human Cancer Etiology (00173)
H Bartsch, International Agency for Research on Cancer, FRANCE

9.00am-9.30am Liver Flukes and Cholangiocarcinoma: Associations between Infection (00398)
M Haswell-Elkins, Queensland Institute of Medical Research, THAILAND

9.30am-10.00am Endogenous Production of Nitric Oxide in Inflamed Tissues and its Involvement in Human Carcinogenesis (00219)
H Ohshima, International Agency for Research on Cancer, FRANCE

8.30am-10.00am **UV AND SKIN CANCER 1 — Latrobe Theatre**
Chair: R Kefford, Westmead Hospital, AUSTRALIA

8.30am-9.00am The Impact of Climate Change on UV Exposure (00509)
B Forgan, Bureau of Meteorology, AUSTRALIA

9.00am-9.30am Asssessing UV-Induced Genotoxicity (00145)
I Dreosti, CSIRO, AUSTRALIA

9.30am-10.00am UV Mutations in the p53 Gene in Human Skin Cancer (00140)
D Brash, Yale School of Medicine, USA

8.00am-9.40am **INTERNATIONAL REGULATORY REQUIREMENTS FOR MUTAGENICITY TESTING OF NEW CHEMICAL ENTITIES 1 — Bellarine 6**
Chair: D Kirkland, Hazelton Microtest, UNITED KINGDOM
M Aardema, Procter & Gamble Company, USA

8.00am-8.20am Overview of the International Regulatory Guidelines (00452)
A Auletta, US Environmental Protection Agency, USA

8.20am-8.40am Overview of European Guidelines for Genotoxicity Testing (00386)
L Muller, Institut fur Arneimittel, GERMANY

8.40am-9.00am Towards International Harmonization of Regulatory Requirements for Genotoxicity Testing: Overview of Japanese Guidelines (00266)
T Sofuni, National Institute of Hygienic Sciences, JAPAN

9.00am-9.20am Overview of Genotoxicity Guidelines in Australia (00473)
P Abbott, Department of Health Housing & Community Services, AUSTRALIA

9.20am-9.40am OECD Test Guidelines as the Basis of Mutual Acceptance of Data (00441)
H Koeter, OECD, FRANCE

10.00am-10.30am **MORNING TEA — ATRIUM**

10.30am-11.30pm **DIRECTED MUTAGENESIS — Corryong 1**
Chair: T Cebula, Food & Drug Adminstration, USA
G Grigg, Peptide Technology, AUSTRALIA

10.30am-11.00am Directed Mutation in the Histidine Operon of Salmonella Typhimurium (00023)
T Cebula, Food and Drug Administration, USA

11.00am-11.15am Global Regulatory Mechanisms and Spontaneous Mutation (00440)
D MacPhee, La Trobe University, AUSTRALIA

11.15am-11.30am Modulation of 9-Aminoacridine-Induced Mutagenesis in Salmonella Typhimurium (00418)
G Kopsidas, La Trobe University, AUSTRLIA

11.30am-12.00pm **CELL TRANSFORMATION 1 — Corryong 1**
Chair: J McCormick, Michingan State University, USA
R Reddel, Children's Medical Research Foundation, AUSTRALIA

11.30am-12.00pm Neoplastic Transformation of Human Fibroblasts in Culture A Multi Stepped Process (00227)
J McCormick, Michigan State University, USA

10.30am-11.30pm **RADIATION/RADON 1 — Corryong 3**
Chair: S Wolff, University of California, USA
W Lee, Louisana University, USA

10.3030am-11.00am Mechanisms for the Repair of Radon Induced Double Strand Breaks in Human Cells (00329)
L Mann, University of California, USA

11.00am-11.30pm Chromosomal Instability After Alpha-Particle Irradiation of Haemopoietic Stem Cells (00004)
E Wright, Medical Research Council, UNITED KINGDOM

10.30am-12.00pm **UV AND SKIN CANCER 2 — Latrobe Theatre**
Chair: R Kefford, Westmead Hospital, AUSTRALIA

10.30am-11.00am Molecular Genetics and DNA Repair in Hereditary Melanoma (00394)
R Kefford, Westmead Hospital, AUSTRALIA

11.00am-11.30am Epidemiology of Skin Cancer in Australian Populations (00422)
A Green, Queensland Institute of Medical Research, AUSTRALIA

11.30am-12.00pm UV and Skin Cancer: A Case Control Study of DNA Repair and Non-Melanotic Skin Cancer (00348)
D English, University of Western Australia, AUSTRALIA

10.20am-12.00pm **INTERNATIONAL REGULATORY REQUIREMENTS FOR MUTAGENICITY TESTING OF NEW CHEMICAL ENTITIES 2 — Bellarine 6**
Chair: D Kirkland, Hazelton Microtest, UK
M Aardema, Procter & Gamble Company, USA

10.20am-10.40am Comparison of Bacterial Mutation Assay Protocols (00335)
D Gatehouse, Glaxo Group Research Ltd, UNITED KINGDOM

10.40am-11.00am To be announced (00508)
C Aaron, The Upjohn Company, USA

11.00am-11.20am In Vitro Tests for Chromosomal Aberrations: Overview of International Test Protocol Requirements (00447)
S Galloway, Merck Research Laboratory, USA

11.20am-11.40am In Vivo Bone Marrow Micronucleus/Chromosome Aberration Tests (00213)
M Hayashi, National Institute of Hygienic Sciences, JAPAN

11.40am-12.00pm Comparison of Specific Genotoxicity Test Proctocols Overview on UDS Tests (00370)
S Madle, Federal Health Office, USA

12.05pm-1.00pm **PLENARY LECTURES**
Chair: A Morley, Flinders University, AUSTRALIA — **Latrobe Theatre**
Deciphering the Human Genome: Organisation, Disease, Mutation (00344)
A Carrano, Lawrence Livermore National Laboratory, USA

Chair: L Ferguson, University of Auckland, NEW ZEALAND — **Bellarine 6**
Somatic Mutations in Humans: Relevance as Biomarkers of Exposure and Surrogates for the Carcinogenic Process (00338)
R Albertini, University of Vermont, USA

1.00pm-2.00pm **LUNCH**

2.00pm-4.00pm **CELL TRANSFORMATION 2 — Corryong 1**
Chair: J McCormick, Michigan State University, USA
R Reddel, Children's Medical Research Foundation, AUSTRALIA

2.00pm-2.30pm Multistage Transformation In Vitro of Human Keratinocytes In Vitro by Sequential Mutational Events (00220)
N Fusenig, German Cancer Research Centre, GERMANY

2.30pm-3.00pm Synergy Between Chemical Carcinogens and DNA Tumor Viruses in Urogenital Carcinogenesis (00312)
C Reznikoff, University of Wisconsin, USA

3.00pm-3.30pm Syrian Hamster Embryo Cell Transformation — An In Vitro Screen For Chemical Carcinogens (00262)
R LeBoeuf, The Procter & Gamble Company, USA

3.30pm-4.00pm Chromosome Oncogene and Tumor Suppressor Gene Changes During Cell Transformation and After Transfection (00234)
W Au, University of Texas, USA

2.00pm-4.00pm **RADIATION/RADON 2 — Corryong 3**
Chair: S Wolff, University of California, USA
W Lee, Louisana University, USA

2.00pm-2.30pm Indications of Repair of Radon-Induced Chromosome Damage in Human Lymphocytes: An Adaptive Response Induced by Low Doses of X Rays (00199)
S Wolff, University of California, USA

2.30pm-3.00pm Kinetics of Lymphocyte Chomosome Aberrations in Human Exposures to Alpha Particles (00215)
M Sasaki, Kyoto University, JAPAN

3.00pm-3.30pm Goiania Radiation Accident: Results of Follow Up Studies (00358)
AT Natrajan, University of Leiden, THE NETHERLANDS

3.30pm-4.00pm Mutant Frequency in Peripheral Lymphocytes and Domestic Radon Concentrations (00160)
B Bridges, University of Sussex, UNITED KINGDOM

2.00pm-4.05pm **HUMAN BIOMONITORING — Latrobe Theatre**
Chair: M Akiyama, Radiation Effects Research Foundation, JAPAN
A Chen, Centre for Disease Control, USA

2.00pm-2.25pm Somatic Mutation Studies for the Monitoring of Radiation Exposures Including those of A-Bomb Survivors (00078)
M Akiyama, Radiation Effects Research Foundation, JAPAN

2.25pm-2.50pm Somatic Cell Mutations at the Glycophorin a Locus: Genotoxic Effectsfrom Ionizing Radiation and Mutagenic Chemicals (00041)
R Jensen, University of California, USA

2.50pm-3.15pm Human Biomonitoring and the 32p-Postlabelling Assay (00353)
R Gupta, University of Kentucky, USA

3.15pm-3.40pm Human Exposure to Carcinogenic Heterocyclic Amines (00187)
K Wakabayashi, National Cancer Centre Research Institute, JAPAN

3.40pm-4.05pm Molecular Epidemiology: A Tool for Environmental Health Studies (00153)
A Chen, Centres for Disease Control, USA

2.00pm-4.00pm **THE GLOBAL ECOSPHERE AND ENVIRONMENTAL MUTAGENS — Bellarine 6**
Chair: F de Serres, Research Triangle Insitute, USA

Introduction Ecological Consequences of Elevated Genetic Burdens from Exposure to Environmental Mutagens. Overview: Significance and Needs for the Program (00450)
F de Serres, Research Triangle Institute, USA

2.00pm-4.00pm Mutagenicity of Environmental Chemicals (00350)
M Waters, US Environmental Protection Agency, USA

2.30pm-3.00pm Monitoring Mutational Dynamics in the Esturarine and Marine Environment (00417)
S Sandhu, US Environmental Protection Agency, USA

3.00pm-3.30pm The Plant Bioassays to Provide the Early Warning Signals of the Presence of Hazardous Agents (00510)
F Wurgler, University of Zurich, SWITZERLAND

3.30pm-4.00pm The Use of Plant Bioassays to Provide the Early Warning Signals of the Presence of Hazardous Agents in the Environment (00339)
TH Ma, Western Illinois University, USA

4.00pm-4.30pm **CLOSING CEREMONY — Latrobe Theatre**

4.30pm-5.30pm **REFRESHMENTS — ATRIUM**

PLENARY SPEAKERS

MONDAY FEBRUARY 22 1993

PROFESSOR BRUCE N AMES
University of California, USA

Plenary Lecture:
OXIDATION, AGEING AND CANCER

Very well known throughout the world as the originator of the Salmonella /mammalian microsome test for mutagenicity of chemicals which was to become known as the Ames test, Professor Ames is currently conducting research on the significance of natural chemicals in our environment as potential causes of human cancer and other diseases. His basic thesis is that the role of synthetic chemicals has been greatly overstressed, and both oxidative damage and naturally-occurring chemicals ("nature's pesticides") are much more important causes of human disease than has previously been suspected.

DR JOHN ASHBY
ICI Central Toxicology Laboratory UK

Plenary Lecture:
CARCINOGENS AND MUTAGENS: PRIORITISATION OF HAZARDS

Dr John Ashby has been very prominent as an industrial advocate of mutagenicity testing of new and existing chemicals, and has carried out extensive research in the area. He is widely regarded as the leading industry spokesman in the field throughout the world, and has acted as a focus for development of methods and ideas during most of the time in which bacterial and other short term tests have been used in industrial R&D programmes.

TUESDAY FEBRUARY 23 1993

PROFESSOR GRANT SUTHERLAND
Department of Cytogenetics & Molecular Genetics
Women's & Children's Hospital, Australia

Plenary Lecture:
HEREDITARY UNSTABLE DNA

Professor Sutherland is Director of the Department of Cytogenetics and Molecular Genetics at the Women's and Children's Hospital, Adelaide, South Australia. His research over the last twenty years has concentrated on fragile sites on human chromosomes. One of these was recently cloned and shown to be due to a new genetic mechanism, heritable unstable DNA. Other research has included a major commitment to the human genome project and his group has made major contributions to the mapping of human chromosome 16.

PROFESSOR TAKASHI SUGIMURA
President Emeritus
National Cancer Centre, Japan

Plenary Lecture:
MULTIPLE GENETIC ALTERATION AND MULTIPLE STEP CARCINOGENESIS: IMPACT OF THE CONCEPT ON EVOLUTION OF ENVIRONMENTAL MUTAGENS

Professor Sugimura was until recently President of the National Cancer Centre, Tokyo and is now the President Emeritus of that Centre. He graduated from the University of Tokyo, and for ten years was Director of the National Cancer Centre Research Institute in Tokyo. Amongst his many scientific discoveries and achievements are the demonstration of the carcinogenicity of N-methyl-N'-nitrosoguanidine, of AF-2 (a nitrofuran food additive once used in Japan), and a series of mutagenic and carcinogenic heterocyclic amines produced by cooking. He also discovered a number of new tumour promoters, including protein kinase C activators, and two new oncogenes HST and K-SAM. His proposal of 12 points of lifestyle improvements for cancer prevention have been widely promulgated. He is a member of the Japan Academy, and International honours include a Foreign Associate of the National Academy of Sciences, USA, and a Foreign Member of both the Royal Swedish and Royal Netherlands Academies.

WEDNESDAY FEBRUARY 24 1993

PROFESSOR PHILLIP HANAWALT
Department of Biological Sciences, Stanford University, USA

Plenary Lecture:
ROLE OF GENE EXPRESSION IN DNA REPAIR

Professor Hanawalt is one of the original workers in the field of DNA repair, and has contributed a great deal to our knowledge of mechanisms of DNA repair and mutagenesis in mammalian cells. His recent pioneering work on the effects of gene expression on the induction of mutations in mammalian cells is recognised as being of great potential significance in a whole range of practical situations.

PROFESSOR U MEYER
Stanford University, USA, University of Basle, Switzerland

Plenary Lecture:
GENETIC POLYMORPHISMS OF DRUG AND CARCINOGEN METABOLISM IN RELATION TO CANCER RISK

Professor Meyer has an international reputation in the field of pharmaco-genetics, particularly in the genetic regulation of cytochrome P-450 and N-acetyl transferase and the importance of this for the metabolism of drugs and carcinogens.

THURSDAY FEBRUARY 25 1993

PROFESSOR BRYN A BRIDGES
Medical Research Council Cell Mutation Unit, Sussex, UK

Plenary Lecture:
SPONTANEOUS MUTATIONS IN THE CONTEXT OF GENETIC RISK OF ASSESSMENT AND PERSISTING HYPERMUTABLE STATUS

Professor Bridges has worked extensively on the mechanisms involved in both radiation and chemically induced mutagenesis, and indeed developed the first bacterial tests for mutagenicity some twenty five years ago. He is very active in providing advice to the UK and other Governments on matters affecting mutation and disease, especially in the areas of foods, pesticides, cosmetics and pharmaceutical compounds. He is a former President of the International Commission for Protection against Environmental Mutagens and Carcinogens, and has served on numerous other international committees which provide advice on environmental mutagenesis in the broadest aspect.

PROFESSOR H J EVANS
Medical Research Council Human Genetics Unit, University of Edinburgh, UK

Plenary Lecture:
ENVIRONMENTAL MUTAGENS AS CASUAL FACTORS IN INHERITED HUMAN DISEASE

Professor John Evans is known primarily for his work on the effects of radiation and chemicals on chromosome structure and function in mammalian cells in vitro and in animals and humans in vivo. Basic human cytogenetic techniques and chromosome aberrations are of special interest to Professor Evans, and his plenary talk will almost certainly reflect this long term interest.

FRIDAY FEBRUARY 26 1993

DR A CARRANO
Human Genome Centre
Lawrence Livermore National Laboratory, USA

Plenary Lecture:
DECIPHERING THE HUMAN GENOME: ORGANISATION, DISEASE, MUTATION

Dr Carrano worked for many years using cytogenetics to study genotoxic effects and localize DNA repair genes. More recently he has played a prominent role in the Human Genome project both in development of new techniques and in leading the detailed study of chromosome 19.

PROFESSOR RICHARD ALBERTINI
University of Vermont, USA

Plenary Lecture:
SOMATIC MUTATIONS IN HUMANS: RELEVANCE AS BIOMARKERS OF EXPOSURE AND SURROGATES FOR THE CARCINOGENIC PROCESS

Professor Albertini is widely respected for his work on spontaneous and chemically induced mutations in mammalian cell genes, and for extensive characterisation of the types of mutations and the sequences involved in particular new phenotypes. His work on DNA adducts and other aspects of cancer induction in humans is also very highly regarded.