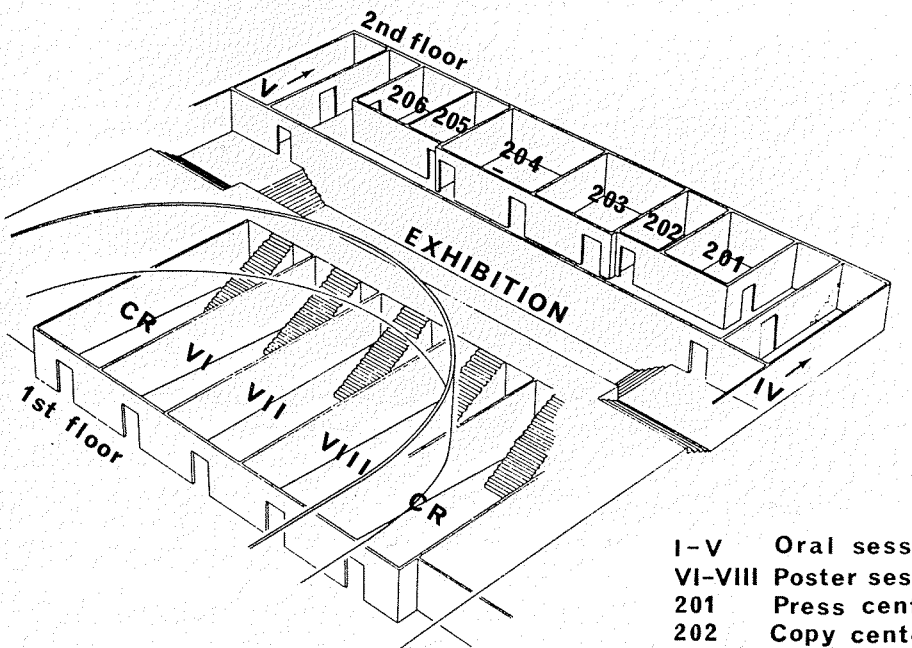
E. ZEIGER

FOURTH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL MUTAGENS

STOCKHOLM JUNE 24–28 1985

PROGRAMME

STOCKHOLM 1985 4TH ICEM



I-V	Oral sessions
VI-VIII	Poster sessions
201	Press center
202	Copy center
203	Slide center
204	Manuscript center
205, 206	Exhibitions
CR	Cloakroom

NORDIC ENVIRONMENTAL MUTAGEN SOCIETY

has the pleasure to invite you to the

FOURTH INTERNATIONAL CONFERENCE ON ENVIRONMENTAL MUTAGENS

STOCKHOLM JUNE 24–28 1985

SATELLITE SYMPOSIA

Satellite Symposia will be arranged in other Nordic countries on specific topics, before and after the main conference.

Copenhagen, Denmark, June 19–22, 1985
Genetic Toxicology of the Diet
Chairman: Ib Knudsen, Copenhagen

Helsinki, Finland, June 30–July 2, 1985
Monitoring of Occupational Exposure to Genotoxicants
Chairman: Marja Sorsa, Helsinki

Oslo, Norway, June 20–22, 1985
Risk and Reason. Risk Assessment in Relation tc Mutagens and Carcinogens
Chairman: Per Oftedal, Oslo

Honorary President	Frits H. Sobels
Honorary Vice-Presidents	Bruce N. Ames Bryn A. Bridges Takashi Sugimura

INTERNATIONAL ASSOCIATION OF ENVIRONMENTAL MUTAGEN SOCIETIES

President	Takashi Sugimura (Japan)
Vice-President	R. R. Rao (India)
Secretary	Per Oftedal (Norway)
Treasurer	Sheldon Wolff (U.S.A.)
Member-at-Large	Christina C. de Nava (Mexico)

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Vice-President	Paul H.M. Lohman (The Netherlands)
Secretary	Anton Brøgger (Norway)
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NORDIC ENVIRONMENTAL MUTAGEN SOCIETY

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OFFICERS OF THE CONFERENCE

President	Claes Ramel
Secretary-General	Jan Magnusson
Treasurer	Ulf Ahlborg
Programme Coordinator	Bo Lambert
Local Comittee Chairman	Dag Jenssen
Press Officer	Gunnar Ahnström
Satellite Symposia Chairmen	
Copenhagen	Ib Knudsen
Helsinki	Marja Sorsa
Oslo	Per Oftedal

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Ulf Ahlborg	Jörgen Bäckström	Jan-Åke Gustafsson
Bo Holmberg	Dag Jenssen	Bo Lambert
Rune Lönngren	Jan Magnusson	Claes Ramel

National Programme Committee

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Christer Hogstedt	Bo Holmberg	Dag Jenssen
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Ulf Pettersson	Claes Ramel	Ulf Rannug
	Bertil Rasmuson	

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Ulf Rannug	Lasse Winquist	Agneta Önfelt

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Takashi Sugimura		Lorenzo Tomatis

S P O N S O R S

Marcus Wallenberg Foundation for International Scientific Cooporation

Swedish Work Environmental Fund

Swedish Natural Protection Board

National Association of Swedish Insurance Companies

Swedish Cooperative Union and Hole Sale Society

Swedish National Science Research Council

Swedish Cancer Society

Swedish Council for Forestry and Agricultural Research

Federation of Swedish Farmers

ASTRA

International Association of Environmental Mutagen Societies

TABLE OF CONTENTS

G E N E R A L I N F O R M A T I O N

All sessions of the Conference will be held in "Folkets Hus", address: Barnhusgatan 14.

Registration

Registration for the Conference will begin on Sunday, June 23 at "Folkets Hus" between 13.00-18.00.

A welcome reception by KF (Kooperativa Förbundet) will be given at 18.00 in their head office, address: Katarinavägen 15.

A map is provided in your delegate kit, where the location of this is clearly marked out.

Delegates will be able to register throughout the week at the secretariat in "Folkets Hus".

Conference Secretariat

The Secretariat will be open:	Sunday June 23	13.00-18.00
	Monday-Tuesday June 24-25	08.30-18.00
	Wednesday June 26	08.30-16.00
	Thursday-Friday June 27-28	08.30-18.00

The Conference Secretariat will include different functions:

Registration:	Registration for the Conference including personal envelope. All questions of a general nature and points concerning registration will be answered.
Hotel:	Questions regarding hotel bookings.
Social events:	Questions regarding social arrangements including excursions and Post Conference Tours. When available, tickets for excursions and social events can also be obtained from here.
Cashier:	Payment of eventual balance and refunds. Payment of tickets to social events bought on site. All questions regarding financial settlements.

The Secretariat will also assist you in matters such as reconfirmation of your ticket, choice of restaurants, where to shop etc.

Badges

Your personal badge is your entrance ticket to all sessions and social events included in the delegate and accompanying persons fee. Please always wear your badge. If you lose it, please contact the Secretariat to obtain a new one.

Identifying colours:

Delegates	white
Accompanying person	white
Staff	white with red spot

Accompanying persons

For accompanying persons a special programme has been composed. Tickets for these tours can be obtained from the Secretariat if you have not already ordered on your registration form.

Practical information

The unit of currency is the Swedish Kronor (SEK or SKR).
Exchange rate 6 June 1985: 1 SEK = USD 0.11. 1 USD = SEK 8.85.

Bank services: Facilities for cashing travellers cheques are available at banks and at principal hotels.

Banks near the Conference:

Handelsbanken, Upplandsgatan 4
Skandinaviska-Enskilda Banken, Drottninggatan 75

Opening hours: 09.30-15.00

Post office: Vasagatan 28-34
Drottninggatan 89

Opening hours: 09.00-18.00

Telephone boxes: There are a few located near the Secretariat and may be used for local or long distance calls.

Correspondence/Messages

Correspondence and messages for participants may be addressed to:

ICEM 85
c/o Stockholm Convention Bureau
Box 1617, S-111 86 Stockholm, Sweden
Tel: +46 8 230990
Telegram address: Congrex
Telex: Congrex S

Personal messages are found on the message board at the Secretariat. Delegates are requested not to post their own messages on the board but to deliver them to the Secretariat desk.

Slide Centre - Room 203

A preview room for arranging and trying out your slides / overheads will be available throughout the conference during the same hours as the Conference Secreteriate is open.

All speakers must leave their slides in the Slide Centre at least 2 (two) hours before their presentation.

Speakers not using any slides or overheads are asked to convey this information to the Slide Centre.

Copy Centre - Room 202

Photocopying facilities will be available, free of charge, for the delegates during the Conference.

Manuscript Centre - Room 204

A special service to speakers who wish to change or modify their manuscripts. Word processing facilities will be available.

Poster Sessions - Room VI, VII, VIII

The Poster Sessions are divided into two parts, one during Monday and Tuesday and the other during Wednesday and Thursday.

The first set of poster sessions starts on Monday June 24. The posters should be put up not later than 11.00 on Monday June 24. The posters should be manned during the posters sessions in such a way that posters with odd numbers are manned on Monday and posters with even numbers on Tuesday between 14.00 and 15.00. The posters must be taken down on Tuesday evening.

The second set of poster sessions starts on Wednesday June 26. The Posters should be put up not later than 11.00 on Wednesday June 26. The Posters should be manned on Thursday 27 between 14.00 and 15.00.

Meals

Lunches are not included. A list and a map of close-by restaurants is provided in your personal envelope.

Coffee will be served free twice a day during the Conference.

SOCIAL PROGRAMME FOR THE FOURTH INTERNATIONAL CONFERENCE
ON ENVIRONMENTAL MUTAGENS

Please note that the number of participants in some of the tours is limited.

Tickets can be obtained from the Social events desk if you have not already booked on your registration form.

SOCIAL PROGRAMME FOR DELEGATES AND ACCOMPANYING PERSONS

Sunday June 23

13.30-15.00 INTRODUCTION TO STOCKHOLM

The best way of getting to know a city in a short space of time is to go on a sight-seeing tour by bus. While passing well-known buildings, museums and parks. Your guide will advice you on shopping, good restaurants and entertainment.

Price: SEK 80:-
Departure and return from "Folkets Hus".

18.00-20.00 WELCOME RECEPTION

Welcome Reception by invitation of KF (Kooperativa Förbundet)
Address: Katarinavägen 15.
Please note: Individual transport.

Monday June 24

19.30-21.00 RECEPTION AT THE STOCKHOLM CITY HALL

A reception given by invitation of the City of Stockholm

Tuesday June 25

19.30-23.00 STEAMSHIP TOUR

A steamship tour, taking us into Lake Mälaren. We will pass through Hammary lock and from the boat we will see the Drottningholm Palace, a 17th century palace modelled on Versailles and today the residence of the Royal Family. During the tour drinks and an exquisite dinner of gourmet quality will be served on board. A troubadour will entertain us with old Swedish ballads.

Price: SEK 480:-
Departure: from the Grand Hotel. Please note, the tour will end outside the Stockholm City Hall.

19.00-21.00 SUMMER NIGHT CONCERT

Enjoy Swedish musical culture at an evening concert in the Music Museum, housed in the old Crown Bakery from the 1630s. About 250 instruments, some rare and valuable, are also on display. Wine will be served.

Price: SEK 140:-

Address: Sibyllegatan 2.

Wednesday June 26

18.00-23.00 ARCHIPELAGO TOUR

An evening of entertainment, with dinner and a beautiful boat tour through the inner part of Stockholm´s unique archipelago with its 20.000 islands. Having arrived on a small island near Waxholm, out in the archipelago, a delicious dinner with local specialities will be served.
Intertainment will add to and complete this special evening.

Price: SEK 390:-

Departure and return from the Grand Hotel.

16.00-22.00 BOAT TOUR TO "BULLERÖ"

Bullerö is an island in the outermost seaward skerries of the Stockholm archipelago. This island is a famous and representative example of the bare rocky islands of this archipelago with a rich bird fauna and a special flora.
You will have the possibility to take a swim in the Baltic, and you will be served a dinner with local specialities of smoked and grilled fishes.

Price: SEK 250:-
The number of participants is limited to 150.
Departure and return from the Grand Hotel.

Thursday June 27

19.30-01.00 BANQUET AT THE STOCKHOLM CITY HALL

Dinner, dance and entertainment
Price: SEK 200:-
Departure: bus transport will be provided from your hotel to the Stockholm City Hall at ~~18.45~~ 19.15

SOCIAL PROGRAMME FOR ACCOMPANYING PERSONS

Tickets can be obtained from the Social Events desk. Guides on buses will speak English.

Monday June 24

10.30-16.00 SIGHTSEEING IN STOCKHOLM

This tour will take you through the central parts of the City, as well as the Old Town and the Royal Palace. The Royal Palace, built in the 18th centrury, is one of the largest palaces in the world, where the King and Queen still hold their official receptions and gala banquets. Lunch will be served in a nice restaurant in the Old Town.

Price: SEK 280:-

Departure: from "Folkets Hus". Please note, the tour will end outside the Sheraton-Stockholm Hotel.

Tuesday June 25

14.00-16.30 SKANSEN, THE OPEN-AIR MUSEUM

Skansen is the oldest open-air museum in the world, it was founded in 1891. Historical buildings from different parts of the country have been rebuilt here. There are also many different handicraft workshops in operation. In the evenings there are many kinds of activities and entertainment. Today Skansen includes both the old Sweden in miniature and a very popular zoo.

Price: included in the accompanying persons fee.

Departure and return from the Sheraton-Stockholm Hotel.

Thursday June 27

09.00-12.00 ART TOUR

This tour includes visits to two beautiful art museums in Stockholm. Waldermarsudde, was once the home of Prince Eugen. He was an artist and an art collector and his beautiful home is now a museum, which is very well worth seeing both as a private home and because of its art collection.
Millesgården, lies among fountains and terraces, with a magnificent view over Stockholm. This was the home and studio of the great Swedish sculptor Carl Milles (1875-1955), famous for his dramatic and technically daring work. Several of Milles´works of art are displayed in the beautiful garden.

Price: SEK 140:-

Departure and return from the Sheraton-Stockholm Hotel.

POST CONFERENCE TOUR

MIDNIGHT SUN TOUR

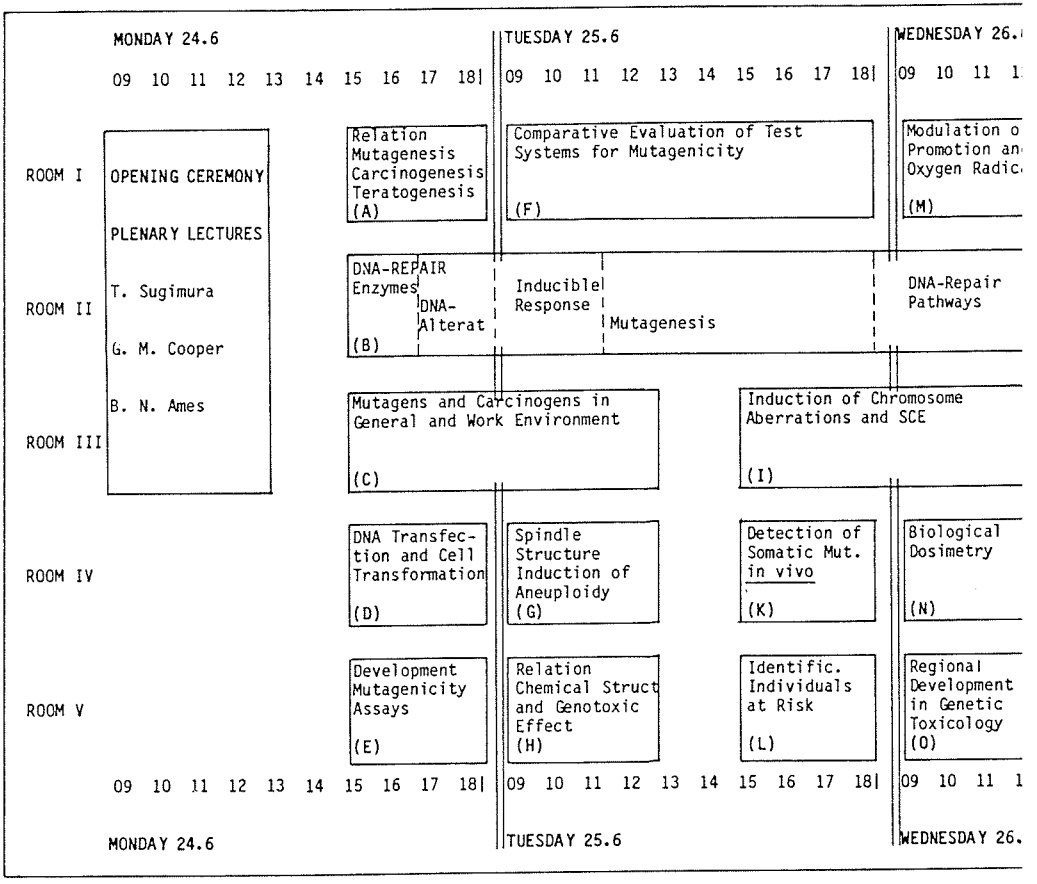
Saturday 29- On this two-day tourto Lappland in the "Land of the Midnight Sun", you will see not only the magnificient wild scenery, but also unique Lapp settlements and the lagest waterfall in Europe.

You will also witness something, which can only be seen at this time of the year near the Pole Circle - the sun that never sets.

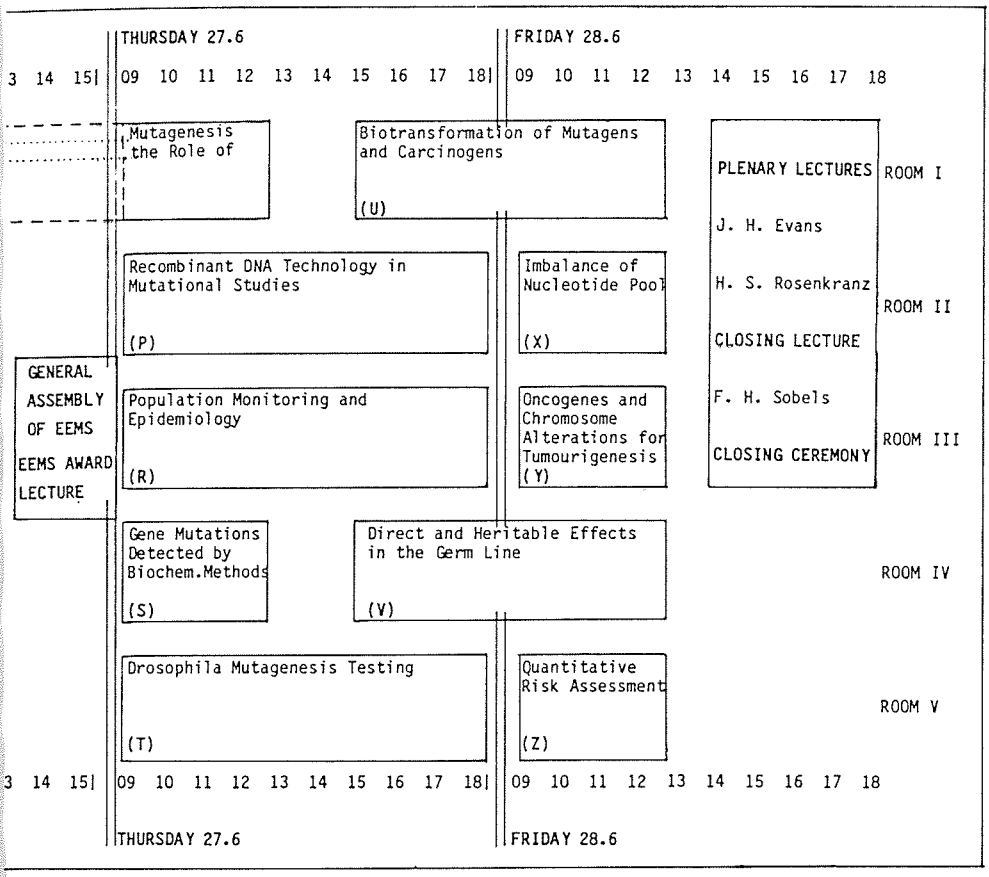
Note: Arrival at Stockholm/Arlanda Airport at 18.50 Sunday June 30

Price: SEK 3.700:-(incl. flights, hotel, meals, beverages, coach guide, helicopter, excursions, all taxes and services)

PROGRAMM


MONDAY 24.6
TUESDAY 25.6
WEDNESDAY 26.
09 10 11 12 13 14 15 16 17 18
ROOM I
OPENING CEREMONY
PLENARY LECTURES
T. Sugimura
G. M. Cooper
B. N. Ames
Relation Mutagenesis Carcinogenesis Teratogenesis (A)
Comparative Evaluation of Test Systems for Mutagenicity (F)
Modulation o Promotion an Oxygen Radic (M)
ROOM II
DNA-REPAIR Enzymes
DNA-Alterat
(B)
Inducible Response
Mutagenesis
DNA-Repair Pathways
ROOM III
Mutagens and Carcinogens in General and Work Environment (C)
Induction of Chromosome Aberrations and SCE (I)
ROOM IV
DNA Transfec-tion and Cell Transformation (D)
Spindle Structure Induction of Aneuploidy (G)
Detection of Somatic Mut. in vivo (K)
Biological Dosimetry (N)
ROOM V
Development Mutagenicity Assays (E)
Relation Chemical Struct and Genotoxic Effect (H)
Identific. Individuals at Risk (L)
Regional Development in Genetic Toxicology (O)
09 10 11 12 13 14 15 16 17 18
MONDAY 24.6
TUESDAY 25.6
WEDNESDAY 26.

OVERVIEW


THURSDAY 27.6
FRIDAY 28.6
13 14 15 09 10 11 12 13 14 15 16 17 18 09 10 11 12 13 14 15 16 17 18
Mutagenesis, the Role of
Biotransformation of Mutagens and Carcinogens
(U)
PLENARY LECTURES
J. H. Evans
H. S. Rosenkranz
CLOSING LECTURE
F. H. Sobels
CLOSING CEREMONY
ROOM I
Recombinant DNA Technology in Mutational Studies
(P)
Imbalance of Nucleotide Pool
(X)
ROOM II
GENERAL ASSEMBLY OF EEMS
EEMS AWARD LECTURE
Population Monitoring and Epidemiology
(R)
Oncogenes and Chromosome Alterations for Tumourigenesis
(Y)
ROOM III
Gene Mutations Detected by Biochem.Methods
(S)
Direct and Heritable Effects in the Germ Line
(V)
ROOM IV
Drosophila Mutagenesis Testing
(T)
Quantitative Risk Assessment
(Z)
ROOM V
13 14 15 09 10 11 12 13 14 15 16 17 18 09 10 11 12 13 14 15 16 17 18
THURSDAY 27.6
FRIDAY 28.6

PROGRAMME OVERVIEW

MONDAY 24.6

09.00 OPENING CEREMONY ROOM I II III

09.45 PLENARY LECTURES ROOM I II III

Chairmen: C. Ramel (Sweden), T. Sugimura (Japan)

T. Sugimura (Japan)
B.N. Ames (U.S.A.)
G.M. Cooper (U.S.A.)

12.30 LUNCH

14.00 POSTER SESSION 1 ROOM VI VII VIII

B DNA-Repair

C Mutagens and Carcinogens in General and Work Environment

D DNA Tranfection and Cell Transformation

E Development of Mutagenicity Assays

F Comparative Evaluation of Test Systems for Mutagenicity

G Spindle Structure and Induction of Aneuploidy

H Relation between Chemical Structure and Genotoxic Effects

K Detection of Somatic Gene Mutations in vivo

MONDAY 24.6

A ROOM I

15.00-18.00 RELATIONS BETWEEN MUTAGENESIS, CARCINOGENESIS AND TERATOGENESIS

Chairmen: I. Hällström (Sweden) J.E. Trosko (U.S.A.)

B ROOM II

15.00-18.00 DNA-REPAIR
REPAIR (ENZYMES)

Chairmen: G. Ahnström (Sweden), B. Strauss (U.S.A.)

C ROOM III

15.00-18.00 MUTAGENS AND CARCINOGENS IN GENERAL AND WORK ENVIRONMENT

Chairmen: T. Kada (Japan), G. Löfroth (Sweden)

D ROOM IV

15.00-18.00 DNA TRANSFECTION AND CELL TRANSFORMATION

Chairmen: G.M. Cooper (U.S.A.), H. Yamasaki (France)

E ROOM V

15.00-18.00 DEVELOPMENT OF MUTAGENICITY ASSAYS

Chairmen: A. Rannug (Sweden), J. Styles (U.K.)

19.30- RECEPTION IN THE CITY HALL

Invitation by the City of Stockholm

TUESDAY 25.6

F ROOM I

09.00-12.30 COMPARATIVE EVALUATION OF TEST SYSTEMS FOR MUTAGENICITY

Chairmen: J. Ashby (U.K.), C. Ramel (Sweden)

B ROOM II

09.00-12.30 DNA-REPAIR (Continued)
INDUCIBLE RESPONSE, ADAPTATION

Chairmen: V.M. Maher (U.S.A.), M.F. Rajewsky (F.R.G.)

C ROOM III

09.00-12.30 MUTAGENS AND CARCINOGENS IN GENERAL AND WORK ENVIRONMENT (Continued)

Chairmen: D. Schuetzle (U.S.A.), L. Winqvist (Sweden)

G ROOM IV

09.00-12.30 SPINDLE STRUCTURE AND INDUCTION OF ANEUPLOIDY

Chairmen: N. Paweletz (F.R.G.), A. Önfelt (Sweden)

H ROOM V

09.00-12.30 RELATION BETWEEN CHEMICAL STRUCTURE AND GENOTOXIC EFFECTS

Chairmen: T. Matsushima (Japan), U. Rannug (Sweden)

12.30 LUNCH

14.00 POSTER SESSION 1 ROOM VI VII VIII

B DNA-Repair
C Mutagens and Carcinogens in General and Work Environment
D DNA Tranfection and Cell Transformation
E Development of Mutagenicity Assays
F Comparative Evaluation of Test Systems for Mutagenicity
G Spindle Structure and Induction of Aneuploidy
H Relation between Chemical Structure and Genotoxic Effects
K Detection of Somatic Gene Mutations in vivo

TUESDAY 25.6

F — ROOM I

15.00-18.00 COMPARATIVE EVALUATION OF TEST SYSTEMS FOR MUTAGENICITY (Continued)

Chairmen: B.A. Bridges (U.K.), M. Waters (U.S.A.)

B — ROOM II

15.00-18.00 DNA-REPAIR (Continued)
MUTAGENESIS (Continued)

Chairmen: T. Lindahl (U.K.), J. McCormick (U.S.A.)

I — ROOM III

15.00-18.00 INDUCTION OF CHROMOSOME ABERRATIONS AND SCE

Chairmen: B. Lambert (Sweden), S. Wolff (U.S.A.)

K — ROOM IV

15.00-18.00 DETECTION OF SOMATIC GENE MUTATIONS IN VIVO

Chairmen: R. J. Albertini (U.S.A.), H. Amneus (Sweden)

L — ROOM V

IDENTIFICATION OF INDIVIDUALS AT RISK

Chairmen: R. Pero (Sweden), D. Scott (U.K.)

19.00-21.00 SUMMER NIGHT CONCERT

Address: Sibyllegatan 2.

19.30-23.00 STEAMSHIP TOUR

Departure: from the Grand Hotel. Please note, the tour will end outside the Stockholm City Hall.

WEDNESDAY 26.6

	M	ROOM I
09.00-12.30	MODULATORS OF MUTAGENS. PROMOTION AND THE ROLE OF OXYGEN RADICALS	
	Chairmen: P.A. Cerutti (Switzerland), M. Sasaki (Japan)	
	B	ROOM II
09.00-12.30	DNA-REPAIR (Continued) DNA-REPAIR (PATHWAYS)	
	Chairmen: C.F. Arlett (U.K.), P.H.M. Lohman (The Netherlands)	
	I	ROOM III
09.00-12.30	INDUCTION OF CHROMOSOME ABERRATIONS AND SCE	
	Chairmen: M.E. Gaulden (U.S.A.), I. Klasterska (Sweden)	
	N	ROOM IV
09.00-12.30	BIOLOGICAL DOSIMETRY	
	Chairmen: L. Ehrenberg (Sweden), A.A. van Zeeland (The Netherlands)	
	O	ROOM V
09.00-12.30	REGIONAL DEVELOPMENT IN GENETIC TOXICOLOGY. PROBLEMS AND PERSPECTIVES	
	Chairmen: C. Lim-Sylianco (Philippines), P. Oftedal (Norway)	
12.30	LUNCH	

WEDNESDAY 26.6

14.00	EEMS AWARD LECTURE Van der Hoeven (The Netherlands)	ROOM
14.30	GENERAL ASSEMBLY OF EEMS	ROOM
16.00-22.00	EXCURSION Tour to "Bullerö" Departure from "Folkets Hus"	
18.00-23.00	EXCURSION Archipelago Tour Departure from Grand Hotel	

THURSDAY 27.6

M — ROOM I

09.00-12.30 MODULATORS OF MUTAGENS. PROMOTION AND THE ROLE OF OXYGEN RADICALS (Continued)

Chairmen: A.T. Natarajan (The Netherlands), U. Olsson (Sweden)

P — ROOM II

09.00-12.30 RECOMBINANT DNA TECHNOLOGY IN MUTATIONAL STUDIES

Chairmen: R.C. von Borstel (Canada), G. Magnusson (Sweden)

R — ROOM III

09.00-12.30 POPULATION MONITORING AND EPIDEMIOLOGY

Chairmen C. Hogstedt (Sweden), G. Obe (F.R.G.)

S — ROOM IV

09.00-12.30 GENE MUTATIONS IN MAMMALS DETECTED BY BIOCHEMICAL METHODS

Chairmen: J.B. Bishop (U.S.A.), U. Ehling (F.R.G.)

T — ROOM V

09.00-12.30 DROSOPHILA MUTAGENESIS TESTING

Chairmen: B. Rasmuson (Sweden), E.W. Vogel (The Netherlands)

12.30 LUNCH

14.00 POSTER SESSION 2 — ROOM VI VII VIII

I Induction of Chromosome Aberrations and SCE
M Modulators of Mutagens. Promotion and the Role of Oxygen Radicals
N Biological Dosimetry
P Recombinant DNA Technology in Mutational Studies
R Population Monitoring and Epidemiology
T Drosophila Mutagenesis Testing
U Biotransformation of Mutagens and Carcinogens
V Direct and Heritable Effect in the Germ Line
X Imbalance of Nucleotide Pool
Z Quantitative Risk Assessment, Regulating Philosophy

THURSDAY 27.6

U ROOM

15.00-18.00 BIOTRANSFORMATION OF MUTAGENS AND CARCINOGENS

Chairmen: B. Beije (Sweden), J. K. Selkirk (U.S.A.)

P ROOM

15.00-18.00 RECOMBINANT DNA TECHNOLOGY IN MUTATIONAL STUDIES (Continued)

Chairmen: J. M. Essigmann (U.S.A.), A. Sarasin (France)

R ROOM I

15.00-18.00 POPULATION MONITORING AND EPIDEMIOLOGY (Continued)

Chairmen: N. P. Bochkov (U.S.S.R.), M. L. Mendelsohn (U.

V ROOM I

15.00-18.00 DIRECT AND HERITABLE EFFECT IN THE GERM LINE

Chairmen: M. F. Lyon (U.K.), A. Wyrobek (U.S.A.)

T ROOM V

DROSOPHILA MUTAGENESIS TESTING

15.00-18.00 Chairmen: R.C. Woodruff (U.S.A.), F.E. Würgler (Switzerl

19.30 CONFERENCE DINNER
Stockholm City Hall

FRIDAY 28.6

U — ROOM I

BIOTRANSFORMATION OF MUTAGENS AND CARCINOGENS

Chairmen: F. Oesch (F.R.G.), H. Norppa (Finland)

X — ROOM II

IMBALANCE OF NUCLEOTIDE POOL

Chairmen: D. Anderson (U.K.), M. Meuth (U.K.)

Y — ROOM III

ONCOGENES AND CHROMOSOME ALTERATIONS FOR TUMOURIGENESIS

Chairmen: G. Klein (Sweden), W. W. Nichols (U.S.A.)

V — ROOM IV

DIRECT AND HERITABLE EFFECT IN THE GERM LINE

Chairmen: I.-D. Adler (F.R.G.), A. Searle (U.K.)

Z — ROOM V

QUANTITATIVE RISK ASSESSMENT, REGULATING PHILOSOPHY

Chairmen: S. Igali (Hungary), J. Lewtas (U.S.A.)

12.30	LUNCH	
14.00	PLENARY LECTURES J. H. Evans (United Kingdom) H. S. Rosenkranz (U.S.A.)	I II III
15.30	COFFEE	FOYER
16.00	CLOSING LECTURE F. H. Sobels (The Netherlands)	I II III
16.45	CLOSING CEREMONY	I II III

DETAILED PROGRAMME

MONDAY 24.6 ROOM I

Chairmen: C. Ramel (Sweden) F. H. Sobels (The Netherla

09.00 OPENING CEREMONY
C. RAMEL (Sweden)

PLENARY LECTURES

PL 1 09.45 SUGIMURA T. (Japan)
What is the Role of Environmental Mutagens for Human C
Development

10.30 COFFEE

PL 2 11.00 AMES B. N. (U.S.A.)
Oxidative Damage to DNA

PL 3 11.45 COOPER G. M. (U.S.A.)
Transforming Genes of Human Neoplasms

12.30 LUNCH

MONDAY 24.6 ROOM I

A RELATIONS BETWEEN MUTAGENESIS, CARCINOGENESIS AND TERATOGENESIS

Chairmen: I. Hällström (Sweden) J. E. Trosko (U.S.A.)

OA 1 15.00 **TOMATIS L.** (France)
Mutagenesis, Carcinogenesis and Teratogenesis - Experience from the IARC Monographs Programme

OA 2 15.30 **NOMURA T.** (Japan)
Further Studies on X-Ray and Chemically Induced Germ-Line Alterations Causing Tumors and Malformations in Mice

16.00 COFFEE

OA 3 16.30 **TROSKO J. E.** and Chang, C. C. (U.S.A.)
Oncogene and Chemical Inhibition of Gap-Junctional Intercellular Communication: Implications for Teratogenesis and Carcinogenesis

OA 4 17.00 **ASHBY J.** (United Kingdom)
Studies to Define the Mutagenic Status of Thalidomide

OA 5 17.30 **WOLFF G. L.** (U.S.A.)
Maternal Influence on Phenotypic Differentiation of a Mutant Mouse Susceptible to Neoplasia and Obesity

19.30 RECEPTION IN THE CITY HALL
Invitation by the City of Stockholm

MONDAY 24.6

ROOM

B

DNA-REPAIR
REPAIR (ENZYMES)

Chairmen: G. Ahnström (Sweden), B. Strauss (U.S.A.)

OB 1 15.00 STRAUSS, B., Larson, K., Rabkin, D., Sagher, D., Sahm J and Shenkar R. (U.S.A.)
In vitro Models for Mutagenesis: A Role for Lesion, Polymerase and Sequence

OB 2 15.30 THOMPSON, L. H., Fuscoe, J. C., Siciliano M. J. and Carrano A. V. (U.S.A.)
Using CHO-Cell Mutant to Study DNA Repair Genes and the Role in Mutagenesis

16.00 COFFEE

B

DNA-REPAIR (Continued)
DNA-ALTRERATIONS

OB 3 16.30 WOOD R. D. and Hutchinson F. (U.S.A.)
The Role of Pyrimidine Dimers in Mutagenesis by Ultravi Light

OB 4 17.00 RAJEWSKY, M. F., Adamkiewicz, J., Huh, N., Nehls P. and Thomale J. (F.R.G.)
Molecular Analysis of Structural DNA Modifications Indu by Chemical Mutagens and Carcinogens

OB 5 17.30 PRESTON, B. D., Singer B. and Loeb L. A. (U.S.A.)
Site-Specific, Polymerase-Catalyzed Insertion of Alkyl-Deoxyribonucleoside Triphosphate Adducts in DNA

OB 6 17.45 GUPTA R. (U.S.A.)
Enhanced Sensitivity of Detection of Aromatic Carcinoger Adducts by ^{32}P-Postlabeling Assay

19.30 RECEPTION IN THE CITY HALL
Invitation by the City of Stockholm

C MUTAGENS AND CARCINOGENS IN GENERAL AND WORK ENVIRONMENT

Chairmen: T. Kada (Japan), G. Löfroth (Sweden)

OC 1 15.00 **HAYATSU, H.**, Hayatsu, T., Kobayashi H. and Ohara Y. (Japan)
A New Versatile Procedure for Monitoring Mutagenicity of Human Excreta

OC 2 15.15 **BRONZETTI, G. L.**, Galli, A., Del Carratore, R., Boccardo, P., Cundari R. and Cantelli-Forti G. (Italy)
The Genetic Activity of Chromium VI and Chromium III

OC 3 15.30 **ROJANAPO, W.**, Kupradinum, P., Chutimataewin, S., Tepsuwan A. and Tanyakaset M. (Thailand)
Mutagenicity and Carcinogenicity of P-Phenylenediamine after an Oxidation by Hydrogen Peroxide

OC 4 15.45 **XUE, X. X.**, Huang, W. Q., He H. Y. and Zhang Y. L. (China)
Binding of Metabolically Activated N-Phenyl-2-Naphylamine to Nuclear Macromolecules

16.00 COFFEE

OC 5 16.30 **CIPOLLARO, M.**, Corsale, G., Esposito, A., Ragucci, E., Giordano G. G. and Pagano G. (Italy)
Decreased pH as a Genotoxic and Teratogenic Agent on Sea Urchin Embryos and Sperm

OC 6 16.45 **MOSTAFA M. H.** and El-Bassiouni E. A. (Egypt)
Schistosomiasis, Insecticides and Dimethylnitrosamine Demethlase(s)

OC 7 17.00 **OHWOVORIOLE A. E.** and Okeke G. C. E. (Nigeria)
Characteristics of Patients with Primary Liver Cell Carcinoma in Lagos, Nigeria

OC 8 17.15 **LINDQUIST, R.**, Nilsson, B., Gahrton G. and Eklund G. (Sweden)
Organic Solvent Exposure Among Patients with Acute Leukemia

OC 9 17.30 **DE RAAT W. K.** and Van Kessel P. J. M. (The Netherlands)
The Mutagenicity of Welding Fumes in the Ames Test

17.45 DISCUSSION

19.30 RECEPTION IN THE CITY HALL
Invitation by the City of Stockholm

MONDAY 24.6 ROOM IV

D DNA TRANSFECTION AND CELL TRANSFORMATION

Chairmen: G. M. Cooper (U.S.A.), H. Yamasaki (France)

OD 1 15.00 YAMASAKI H. (France)
Role of Intercellular Commmunication in Cell Transformation

OD 2 15.30 McCORMICK J. J. and Maher V. M. (U.S.A.)
Transformation of Human Fibroblasts by Carcinogens or Transfection with Oncogenes

16.00 COFFEE

OD 3 16.30 NAGAO, M., Ishikawa, F., Ochiai, M., Tahira, T., Hayashi, K., Ohgaki, H., Tereda, M., Takayama S. and Sugimura T. (Japan)
Transforming Genes of Hepatomas and Sarcomas in Rats Induced by 2-Amino-3-Methyl-Imidazo(4,5-f)Quinoline and 1,8-Dinitropyrene, Environmental Mutagens

OD 4 16.45 FAHL, W. E., Manoharan, T. H., Burgess J. A. and Stevens C. W. (U.S.A.)
Permissive Transforming Events Determined by Transfection of Promoted Aberrant Oncogenes into Mouse and Human Fibroblasts

OD 5 17.00 HATCH G. G. and Anderson T. M. (U.S.A.)
Chemical Enhancement of Simian Adenovirus SA7 Transformation of Hamster Embryo Cells: Evalyation Of Diverse Chemicals

OD 6 17.15 YANG, S. S., Taub, J., Modali R. and Yang G. C. (U.S.A.)
Activation of the Cell Transformation Capability of Human DNA by Aflatoxin B_1

OD 7 17.30 RIVEDAL, E., Sanner, T., Enomoto T.* and Yamasaki H.* (Norway, *France)
Effect of TPA on Intercellular Communication and Morphological Transformation of Syrian Hamster Embryo Cells

17.45 DISCUSSION

19.30 RECEPTION IN THE CITY HALL
Invitation by the City of Stockholm

MONDAY 24.6

E

ROOM V

DEVELOPMENT OF MUTAGENICITY ASSAYS

Chairmen: A. Rannug (Sweden), J. Styles (U.K.)

OE 1 15.00 ARNI P. and Müller D. (Switzerland)
Mutagenicity Testing by the Use of Cobas bact, an Automatic Analyzer for Microbiology

OE 2 15.15 GOCKE E. and Schüpbach M. (Switzerland)
The Use of the COBAS BACT Analyser (Roche) for Automated Mutagenicity Screening

OE 3 15.30 FELTON J. S. and Fuscoe J. C. (U.S.A.)
Base Sequencing Analysis of Salmonella His D Gene Revertants

OE 4 15.45 FURIHATA C., Sato Y. and Matsushima T. (Japan)
Method for Evaluating, Initiating and Promoting Activities of Potential Glandular Stomach Carcinogens and Promotors

16.00 COFFEE

OE 5 16.30 CHAUBEY, R. C., Sonalkar, B., Chauhan P. S. and Sundaram K. (India)
Persistence and Dose-Dependent Accumulation of Micronucleated Erythrocytes in Peripherical Blood of Radiation and Benzo(a)Pyrene Exposed Mice

OE 6 16.45 KÄFER E. (Canada)
Aspergillus Tests which Distinguish Induced Primary Aneuploidi from Secondary Nondisjunction

OE 7 17.00 KRISHNA, G., Nath J. and Ong T. (U.S.A.)
Mouse Bone Marrow Cell Culture for in vivo/in vitro Cytogenetic Analysis

OE 8 17.15 SUJARIT V. K. and McKinnell R. G.* (Thailand, *U.S.A.)
Nuclear Transplantation (Cloning) Analysis of TEM-Treated Embryos

OE 9 17.30 VAN DER GAAG M. A. and Van de Kerkhoff J. F. J. (The Netherlands)
The Development of an in vivo SCE-Assay in the Fish Nothobranchius rachowi

OE 10 17.45 WALDREN, C., Sognier M. and Fox M. (U.S.A.)
The A_L System: A Sensitive Short Term Assay for Mutation in Cultured Mammalian Cells

19.30 RECEPTION IN THE CITY HALL
Invitation by the City of Stockholm

TUESDAY 25.6 ROOM I

F COMPARATIVE EVALUATION OF TEST SYSTEMS FOR MUTAGENICITY

Chairmen: J. Ashby (U.K.), C. Ramel (Sweden)

OF 1 09.00 WEISBURGER J. H. and Williams G. M. (U.S.A.)
Rational Decision Points in Carcinogenicity Bioassays Based on Mechanisms of Mutagenesis and Carcinogenesis

OF 2 09.30 RUSSELL W. L. (U.S.A.)
Positive Genetic Hazard Predictions from Short-Term Tests have Proved False for Results in Mammalian Spermatogonia with All Environmental Chemicals so Far Tested

OF 3 10.00 WÜRGLER F. E. (Switzerland)
Comparison of Mutagenicity Assays Detecting Recombination

10.30 COFFEE

OF 4 11.00 ZEIGER E. and Tennant R. W. (U.S.A.)
Mutagenesis, Clastogenesis, Carcinogenesis: Correlations, Relations and Expectations

OF 5 11.30 WATERS, M., Stack F. and Brady A. (U.S.A.)
Analysis of the Spectra of Genetic Activity in Short-Term Tests

OF 6 12.00 ISHIDATE, M. Jr., Sofuni, T., Nohmi, T., Hayashi, M., Sawada M. and Matsuoka A. (Japan)
Two in vitro and one in vivo Tests Required as the Minimum for the Evaluation of Mutagenic Potential of Chemicals

OF 7 12.15 GRIMVALL, A., Johansson, B., Lundgren B. and Wigilius B. (Sweden)
A Statistical Approach to the Evaluation of Batteries of Parallel Short-Term Tests

12.30 LUNCH

B DNA-REPAIR (Continued)
INDUCIBLE RESPONSE, ADAPTATION

Chairmen. V. M. Maher (U.S.A.), M. F. Rajewsky (F.R.G.)

OB 7 09.00 LINDAHL, T., Karran, P., Teo, I., Hall, J., McCarthy, T., Sedgwick B. and Kataoka H. (United Kingdom)
Correction of DNA caused by Alkylating Agents

OB 8 09.30 ABBONDANDOLO A. and Frosina G. (Italy)
The Adaptive Response to Alkylating Agents in Mammalian Cells: Data from in vitro Cell Cultures

OB 10 10.00 WIENCKE J. K. and Bodell W. J. (U.S.A.)
Low Doses of Methylnitrosourea Inactivate O^6-Alkylguanine Repair and Potentiate Cytogenetic Damage by Chloroethylnitrosourea

10.15 DISCUSSION

10.30 COFFEE

B DNA-REPAIR (Continued) ROOM II
MUTAGENESIS

OB 11 11.00 De SERRES, F. J., Brockman, H. E., Hung C.-Y. and Overton L. (U.S.A.)
Genetic Characterization of Mutagenic Activity of Environmental Chemicals at Specific Loci in Two-Component Heterokaryons of Neurospora crassa

OB 12 11.30 VOGEL, E. W., Nivard, M. J. M., Raaymakers-Jansen Verplanke, C. A. and van Zeeland, A. A. (The Netherlands)
Alkylation-Induced Mutagenesis in Higher Eucaryotic Systems: Significance of DNA Modifications and DNA Repair with Regard to Genetic End Points

OB 13 12.00 SMITH, P. D., Dusenbery, R. L., Liljestrand-Golden, C. A., Cameron E. B. and Reardon J. T. (U.S.A.)
Mutation induction in an Excision- Defective Strain of Drosophila melanogaster

12.30 LUNCH

C MUTAGENS AND CARCINOGENS IN GENERAL AND WORK ENVIRONMENT (Continued)

Chairmen: D. Schuetzle (U.S.A.), L. Winqvist (Sweden)

OC 10 09.00 KNUDSEN I. (Denmark)
Report from the Satellite Symposium on "Genetic Toxicology of the Diet", Copenhagen, June 19-22,1985

OC 11 09.30 HATCH F. T. and Felton J. S. (U.S.A.)
Toxicologic Strategy for Mutagens Formed in Foods During Cooking: Status and Needs

OC 12 09.45 NAGAHARA, A., Ohshita K. and Nasuno S. (Japan)
Soy Sauce and Mutagenicity

OC 13 10.00 MONARCA, S., Carlberg, G.E.*, Pasquini R. and Hongslo J.K.* (Italy, *Norway)
Mutagenicity Evaluation of Norwegian and Italian Drinking Water Using a Microscale Fluctuation Test and Sep-Pac Concentration

10.15 DISCUSSION

10.30 COFFEE

OC 15 11.00 SCHUETZLE, D., Jensen T. and Ball J. (U.S.A.)
Identification of Polar Mutagens in Environmental Particulate Samples

OC 16 11.15 CARVER J. H. and MacGregor J. A. (U.S.A.)
Application of Modified Salmonella/Microsome Prescreen to Petroleum-Derived Complex Mixtures and Pure Polynuclear Aromatic Hydrocarbons (PAH)

OC 17 11.30 TOKIWA, H., Nakagawa R. and Horikawa K. (Japan)
Nitropyrenes Resposible for the Major Mutagenic Species in Various Combustion Products

OC 18 11.45 VAN HOUDT, J. J., Daenen, C. M. J., Alink G. M. and Boleij J. S. M. (The Netherlands)
The Contribution of Woodcombustion to Mutagenic Activity of Airborne Particles Inside Homes

OC 19 12.00 JANTUNEN, M. J., Vartiainen, M., Larnimaa K. and Liimatainen A. (Finland)
Physiological Properties of the Mutagenic Particulates in the Air of Smoke-Sauna During Heating and Bathing

12.15 DISCUSSION

12.30 LUNCH

TUESDAY 25.6

ROOM IV

G

SPINDLE STRUCTURE AND INDUCTION OF ANEUPLOIDY

Chairmen: N. Paweletz (F.R.G.), A. Önfelt (Sweden)

OG 1 09.00 **PAWELETZ N.** and Schroeter D. (F.R.G.)
On the Fine Structure of the Mitotic Apparatus of Mammalian Cells

OG 2 09.30 **PETZELT C.** (F.R.G.)
Regulatory Components of the Mitotic Apparatus

OG 3 10.00 **PARRY, J. M.**, Parry, E. M., Lafi A. and Somers A. (United Kingdom)
The Mechanisms of Induction of Chromosome Aneuploidy as Revealed by the Study of Aberrations of Mitotic Cell Division

10.30 COFFEE

AA 3 11.00 **ÖNFELT A.** (Sweden)
Replaces OG 4 Mechanistic Aspects on Chemical Induction of C-Mitoses and Abnormal Chromosome Numbers

OG 5 11.30 **HARTLEY-ASP, B.** Deinum J. and Wallin M. (Sweden)
Diethylstilbestrol and Estramustine Phosphate Induce Metaphase Arrest via Inhibition of Microtubule Assembly

OG 6 11.45 **ATHWAL R. S.** and Sandhu S. S. (U.S.A.)
Measurement of Aneuploidy in Mammalian Cells: A Cytogenetic and Selection Assay

OG 7 12.00 **LIANG J. C.** and Hsu T. S. (U.S.A.)
Correlation between Mutagen-Induced Chromosomal Univalents, Translocations and Aneuploidy in Mouse Spermatocytes

OG 8 12.15 **VIG B.K.** (U.S.A.)
Sequence of Centromere Separation: Multicentric Chromosomes, Repetitive DNA and Aneuploidi

12.30 LUNCH

TUESDAY 25.6 ROOM V

H RELATION BETWEEN CHEMICAL STRUCTURE AND GENOTOXIC EFFECTS

Chairmen: T. Matsushima (Japan), U. Rannug (Sweden)

OH 1 09.00 **MATSUSHIMA T.** (Japan)
Mutagenicity and Chemical Structure Relations of Naturally Occuring Mutagens from Plants

OH 2 09.30 **LIJINSKY W.** (U.S.A.)
Chemical Structure, Mutagenesis, Carcinogenesis and Alkylating Properties of Nitrosamines and Related Compounds

OH 3 10.00 **LÖFROTH G.** (Sweden)
Structure-Activity Relationship of Nitroalkane-Induced Mutagenicity

10.30 COFFEE

OH 4 11.00 **RANNUG, U.**, Nilsson U. and Colmsjö A. (Sweden)
The Mutagenicity and Chemical Structure of Certain Chloroderivatives of Polynuclear Aromatic Hydrocarbons

OH 5 11.30 **DASHWOOD, R. H.**, Combes R. D. and Ashby J. (United Kingdom)
Tissue Distribution and DNA Binding Studies with the Monoazo Dyes, 6-Dimethylamino-Phenylazo-Benzthiazole and 5-Dimethylamino-Phenylazoindazole

OH 6 11.45 **LIN G.H.Y.** and Solodar W. E. (U.S.A.)
Structure-Activity Relationship Studies on the Mutagenicity of some Azo Dyes in the Salmonella Assay

OH 7 12.00 **FERGUSON L. R.** (New Zealand)
Comparisons of Structure and Mutagenic Properties in a Series of Anilinoacridine Antitumor Drugs Related to Amsacrine

OH 8 12.15 **SEILER J.P.** (Switzerland)
Structural Requirements for, and Molecular Mechanism of, Arylalkylurea Mutagenicity

12.30 LUNCH

F COMPARATIVE EVALUATION OF TEST SYSTEMS FOR MUTAGENICITY (Continued)

Chairmen: B. A. Bridges (U.K.), M. Waters (U.S.A.)

OF 8 15.00 ASHBY J. (United Kingdom)
An Integrated Approach to the Detection of Significant Mammalian Carcinogens and Mutagens

OF 9 15.30 BRUSICK D. J. (U.S.A.)
Computer-Assisted Search for a Complete Test Battery. An Interim Report from ICPEMC Comittee 1

16.00 COFFEE

OF 10 16.30 BRIDGES B. A. (United Kingdom)
Recommendations for the Testing of Substances for the Identification of Potential Germ Cell Human Mutagens: The ICPEMC Position

17.00 DISCUSSION

B DNA-REPAIR (Continued)
MUTAGENESIS (Continued)

Chairmen: T. Lindahl (U.K.), J. McCormick (U.S.A.)

OB 14 15.00 ARLETT C. F. (United Kingdom)
Mutation Studies in Cells Established from Human Cancer Prone Syndromes

OB 15 15.30 MAHER V. M. and McCormick J. J. (U.S.A.)
Role of DNA Lesions and DNA Repair in Mutagenesis by Carcinogens in Diploid Human Fibroblasts

16.00 COFFEE

OB 16 16.30 GRAFSTRÖM R. C. and Harris C. C.* (Sweden, *U.S.A.)
Biological Effects Related to Aldehyde-Induced DNA Inhibition of DNA Repair in Cultured Human Epithelial Cells and Fibroblasts

OB 17 17.00 HEFLICH, R. H., Fifer, E. K., Djuric Z. and Beland F. A. (U.S.A.)
Mutations and DNA Adducts in Salmonella and Chinese Hamster Ovary Cells Produced by N-Oxidized Aryl Compounds

OB 18 17.30 O'NEILL J. P. (U.S.A.)
Use of Division Arrested Chinese Hamster Ovary Cells in Culture for Mutation Induction Studies

OB 19 17.45 DOGLIOTTI, E., Vitelli, A., Terlizzese, M., Di Muccio, A., Calcagnile A. and Bignami M. (Italy)
ENU and DES Mutagenicity is Associated with Different DNA Lesions at the HGPRT and Na^2/K^+ Atpase Gene Loci in CHO Cells

TUESDAY 24.6 ROOM III

I INDUCTION OF CHROMOSOME ABERRATIONS AND SCE

Chairmen: B. Lambert (Sweden), S. Wolff (U.S.A.)

OI 1 15.00 AESCHBACHER H. U. (Switzerland)
Mutagen Sensitive Mouse Strain

OI 2 15.15 HÖGSTEDT B. and Karlsson A. (Sweden)
The Size of Micronuclei in Human Lymphocytes Varies by Inducing Agent

OI 3 15.30 MORRIS, D. L., Harper B. H. and Legator M. S. (U.S.A.)
Coumarin Inhibits Micronucleus Formation Induced by Benzo(a)Pyrene in Male ICR Mice

OI 4 15.45 MA, T.-H., Harris, M. M., Xu Z. and Miler T. L. (U.S.A.)
Genotoxic Effects of Acetaldehyde Detected by Mouse-Perpheral Erythrocyte Micronucleus (Mouse-Pewn) Assay

16.00 COFFEE

OI 5 16.30 SCHWARTZ, J. L., Morgan W. F. and Weichselbaum R. R. (U.S.A.)
Potentiation of Alkylation-Induced Sister Chromatid Exchange Frequency by 3-Aminobenzamide is Mediated by Intercellular Loss of NAD^+

OI 6 16.45 HE S. and Lambert B. (Sweden)
Induction of Sister Chromatid Exchanges in Human Lymphocytes Exposed to Vinyl Acetate and Acet Aldehyde in vitro

OI 7 17.00 SPEIT G. (F.R.G.)
Induction of Sister Chromatid Exchanges by Non-Mutagenic Agents

OI 8 17.15 BENZ, R. D., Carsten, A. L., Ikushima T.* and Tezuka H.* (U.S.A., *Japan)
The Effect of Chronic, Low-Level Tritiated Water Ingestion, Cs^{137} -Ray Exposure and Age on the Number of Sister Chromatid Exchanges in Bone Marrow Cells of Mice

OI 9 17.30 RAPOSA T. and Várkonyi J. (Hungary)
Sister Chromatid Exchanges in Different Health States

OI 10 17.45 VERCAUTEREN, P., Meulepas, E., Vlietinck, R., Cassiman J. J. and Van der Berghe H. (Belgium)
Appropriate Statistical Analysis of Sister Chromatid Exchanges Yields More Biological Information

K DETECTION OF SOMATIC GENE MUTATIONS IN VIVO

Chairmen: R. J. Albertini (U.S.A.), H. Amneus (Sweden)

OK 1 15.00 **JENSEN, R. H.**, Bigee W. L. and Langlois R. G. (U.S.A.)
Flow Cytometry of Antibody-Labeled Erythrocytes to Detect Somatic Cell Mutations in Humans

OK 2 15.30 **ALBERTINI, R. J.**, Nicklas J. A. and O'Neill J. P. (U.S.A.)
Studies in T-Lymphocytes of Somatic Gene Mutation Occurring in vivo in Humans

16.00 COFFEE

OK 3 16.30 **SEIFERT, A. M.**, Bradley W. E. C. and Messing D. (Canada)
In vivo Mutation Frequency among Humans Exposed to Varying Doses of Ionizing Radiation

OK 4 16.45 **BRAUN, R.**, Hüttner E. and Schöneich J. (G.D.R.)
The Effect of Monofunctional Alkylating Agents in the Mouse: Induction of Gene Mutations and Chromosomal Aberrations

OK 5 17.00 **MAIER P.** (Switzerland)

Detection of Gene Mutations in a Sucutaneous Granuloma Tissue in Rat in vivo

OK 6 17.15 **NOMURA T.** (Japan)
Quantitative and Qualitative Studies on Somatic Mutations Induced by Low Dose X-Irradiation in Mice

OK 7 17.30 **NEUHÄUSER-KLAUS, A.**, Bhattaarjee D. and Ehling U. H. (F.R.G.)
In vivo Mutagenicity Testing of Diethylsulfate in Mice

PB 50 17.45 **PLOEM, J. S.**, Bernini, L. F., Natarajan, A. T., Tates A. D. and Sobels F. H. (The Netherlands)
OBS! Use of an Image Analysis Computer for Monitoring of Somatic
Abstract in Abstractbook on Page 159 Mutations in a Population of Human Erythrocytes by Antibodies Against Haemoglobin Variants

TUESDAY 25.6 ROOM V

L IDENTIFICATION OF INDIVIDUALS AT RISK

Chairmen: R. Pero (Sweden), D. Scott (U.K.)

OL 1 15.00 SCOTT D. (United Kingdom)
Identification of Individuals at Risk: Cytogenetic and Molecular Methods

OL 2 15.30 TAKEBE H. and Tatsumi K. (Japan)
Genetically High Risk Population for Cancer and Mutation by Environmental Mutagens

16.00 COFFEE

OL 3 16.30 BECKMAN L. and Beckman G. (Sweden)
Transferrin C2 as an Enhancer of Cyto- and Genotoxic Damage

OL 4 17.00 PERO R. and Miller D. G.* (Sweden, *U.S.A.)
Development of Biochemical Markers Sensitive to Ecogenic Variation and the Assessment of Individual Risk from Genotoxic Exposures

OL 5 17.30 CZEIZEL A. (Hungary)
Self-Poisoning as a Model for the Study of the Mutagenicity and Teratogenicity of Chemicals in Human Beings

WEDNESDAY 26.6 ROOM I

M MODULATORS OF MUTAGENS. PROMOTION AND THE ROLE OF OXYGEN RADICALS

Chairmen: P. A. Cerutti (Switzerland), M. Sasaki (Japan)

OM 1 09.00 CERUTTI P. A. (Switzerland)
Prooxidant States and Promotion

OM 2 09.30 ERNSTER L. (Sweden)
DT Diaphorase and the Cytotoxicity and Mutagenicity of Quinone-Derived Oxygene Radicals

OM 3 10.00 YAMASAKI, H., Cabral, J. R. P., Day, N. E., Wahrendorf, J., Lasne C. and Chouroulinkov I. (France)
Quantitative Risk Estimation in Terms of Multi-Stage Carcinogenesis

10.30 COFFEE

OM 4 11.00 SASAKI M. (Japan)
Enhancing Effect of Acetaminophen on Mutagenesis

OM 5 11.30 SUTER W. (Switzerland)
Genotoxic Effects of Apomorphine in Various Procaryotic and Eucaryotic Test Systems Compared with the Genotoxic Effects of Hydrogen Peroxide and Potassium Superoxide

OM 6 11.45 SANNER T. and Rivedal E. (Norway)
Inhibition of the Promotional Effect of TPA on Morphological Transformation of Hamster Embryo Cells by Caffeine and other Phosphodiesterase Inhibitors

OM 7 12.00 WATTENBERG L. W. (U.S.A.)
Prevention of Genotoxicity

12.30 LUNCH

B DNA-REPAIR (Continued)
DNA-REPAIR (PATHWAYS)

Chairmen: C.F. Arlett (U.K.), P.H.M. Lohman (The Netherlands)

OB 20 09.00 **LOHMAN, P. H. M.**, Vijg, J. Roza L. and Baan R. A. (The Netherlands)
Organ, Tissue and Species Specificity on the Induction and Repair of DNA Damage

OB 21 09.30 **TAKEBE, H.**, Yagi, T., Leiler C. Y. and Ida K. (Japan)
Comparison of DNA Repair between Human and Animal Cells

OB 22 10.00 **AHNSTRÖM G.** (Sweden)
Repair Pathways in Mammalian Cells: Benzamide Induced Changes in Incision-Ligation Kinetics after X-Rays, Mutagenic Chemicals and UV

10.30 COFFEE

OB 23 11.00 **RESNICK, M. A.**, Westmoreland J. and Bloom K. (U.S.A.)
DNA Repair, Damage and Chromosome Stability in Yeast

OB 24 11.15 **BREIMER L. H.** and Lindahl T.(United Kingdom)
Cellular Repair of DNA Base Lesions Induced by Ionizing Radiation or Oxidation Agents

OB 25 11.30 **DUNN, W. C.**, Foote R. S. and Mitra S. (U.S.A.)
Regulation of Repair of O^6-Methylguanine, a Promutagenic Base, in Mammalian Cells

OB 26 11.45 **WATERS, R.**, Edwards S. and Mirzayans R. (United Kingdom)
The Repair of Large DNA Adducts in Human Fibroblasts

OB 27 12.00 **VIJG, J.**, Mullaart, E., Warnaar, J., Lohman P. H. M. and Knook D. L. (The Netherlands)
Age and Species Specific Variation in DNA Excision Repair

OB 28 12.15 **WALDREN, C.**, Snead, D., Hentosh, P., Collins, A.*, Fornace Jr A. J. and Fry D. (U.S.A., *United Kingdom)
Progress in Cloning Human Genes for Post Replication Recovery (PRR)

12.30 LUNCH

I INDUCTION OF CHROMOSOME ABERRATIONS AND SCE

Chairmen: M. E. Gaulden (U.S.A.), I. Klasterska (Sweden)

OI 11 09.00 WOLFF S. and Pantelias G. E. (U.S.A.)
Mechanisms Involved in the Formation of Mutagen-Induced Aberrations as Determined by Prematurely Condensed Chromosomes

OI 12 09.30 SOGNIER M. A. and Hittelman W. N. (U.S.A.)
Mitomycin C-Induced DNA Damage: A Mechanism for Chromatid Break Formation

OI 13 09.45 HOLMBERG M. and Gumauskas E. (Sweden)
The Role of Short-Lived DNA-Lesions in Chromosome Aberration Production after Low Doses of X-Rays

OI 14 10.00 JACOBSON-KRAM D. and Williams J. R. (U.S.A.)
In vivo Exposure to X-Irradiation Induces a Hypersensitivity to Subsequent Induction of G2 Aberrations by X-Rays in Mouse Bone Marrow

OI 15 10.15 SCOTT D. (United Kingdom)
Cytogenetic Effects of Sodium Fluoride in Cultured Human Fibroblasts

10.30 COFFEE

OI 16 11.00 TICE, R. R., Luke C. A. and Drew R. T. (U.S.A.)
Intrinsic Modulation of Benzene-Induced Bone Marrow Genotoxicity under Acute and Chronic Exposure Conditions

OI 17 11.15 LUTZENBERGER B. (F.R.G.)
Transplacental Effect of the Liver-Specific Indirect Carcinogen Diethylnitrosamine (DEN)

OI 18 11.30 HUANG C. C. and Qin S. (U.S.A.)
Influence of Retinoids (Vitamin A and Analogs) on Carcinogen Induced Mutagenesis

OI 19 11.45 MURTHY B. K. and Kamada N.* (India, *Japan)
On the Nature of Cytogenetic and DNA Repair Alterations Seen in Hiroshima Atomic Bomb Survivors with Preleukemia

OI 20 12.00 GAULDEN, M. E., Dowd, M. A., Proctor B. L. and Ferguson M. J. (U.S.A.)
Chromosome and Spindle Effects of Formaldehyde, Benzene and Mitomycin Cas Detected with the Grasshopper Neuroblast Assay

12.30 LUNCH

WEDNESDAY 26.6

ROOM IV

N BIOLOGICAL DOSIMETRY

Chairmen: L. Ehrenberg (Sweden), A.A. van Zeeland (The Netherlands)

ON 1 09.00 POIRIER, M. C., Reed, E., Ozols R. F. and Yuspa S. H. (U.S.A.)
Biomonitoring of Cisplatin-DNA Adducts in Cancer Patients Receiving Cisplatin Chemotherapy

ON 2 09.30 EHRENBERG L. (Sweden)
Macromolecule Adducts, Target Dose and Risk Assessment

ON 3 10.00 CALLEMAN C. J. (Sweden)
Monitoring of Hemoglobin Adducts of Genotoxic Compounds

10.30 COFFEE

ON 5 11.00 WRAITH, M. J., Potter, D., Watson W. P. and Wright A. S. (United Kingdom)
A Radioimmunoassay for the Biomedical Monitoring of Ethylene Oxide Exposure

ON 6 11.15 Van ZEELAND, A. A., Mohn, G. R., Neuhäuser-Klaus A.* and Ehling U. H.* (The Netherlands, *F.R.G.)
Use of DNA Adducts to Monitor Genotoxic Exposure to Alkylating Agents. A Comparision between E. coli, Mammalian Cells and the Mouse

ON 7 11.30 DOBSON, L., Straume, T., Carrano, A., Minkler, J., Deaven, L., Littlefield G. and Awa A.* (U.S.A., *Japan)
Cytogenetic Effectiveness of Neutrons from Replica of Hiroshima Bomb: Preliminary Results from an Inter-Laboratory Study

ON 8 11.45 EVENSON, D., Jost, L., Gesch, R., Baer R. and Ballachey B. (U.S.A.)
Flow Cytometry Measurements of Sperm Chromatin Structure are as Sensitive as the Sperm Head Morphology Assay

12.00 DISCUSSION

12.30 LUNCH

WEDNESDAY 26.6 ROOM V

0 REGIONAL DEVELOPMENT IN GENETIC TOXICOLOGY. PROBLEMS AND PERSPECTIVES

Chairmen: C. Lim-Sylianco (Philippines), P. Oftedal (Norway)

00 1	09.00	EL-SEBAE A. H. (Egypt) Genetic Toxicology Problems and Perspectives, a Case Study and Overview of Egyptian Environment
00 2	09.30	GOPALAN H. N. B. (Kenya) Gentic Toxicology in Africa: Problems and Perspectives
00 3	10.00	TAN C. C. and Liu T. H. (China) Recent Advances of Genetic Toxicology in China
	10.30	COFFEE
00 4	11.00	LIM-SYLIANCO, C. Y. (Philippines) Development of Genetic Toxicology in the Philippines. Problems and Perspectives
00 5	11.30	DE NAVA C. (Mexico) Genetic Toxicology in Latin America
AA 1	12.00	SUNDARAM K. and Chauhan P. S. (India) A Decade of Environmental Mutagen Society of India
	12.30	LUNCH

WEDNESDAY 26.6

14.00	EEMS AWARD LECTURE VAN DER HOEVEN J. C. M. (The Netherlands) Detection of Naturally Occurring Mutagens and Antimutagens in Food Products	ROOM III
14.30	GENERAL ASSEMBLY OF EEMS	ROOM III
16.00-22.00	EXCURSION Tour to "Bullerö" Departure from "Folkets Hus"	
18.00-23.00	EXCURSION Archipelago Tour Departure from Grand Hotel	

THURSDAY 27.6

ROOM I

M MODULATORS OF MUTAGENS. PROMOTION AND THE ROLE OF OXYGEN RADICALS (Continued)

Chairmen: A. T. Natarajan (The Netherlands), U. Olsson (Sweden)

OM 8 09.00 FAHRIG R. (F.R.G.)
Genetic Mode of Action of Bile Acids as a Possible Mechanism for Tumor Promotion and Cocarcinogenesis

OM 9 09.15 CARROLL K. K. and Noble R. L. (Canada)
Effects of Dietary Fat on Induction of Mammary and Prostatic Carcinoma in Nb Rats by Implanted Hormone Pellets

OM 10 09.30 PERTEL R. (U.S.A.)
Intestinal-Microflora/ Host-Diet Interactions in the Production of Mutagens in the Mini-Pig

OM 12 09.45 NATARAJAN, A. T., Mullenders L. H. F. and Zwanenburg T. S. B. (The Netherlands)
Modulation of Mutagen Induced Biological Effects by Inhibitors of DNA Repair

10.15 DISCUSSION

10.30 COFFEE

OM 13 11.00 KADA T. (Japan)
In vitro and in vivo Analysis of Antimutagens

OM 14 11.30 KIHLMAN B. A. and Andersson H. C. (Sweden)
The Frequency of Chromatid Aberrations Induced by X-Rays or Thiotepa in Cultured Human Lymphocytes is Dramatically Enhanced by Certain Combinations or Inhibitors of DNA Repair

OM 15 12.00 ROSSMAN T. G. (U.S.A.)
Comutagenesis in E. coli and in Chinese Hamster V79 Cells

12.30 LUNCH

THURSDAY 27.6 ROOM II

P RECOMBINANT DNA TECHNOLOGY IN MUTATIONAL STUDIES

Chairmen: R. C. von Borstel (Canada), G. Magnusson (Sweden)

OP 1 09.00 **MAGNUSSON G.**, Linder, S., Nilsson M. and Nilsson S. (Sweden)
Activities of Polyomavirus Large T-Antigen Proteins Expressed by Mutant Genes

OP 2 09.30 **SARASIN A.** (France)
Molecular Analysis of Mutations in Mammalian Cells

OP 3 10.00 **LEE W. R.** (U.S.A.)
Molecular Mechanisms of Mutagenesis Determined by Recombinant DNA Technology

10.30 COFFEE

OP 4 11.00 **ESSIGMANN J. M.** (U.S.A.)
Extrachromosomal Probes for Evaluating the Mutagenic Activity of DNA Damaging Agents

OP 5 11.30 **KUNKEL T. A.** (U.S.A.)
The Mutational Speceficity of Eucaryotic DNA Polymeases , and .

OP 6 12.00 **VON BORSTEL R. C.** (Canada)
Spotaneous and Induced Base Sequence Alterations in the URA3 Locus in Yeast

12.30 LUNCH

R POPULATION MONITORING AND EPIDEMIOLOGY

Chairmen C. Hogstedt (Sweden), G. Obe (F.R.G.)

OR 1 09.00 CARRANO, A. V., Aschworth L. K. and Moore II D. H. (U.S.A.)
Baseline and Mutagen-Induced SCE Frequencies in Humans

OR 2 09.30 PRESTON, R. J., Bender M. A. and Shelby M. D. (U.S.A.)
Analysis of Chromosome Aberrations and Sister Chromatid Exchanges in Human Lymphocytes - Population Monitoring Studies

OR 3 09.45 MORIMOTO, K., Miura K. and Koizumi A. (Japan)
Effects of Life-Styles on Sister Chromatid Exchange Frequencies in Peripheral Blood Lymphocytes

OR 4 10.00 CHEN, A. T. L., Dai, X. D., Reidy, J. A., Annest, J. L. and Green R. J. (U.S.A.)
Folic Acid and Chromosome Breakage: Longitudinal Studies of Normal Individuals and their Implication for Sample Size and Power to Detect Differences between Populations

OR 5 10.15 SCHMID E. and Bauchinger M. (F.R.G.)
Chromosome Analysis of Persons Occupationally Exposed to Formaldehyde

10.30 COFFEE

OR 6 11.00 OBE G. (F.R.G.)
Epidemiological Studies Concerning Chromosomal Aberrations in Alcoholics and Smokers

OR 7 11.30 GALLOWAY, S. M., Berry, P., Nichols, W., Wolman, S., Soper, K., Archer P. and Stolley P. (U.S.A.)
Cytogenetic Study of 61 Employees to Ethylene Oxide, and of a Large Control Population

OR 8 12.00 SRAM R. J. (Czechoslovakia)
Efect of Ascorbic Acid Prophylaxis in Groups Occupationally Exposed to Mutagens

12.30 LUNCH

THURSDAY 27.6

ROOM IV

S GENE MUTATIONS IN MAMMALS DETECTED BY BIOCHEMICAL METHODS

Chairmen: J. B. Bishop (U.S.A.), U. Ehling (F.R.G.)

OS 1 09.00 LEWIS S. E. and Johnson F. M. (U.S.A.)
The Nature of Spontaneous and Induced Electrophoretically Detected Mutations in Mouse

OS 2 09.30 PETERS, J., Ball S. T. and Andrews S. J. (United Kingdom)
The Detection of Gene Mutations by Electrophoresis and Quantitative Assay and their Analysis

OS 3 10.00 FEUERS R. J. and Bishop J. B. (U.S.A.)
The Response of Kinetic Parameters from Selected Enzymes to Variant Loci in Congenic Mice and Implications for in vivo Biochemical Mutation Tests

10.30 COFFEE

OS 4 11.00 PRETSCH W. and Charles D. J. (F.R.G.)
Protein-Charge Mutations in Mice

OS 5 11,30 BHATTACHARJEE, D., Charles D. J. and Pretsch W. (F.R.G.)
Studies with Ethylnitrosourea Induced Glucosephosphate Isomerase Deficient Mutants of Mice

OS 6 11.45 ALTUKHOV Y. P. and Suskov I. I. (U.S.S.R.)
Spontanous Mutation Rate in Man at Gene Loci Encoding Protein Structure

12.00 DISCUSSION

12.30 LUNCH

T DROSOPHILA MUTAGENESIS TESTING

Chairmen: B. Rasmuson (Sweden), E. W. Vogel (The Netherlands)

OT 1 09.00 BLOUNT J. L. and Woodruff R. C. (U.S.A.)
Comparison of Drosophila melanogaster Chromosome Breakage Assays, Including an Evaluation of Hyperploidy Test

OT 2 09.30 GRAF U. and Würgler F. E. (Switzerland)
The Present Status of Validation of the Wing Spot Test in Drosophila

OT 3 10.00 ZIMMERING S. and Mason J. M. (U.S.A.)
A Comparison of Assays for Chemically-Induced Aneuploidi in Drosophila

10.30 COFFEE

OT 4 11.00 OSGOOD C. J. (U.S.A.)
Tests for Mutagen-Induced Transposition in Drosophila Germ Cells

OT 5 11.30 DUSENBERY R. L. (U.S.A.)
Correlation of UDS Proficiency and Remaval of Specific Alkylation Products in Repair-Deficient Strains of Drosophila

OT 6 12.00 RASMUSON B. and Holmgren P. (Sweden)
Transposable Elements in Drosophila melanogaster

OT 7 12.15 MITTLER S. (U.S.A.)
Hypertermia and Radiation Induced Genetic Damage in Excision Repair Drosophila Mutants

12.30 LUNCH

THURSDAY 27.6 ROOM I

U BIOTRANSFORMATION OF MUTAGENS AND CARCINOGENS

Chairmen: B. Beije (Sweden), J. K. Selkirk (U.S.A.)

OU 1 15.00 HUBERMAN, E., Oravec C. and Jones C. (U.S.A.)
Cell Specific Activation of Chemical Carcinogens into Mutagens for Cultured Human and Rodent Cells

OU 2 15.30 SELKIRK J. K. and Merrick B. A. (U.S.A.)
Analysis of Benzo(a)Pyrene Water Soluble Conjugates in Human and Rodent Cells

16.00 COFFEE

OU 3 16.30 OESCH F. (F.R.G.)
Short-Term and Long-Term Modulation of the Enzymatic Control of Mutagenic and Carcinogenic Metabolites

OU 4 17.00 KATO, R., Kamataki, T., Saito K. and Shinohara A. (Japan)
Acetyl-Coa Dependent O-Acetylation of N-Hydroxyarylamine in Bacterial and Mammalian Cell. The Significance for Mutagenesis and Carcinogenesis

OU 5 17.30 NESNOW, S., Gold, A., Mohapatra, N., Sangaiah, R., Bryant, B.J., Rudo, K., MacNair P. and Ellis S. (U.S.A.)

Metabolic Activation Pathways of Cyclopenta-Fused PAH and their Relationship to Genetic and Carcinogenic Activity

19.30 CONFERENCE DINNER
At the City Hall of Stockholm

P RECOMBINANT DNA TECHNOLOGY IN MUTATIONAL STUDIES (Continued)

Chairmen: J. M. Essigmann (U.S.A.), A. Sarasin (France)

OP 7 15.00 PATEL, P. I., Chinault, A. C., Yang, T. P. Konecki, D. S., Stout J. T. and Caskey C. T. (U.S.A.)
Mutational Diversity at the Human HPRT Locus

OP 8 15.30 FUSCOE, J. C., Van Dilla M. A. and Deaven L. L. (U.S.A.)
Construction of Human Chromosome-Specific Libraries from Flow Sorted Chromosomes

16.00 COFFEE

OP 9 16.30 GRANGER-SCHNARR, M., Bichara, M., Daune, M., Freund, A. M., Koffer-Schwartz, N., Verdier J. M. and Fuchs R. P. P. (France)
AAF and AF Adducts Induced Mutagenesis: Identification of some of the Genes Involved

OP 10 16.45 HSIE A. W. and Stankowski L. F. Jr. (U.S.A.)
Molecular Analysis of Mutagen Specificity in CHO and pSV<u>gpt</u> Transformed AS52 Cells

17.00 DISCUSSION

19.30 CONFERENCE DINNER
At the City Hall of Stockholm

R POPULATION MONITORING AND EPIDEMIOLOGY (Continued)

Chairmen: N. P. Bochkov (U.S.S.R.), M. L. Mendelsohn (U.S.A.)

OR 9 15.00 **MENDELSOHN M. L.** (U.S.A.)
Prospects for DNA Methods to Measure Human Heritable Mutation Rates

OR 10 15.30 ERICSON, A., Iselius L. and Lindsten J. (Sweden)
Changes in the Incidence of Down Syndrome in Sweden during 1968-1982

16.00 COFFEE

OR 11 16.30 OFTEDAL P. (Norway)
Possible Genetic Effects of Cancer Therapy, Seen in Surviving Cancer Petients' Offspring

OR 12 17.00 **MULVIHILL J. J.** (U.S.A.)
Reproduction in Cancer Patients

OR 13 17.30 **BOCHKOV N. P.** (U.S.S.R.)
Evaluation of Dynamics of Hereditary Pathology Frequency

19.30 CONFERENCE DINNER
At the City Hall of Stockholm

THURSDAY 27.6 ROOM IV

V DIRECT AND HERITABLE EFFECT IN THE GERM LINE

Chairmen: M. F. Lyon (U.K.), A. Wyrobek (U.S.A.)

OV 1 15.00 RUSSELL L. B. (U.S.A.)
Heritable Effects of Chemicals in Mammalian Germ Cells: Relation to Results from Other Test Systems

OV 2 15.30 LYON M. F. (United Kingdom)
Induction of Congenital Malformations in the Offspring of Mutagen Treated Mice

16.00 COFFEE

OV 3 16.30 MOUTSCHEN J. (Belgium)
Elimination Processes and the Future of Meiotic Chromosome Damage after Chemicals

OV 4 17.00 BRANDRIFF, B., Gordon, L., Ashworth, L., Watchmaker G. and Carrano A. (U.S.A.)
Cytogenetics of Human Sperm: Sperm and Lymphocyte Chromosomes Compared in Normal Men , and Baseline Aneuploidy Frequencies Induced by Reciprocal Translocations

OV 5 17.30 WYROBEK, A., Watchmaker, G., Timourian T. and Bishop J. (U.S.A.)
Multigenerational Inheritance of Triethylenemelanine(TEM)-Induced Sperm Morphology Mutations in Mice

OV 6 17.45 LOWERY, M. C., Rithidech, K., Au, W. W., Adams P. M. and Legator M. S. (U.S.A.)
Genetic Damage and the Expression of Behavioral Abnormalities in the Progeny of Male Rats Exposed to Ionizing Radiation

19.30 CONFERENCE DINNER
At the City Hall of Stockholm

T DROSOPHILA MUTAGENESIS TESTING

Chairmen: R.C. Woodruff (U.S.A.), F.E. Würgler (Switzerland)

OT 8 15.00 HÄLLSTRÖM I. (Sweden)
Genetic Regulation of the Cytochrome P-450 System in Drosophila melanogaster

OT 9 15.15 ZIJLSTRA J. A. and Vogel E. W. (The Netherlands)
The Possible Involvement of Monoamine Oxidases in the Bio-Activation and De-Activation of Mutagens in Drosophila melanogaster

OT 10 15.30 YOSHIKAWA I. and Ayaki T. (Japan)
Dose-Response Relationships of Ethyl- and Methyl-Nitrosourea Induced Mutations in Female and Male Germ Cells of Drosophila melanogaster

OT 11 15.45 KRAMERS P. G. N., Mout, H. C. A., Mulder C. R. and Berkhout P. (The Netherlands)
Mutation Induction by Gaseous Halogenated Alkanes in Drosophila, and Relation with Cellular Glutathione Levels

16.00 COFFEE

OT 12 16.30 FREI, H., Lüthy, J., Brauchli J. and Zweifel U. (Switzerland)
Structure-Activity Relationship of Pyrrolizidine Alkaloids in a Somatic Mutagenicity Test of Drosophila melanogaster

OT 13 16.45 KATZ A. J. (U.S.A.)
Genotoxic Effects of some Base Analogs in the Drosophila Wing-Spot Assay

OT 14 17.00 DE LA ROSA, D. M. E. and Félix E. R. (Mexico)
Genetic Effects Induced by Heavy Metals in Drosophila melanogaster

OT 15 17.15 MARQUES E. K. and Ramos A. L. P. (Brazil)
Mutagenic Action of Integerrimine, an Alkaloid Present in Senecio brasiliensis (Sprengel) Less., in Drosophila

17.30 ABRAHAMSON S. (U.S.A.)
Indused Mutation Patterns in Oogonia Stem Cells of Drosophila

17.45 LEE W. (U.SA.)
Unscheduled DNA Synthesis in Drosophila Oocytes

19.30 CONFERENCE DINNER
At the City Hall of Stockholm

FRIDAY 28.6 ROOM I

U BIOTRANSFORMATION OF MUTAGENS AND CARCINOGENS

Chairmen: F. Oesch (F.R.G.), H. Norppa (Finland)

OU 6 09.00 **BALL, L. M.**, Kohan, M. J., Nishioka, M. G., Gold A. and Lewtas J. (U.S.A.)
Mutagenicity and Activation Pathways of 3-Nitrofluoranthene, an Environmental Mutagen, and its Reduced Metabolites

OU 7 09.15 **DJURIC, Z.**, Potter, D. W., Fifer E. K. and Beland F. A. (U.S.A.)
Nitroreduction of Dinitropyrenes by Rat Liver Cytosol

OU 8 09.30 **OHNISHI, Y.**, Kinouchi, T., Nishifuji, K., Beland, F.A.*, Morotomi M. and Mutai M. (Japan, *U.S.A.)
Metabolism of 1-Nitropyrene in Germfree and Conventional Rats

OU 9 09.45 **HOLME J. A.** and Søderlund E. J. (Norway)
Species Differences in the Metabolism, Cytotoxic and Genotoxic Effects of 2-Acetylaminofluorene

OU 10 10.00 **STRNISTE, G. F.**, Nickols, J. W., Okinaka R. T. and Whaley T. W. (U.S.A.)
An Alternative Mechanism in Transforming Aromatic Amines into Potent Mutagens

OU 11 10.15 **NORPPA, H.**, Mäki-Paakkanen, J., Jantunen, K., Pfäffli P. and Järventaus H. (Finland)
Chromosome Damage Induced by Vinylacetate through Conversion into Acetaldehyde

10.30 COFFEE

OU 12 11.00 **GLATT, H. R.**, Utesch, D., Mertes I. and Oesch F. (F.R.G.)
Activation and Inactivation of Mutagens by V79 Chinese Hamster Cells

OU 13 11.15 **De FLORA S.** (Italy)
Detoxication of Genotoxic Chemicals. Biological Significance Mechanisms and Perspectives in Chemoprevention of Cancer

OU 14 11.30 **RINKUS S. J.** and Legator M. S.* (Finland, *U.S.A.)
A Fluorometric Assay Using HPLC to Measure 1,N -Ethenoadenine-Forming Metabolites from the Microsomal Metabolism of 1,2-Dibromoethane and Similar Compounds

Ou 15 11.45 **ALEXANDER, J.**, Ryberg D. and Mikalsen A. (Norway)
Microsomal Reduction of Chromate (CrVI)

12.00 DISCUSSION

12.30 LUNCH

FRIDAY 28.6

ROOM II

X IMBALANCE OF NUCLEOTIDE POOL

Chairmen: D. Anderson (U.K.), M. Meuth (U.K.)

OX 1 09.00 **MEUTH, M.**, Trudel M. and Nalbantoglu J. (United Kingdom)
Molecular Analysis of Mutations Induced by Deoxyribonucleotide Pool Imbalances in Mammalian Cells

AA 2 09.30 **BIANCHI, V.**, Pontis E.* and Celotti L. (Italy, *Sweden)
Replaces OX 2 Nucleotide Pool Unbalance and UV-Mutagenesis in Hamster Fibroblasts

OX 3 10.00 **JENSSEN D.** (Sweden)
Enhanced Mutagenicity of Low Doses of Alkylating Agents and UV by Inhibition of Ribonucleotide Reductase in V 79 Chinese Hamster Cells

10.30 COFFEE

OX 4 11.00 **ANDERSON D.** (United Kingdom)
Studies with Unbalanced Precursor Pools in vitro and in vivo

OX 5 11.30 **REIDY J. A.** (U.S.A.)
Folate-Sensitive Chromosome Breakage: Mechanism Involves Deoxyuridine

OX 6 11.45 **HOLMBERG, M.**, Lagerberg, B., Niejahr B. and Rödin L. (Sweden)
The Effect of Deoxyribonucleocides on the Yield of Intermediate DNA-Breaks in Human Lymphocytes Irradiated with UVC (254 nm)

12.00 DISCUSSION

12.30 LUNCH

FRIDAY 28.6 ROOM III

Y ONCOGENES AND CHROMOSOME ALTERATIONS FOR TUMOURIGENESIS

Chairmen: G. Klein (Sweden), W. W. Nichols (U.S.A.)

OY 1 09.00 KLEIN G. (Sweden)
The Role of MYC/IG Juxtaposition by Chromosomal Translocation in the Genesis of Human and Murine B-Cell Tumors

OY 2 09.30 GALLO R.C. and Reitz M. S. (U.S.A.)
The Human T-Cell Leukemia (Lymphotropic) Viruses and their Role in Human Disease

OY 3 10.00 CAVENEE W. K. (U.S.A.)
Recessive Oncogenes: Identification, Tissue and Clinical Utility

10.30 COFFEE

OY 4 11.00 MITELMAN F. (Sweden)
Chromosomal Segments of Critical Significance in Human Neoplasia

OY 5 11.30 NICHOLS W. W. (U.S.A.)
Cytogenetic Manifestations of Alteration of Gene Expression and their Relevance to Cancer

OY 6 12.00 ZECH L. (Sweden)
Chromosome 14 Abnormalities in Malignant Diseases of the Lymphatic System

OY 7 12.15 LATT, S., Shiloh, Y., Sakai, K., Brodeur, G., Schreck, R., Donlon, T., Korf, B., Shipley, J., Bruns G. and Seeger R. (U.S.A.)
A Novel DNA Rearrangement Phenomenon Associated with DNA Amplification in Cell Lines and Primary Tumors of Neuro-Ectodermal Origin

12.30 LUNCH

FRIDAY 28.6 ROOM IV

V DIRECT AND HERITABLE EFFECT IN THE GERM LINE

Chairmen: I.-D. Adler (F.R.G.), A. Searle (U.K.)

OV 7 09.00 ADLER I.-D. (F.R.G.)
Clastogenic Potential in Mouse Spermatogonia of Chemical Mutagens Related to their Cell-Cycle Specificities

OV 8 09.30 CATTANACH B. M. (United Kingdom)
Translocation and Specific Locus Mutation Response of Mouse Spermatogonial Stem Cells to Fratinated X-Ray and Combined X-Ray-Chemical Mutagen Treatments

OV 9 10.00 GENEROSO W. M. (U.S.A.)
Relationship between Alkylation Sites and Induction of Dominant Lethals and Heritable Translocations in Mice

10.30 COFFEE

OV 10 11.00 EHLING U. (F.R.G.)
Induction of Gene Mutations in Mice: The Multiple Endpoint Approach

OV 11 11.30 SEARLE A. and Beechey C. V. (United Kingdom)
The Role of Dominant Visibles in Mutagenicity Testing

OV 12 12.00 FAVOR J. (F.R.G.)
A Comparision of the Mutation Rate to Dominant and Recessive Alleles in Germ Cells of the Mouse

12.30 LUNCH

FRIDAY 28.6 ROOM V

Z QUANTITATIVE RISK ASSESSMENT, REGULATING PHILOSOPHY

Chairmen: S. Igali (Hungary), J. Lewtas (U.S.A.)

OZ 1 09.00 OFTEDAL P. (Norway)
Risk and Reason. Report from the Oslo Satrellite Symposium

OZ 2 09.30 SCHÖNEICH J. (G.D.R.)
The Importance of Pharmacokinetics for the Mutagenicity of Chemicals and the Extrapolation of Data to Man

OZ 3 10.00 LEWTAS J. (U.S.A.)
Comparative Potency Method for Cancer Risk Assessment: Application to the Quantitative Assessment of the Contribution of Combustion Emissions to Lung Cancer Risk

10.30 COFFEE

OZ 4 11.00 BOIS F. and Vasseur P. (France)
Carcinogens in Drinking Water : Risk Assessment

OZ 5 11.15 KORTE A. and Madle S. (F.R.G.)
Mutagenicity Testing of Drugs - Regulatory Philosophy

OZ 6 11.30 LEGATOR, M. S., Au, W. W., Harper, B. L., Ramunujam V. M. S. and Ward J. B. (U.S.A.)
Regulatory Implications of a Mobile Animal-Monitoring Unit

OZ 7 12.00 IGALI S. (Hungary)
Reserchers Versus Regulators - Dilemma of a Scientist

12.30 LUNCH

FRIDAY 28.6

ROOM I II III

PLENARY LECTURES

Chairmen: F. de Serres (U.S.A.), T. Sugimura (Japan)

PL 4 14.00 **EVANS H. J.** (United Kingdom)
The Role of Human Cytogenetics in Studies of Mutagenesis and Carcinogenesis

PL 5 14.45 **ROSENKRANZ H. S.** (U.S.A.)
Artificial Intelligence, Decision Theory and Carcinogens

15.30 COFFEE

16.00 **SOBELS F. H.** (The Netherlands)
Closing Lecture

16.45 **CLOSING CEREMONY**

POSTERS B DNA-REPAIR

PB 1 AKHMATULLINA, N. B., Shigaeva M. C. and Abdukarimova D. A. (U.S.S.R.)
Protective Effect of Small Doses of Chemical Mutagens on Ortomyxoviruses

PB 2 ARRAND J. and Meuth M. (United Kingdom)
Molecular Analysis of the Genetic Lesions Produced by Exposure of Mammalian Cells to Benzo(a)Pyrene

PB 3 ATHANASIOU K. and Arzimanoglou I. (Greece)
A Study of the Adaptive DNA Repair Response in CHO and Mouse Balb/3T3 Cells in Culture

PB 4 AVERBECK D. and Averbeck S. (France)
Mutagenic and Recombinogenic Action of DNA Monoadducts Photoinduced by the Bifunctional Furocoumarin 8-Metoxypsoralen in Yeast (Saccaromyces cereviciae)

PB 5 CHANG M. L. (China)
Hybrids Formation of a Mouse Myeloma Cell Line (Ag14-SP2/0) with Human Lymphocytes and its Identification

PB 6 CHANG M. L. (China)
Studies on the Monoclonal Antibodies Against HBsAG I. The Establishment of the Hybridoma Cell Lines Secreting Monoclonal Antibodies Against HBsAG

PB 7 CHORTARIA O. and Kyrtopoulos S. A. (Greece)
Study of the Formation and Repair of O^6Methylguanine in Fractions of Rat Liver Nuclear Chromatin after the Administration of Methylating Agents

PB 8 CLERICI, L., Merlini M. and Silva P. (Italy)
The Feasibility of the Use of Cultured Mouse Embryos in the Investigation of DNA Repair

PB 9 CRADDOCK V. M. (United Kingdom)
The Effect of Nitrosamines on the ^{6}-Alkylguanine-DNA Alkyl Transferase in Rat Esophagus and Liver

PB 10 DEGRASSI, F., De Salvio, R., Palitti, F., Del Bufalo D. and Tanzarella C. (Italy)
Factors Involved in the Formation of Chromatid Aberrations in G_2: Studies with Inhibitors of Different Molecular Processes

POSTERS B DNA-REPAIR (Continued)

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PF 6 HALACHMI, A., Kirenberg F. and Riesenfeld G. (Israel)
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PF 8 LAIRES, A., Chaveca, T., Rueff, J., Borba, H., Gomez M. and Halpern M. (Portugal)
Flavonoids' Genotoxicity, Again - Metabolic Conditions Involved in the Responses in the Ames Test, SOS-Chromotest, SCEs and Micronucleus

PF 9 MANANDHAR, M., Cheng, M., Iatruopolus, M.J., Dulak, L., Thilagar, A., Kirby, P., Rundell, J., Loveday K. and Noble J.F. (U.S.A.)
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PF 10 MATIJASEVIC, Z., Franekic J. and Alacevic M. (Yugoslavia)
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PF 13 **SCHIFFMANN, D.**, Wild D. and Henschler D. (F.R.G.)
IQ, 2-Amino, 3-Methylimidazo- (4,5-F)Quinoline Induces Morphological Transformation and Unscheduled DNA Synthesis in Cultured Syrian Hamster Embryo Cells

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PF 15 **VANCHUGOVA, N. N.**, Kogan F. M. and Frasch V. N. (U.S.S.R.)
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PG 2 BONATTI S. and Abbondandolo A. (Italy)
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PG 3 IVETT J. L. and Brown B. M. (U.S.A.)
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PG 5 REDEI, G. P., Sears E. R. and Sandhu S. S. (U.S.A.)
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PG 6 ZIMMERMANN F. K. and Mayer V. W. (U.S.A.)
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PH 2 DABNEY, B. J., Freeman, H. S., Price, K. B., Esancy, J., Calogero, F., Esancy K. M. and Whaley W. M. (U.S.A.)
Structure-Activity Relationships for AZO Dyes from Aminonaphthalenes

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PH 4 GENTILE, G. J., Gentile J. M. and Plewa M. J. (U.S.A.)
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PH 5 GILOT-DELHALLE, J., Moutchen J. and Moutchen-Dahmen M. (Belgium)
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PH 6 LASNE, C., Venegas, W., Lowy R. and Chouroulinkov I. (France)
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PH 13 TOKIWA, H., Otofuji, H., Otsuka H. and Ohnishi Y. (Japan)
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Effects of ENU in Two Different Mouse Crosses in the Mouse Coat Color Spot Test

PK 2 HART J. W. (Denmark)
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PK 3 HENDERSON, L., Cole, H., Cole J. and James E. (United Kingdom)
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PK 4 JONES, I. M., Burkhart-Schultz K. and Carrano A. V. (U.S.A.)
A Mouse Model of Mutagenesis: Studies of Spontaneous and ENU-Induced Thioguanine Resistent Mouse Lymphocytes Using a Clonogenic Assay

PK 5 NEUHÄUSER-KLAUS A. (F.R.G.)
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PI 2 GUTIERREZ, C., Maldonado A. and Hernándes P. (Spain)
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PI 5 HOLMSTROM M. (United Kingdom)
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PI 7 KOSZ-VNENCHAK, M., Kubiak R. and Branny J. (Poland)
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PI 8 KRAJINCANIC, B., Zimonjic, D., Krajincanic V. and Soldatovic B. (Yugoslavia)
Influence of some Pesticides from Nutricion on Chromosomal Aberration in vitro System

PI 9 LAZUTKA, J. R., Lekevicius, R., Meskauskaite D. and Simonyte R. (U.S.S.R.)
The Persistence of Phopurine-Induced DNA Damage Leading to Sister Chromatid Exchange (SCE) Formation in Human Lymphocytes

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PI 12 **LUNDGREN, K.**, Waldman, G., Thompson C. and Lucier G. (U.S.A.)
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PI 13 **MACGREGOR J. T.** and Henika P. R. (U.S.A.)
The Fetal Blood Erythrocyte Micronucleus Assay: Classification of RNA-Positive Erythrocytes into Two Age Populations by RNA Aggregation State

PI 14 **MURLI, H.**, Galloway, S. M., Ivett, J. L., Parry D. M. and Mulvihill J. J. (U.S.A.)
Effect of Cryopreservation on Spontaneous and in vitro Mutagen-Induced Chromatid Exchange (SCE) in Human Lymphocytes

PI 15 **MUSTONEN R.** and Linnainmaa K. (Finland)
Effects of Phenoxy Herbicides on Chromosome Aberrations

PI 16 **MÄKI-PAAKKANEN J.** and Norppa H. (Finland)
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PI 17 **OSTROSKY-WEGMAN, P.**, Garcia, G., Montero, R., Espinosa, J. and Cortinas de Nava C. (Mexico)
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Uncoupling between the Capacity to Block the Cell Cycle and to Rise the SCE Rate Induced by Ethionine in Human Lymphocytes

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Frequencies of Types of Chromosome Aberrations in Human Lymphocytes Cultured in Low Folic Acid Medium

PI 22 RIBEIRO, L. R., Rabello-Gay, M. N., Pereira C. A. B. and Becak W. (Brazil)
Chromosomal Aberrations in Somatic and Germ Cells Produced by Exposure of Mice to Inhaled Ethylene Oxide

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PI 24 RICORDY R. and Cozzi R. (Italy)
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PI 25 TATES, A. D., Melkveld G. J. and Den Engelse L. (The Netherlands)
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Genetic Activity of 13 -Hydroxy-13 -Amino-13,17-Seco-5 Androstan-17-Oic-13,17-Lactam-p-bis(2-Chloroethyl)Aminophenoxy acetate (nSC 294859 on Human Lymphocyte Cultures in vitro

PI 27 UGGLA A. H. (Sweden)
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PI 28 WAGNER, E. D., Dowd, P. A., Schy W. E. and Plewa M. J. (U.S.A.)
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PM 1 AGABEILI R. A. (U.S.S.R.)
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1-Aminopyrene and its Oxygen-Dependent Mutagenicity in Salmonella

PM 3 AKHUNDOVA D. D. (U.S.S.R.)
Effect of Plant Metabolites on the Induced Mutation

PM 4 ANDRAE, U., Homfeldt H. and Ziegler-Skylakakis K. (F.R.G.)
Protection of Mammalian Cells in Culture against Hydrogen Peroxide-Induced Cyto- and Genotoxicity by -Ketoacids

PM 5 BARALE, R., Campana, A., Caranti, S., Migliore, L., Rossi V. and Scorza Barcellona P. (Italy)
In vitro and in vivo Antimutagenic Activity of Bendazac

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PM 7 BRUNIUS G. (Sweden)
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PM 8 CAMPEN, D. B., Gupta, B., Vickers A. E. M. and Lucier G. W. (U.S.A.)
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PM 10 EMERIT, I., Lahoud, M., Papadopoulo, D., Khan S. H. and Levy A. (France)
Clastogenic and Mutagenic Effect of Supernatants from TPA-Treated CHO-V79 Cells

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Tumor Promoting Activity of the Pyrethroid Fenvalerate Assayed in vitro and in vivo

PM 12 FRELAT, G., Beaumatin, J., Dayan, J., Daya-Grosjean, L., Quillardet P. and Morin M. (France)
Benzoflavone: A Challenge to Mutagenicity and Promotion Short-Term Tests

PM 13 FURUKAWA, H., Kawai K. and Okado N. (Japan)
Interaction between Carbonyl Mutagens and Amines on Mutagenicity Testing

PM 14 GOLDBERG, M. T., Boermans H. J. and Wargovich M. J. (Canada)
Inhibition of 1,2-Dimethylhydrazine-Induced and Cyclphosphmamide-Induced in vivo Genotoxicity by Allyl Sulfide, a Major Component of Garlic Oil

PM 15 GONCHAROVA R. I. (U.S.S.R.)
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PM 16 HOWARD, C. A., Richardson C. R. and Barber G. (United Kindom)
The Cytochrome Damaging Potential of Hydrogen Peroxide as a Assessed in Three in vitro Cytogenetic Systems

PM 17 JAN, K. Y., Huang R. Y. and Lee T. C. (Taiwan, China)
Diferential Expression of the Coclastogenicity of Sodium Arsenite, Caffeine and 3-Aminobenzamide

PM 18 JONGEN, W. M. F., Lagerweij W. J. and Topp R. J. (The Netherlands)
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PM 19 KLAUDE M. and von der Decken A. (Sweden)
Persistence of Dimethylnitrosamine-Mediated Alkylation of DNA in Mice Fed a Methionine-Cysteine Deficient Diet

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Some Industial Chemicals Investigated for Tumor Promoting Activity in the Rat Liver Foci Bioassay

PM 21 MEKSONGSEE, L., Prabhavat, M., Kanto U. and Tobunek P. (Thailand)
Detoxification of Peanut Aflatoxin by Caffeine and Theobromine

PM 22 MIRSALIS, J., Tyson, K., Loh, E., Bakke, J., Hamilton, C., Cotten, K., Steinmetz K. and Spalding J. (U.S.A.)
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PM 23 NISHIOKA, H., Otsuka . A., Nunoshiba T. and Sotani T. (Japan)
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PM 24 OHTA, T., Watanabe, M., Shirasu Y. and Kada T. (Japan)
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PM 25 POLVERELLI, M., Odin, F., Decarrzo C. and Cadet J. (France)
N-Oxidation of the Adenine Moiety in DNA by Hydrogen Peroxide

PM 26 RUCHIRAWAT, M., Saengchan S. and Chan J. Y. H.*
(Thailand, *U.S.A.)
Alteration in Metabolism, Liver DNA Alkylation and Damage by Dimethylnitrosamine (DMN) in Rats During Riboflavin Deficiency

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The Enzymatic Inactivation of Oxygen-Dependent Mutagenicity in Coffee

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PM 31 WILSON S. A. and Soper C. J. (United Kingdom)
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PM 32 WÄRNGÅRD, L., Flodström, S., Ljungquist S. and Ahlborg U. (Sweden)
Quercitin Inhibits the Action of TPA and DDT in the V79 Metabolic Cooperation Assay

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PN 2 FINNON P. and Lloyd D. C. (United Kingdom)
An Appraisal of the Metaphase Finding Capability of the Cytoscan 110

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An Automated Dosimetry System

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Molecular Cloning of the Mouse Thymidine Kinase Gene from L5178Y Cells

PP 2 LUCCHESI, P., Carraway M. and Marinus M. G. (U.S.A.)
DNA Sequence Analysis of N-Methyl-N-Nitro-N-Nitrosoguanidine (MNNG)-Induced Mutations

PP 3 STÅHL, F., Martinsson T. and Levan G. (Sweden)
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PP 4 TASSERON-DE JONG, J. G., Den Dulk, H., Giphart-Gassler, M., Molendijk L. and Van De Putte P. (The Netherlands)
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PR 2 BENDER, M. A., Preston, R. J., Leonard R. C. and Shelby M. D. (U.S.A.)
Chromosomal Aberration and Sister Chromatid Exchange Frequencies in Lymphocytes from a Large Random Sample of Normal, Healthy People

PR 3 CHOKETHAVORN, N., Vinitketkumnuen U. and Suttajit M. (Thailand)
The Presence of Aflatoxins and Mutagens in Urine of Nothern Thais

PR 4 CLONFERO, E., Venier, P., Zordan, M., Pierini, M., Teccio, G., Gava C. and Levis A. G. (Italy)
Mutagenic Activity and Polycyclic Aromatic Hydrocarbons Levels in Urine of Humans Exposed to Coal Tar and Pitch

PR 5 DEKNUDT, G., Léonard A. and Léonard E. D. (Belgium)
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PR 6 DULOUT, F.N., Pastori, M.C., Olivero, O.A., González Cid, M., Loria, D., Matos, E., Sobel, N., Bujan E.C.de and Albiano N. (Italy)
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PR 7 FRIEDERICH, U., Molko, F., Scossa, D., Hann D. and Würgler F. E. (Switzerland)
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PR 8 JABAR M. A. and Zia´ee A.-A. (Iran)
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PR 9 JELMERT Ö and Hansteen I. L. (Norway)
Indication of Increased Chromosome Aberration Frenquencies with Increasing Age of the Worker Following Low Styrene Exposure

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PR 11 LAZJUK G. I. (U.S.S.R.)
The Ways to Enhance the Sensitivity of Population Monitoring System

PR 12 MACKAY, J. M., Fox, D. P., Brunt P. W. and Hawksworth G. (United Kingdom)
SCE Frequencies in Lymphocytes of Ulcerative Colitis Patients Before and After Sulphasalazine Therapy

PR 13 PILINSKAYA M. A. (U.S.S.R.)
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PR 14 ROZGAJ R. and Pisl Z. (Yugoslavia)
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PR 15 SARTO, F., Faccioli, M. C., Cominato I. and Levis A. G. (Italy)
Aging and Smoking Increase the Frequency of Sister Chromatid Exchanges (SCE) in Man

PR 16 SARTO, F., Franceschi, C., Chiricolo, M., Cominato, M. C., Brugnone F. and Levis A. G. (Italy)
Sister Chromatid Exchanges and DNA-Repair Capability in Sanitary Workers Exposed to Ethylene Oxide (Eto)

PR 17 TOMO, I., B"omer D. and Brezányová J. (Czechoslovakia)
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PR 18 TORROELLA M. and Rojas A. (Cuba)
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PR 19 VASSILIADES, N., Hatzitheodoridou, P., Epivatianos, P., Dozi-Vassiliades J. and Mourelatos D. (Greece)
Increases in Sister-Chromatid Exchanges in Human Lymphocytes from Heroin-Cannabis, Heroin and Cannabis Chronic Addicts

PR 20 WAKSVIK, H., Boysen M. and Høgetveit A. C. (Norway)
Micronuclei in Active and Retired Nickel Refinery Workers

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PR 21 WOLMAN, S. R., Galloway, S. M., Nichols, W. W., Norman, S. A., Soper K. A. and Stolley P. D. (U.S.A.)
Chromosome Studies in Association with Occupational Exposure to Ethylene Oxide

PR 22 XUE, S.-Z., Li, D.-H., Qian C. and Gu X.-Q. (China)
Inconsistence among the Teratogenicity, Carcinogenicity and Mutagenicity of Methylene-Bis (3-Amino-1,2,4-Thiodiazole) (MATDA)

PR 23 YAMAGUCHI, H., Yoshida, Y., Ohashi. Y., Katagiri H. and Bingo K. (Japan)
Correlations of Somatic Mutation Data with Environmental Factors in Tradescantia Stamen Hairs

PR 24 ZHANG, R. F., Xu, E. X., Zhang, Q. F., Jin, S., Chen C. S. and Li S. N. (China)
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PT 2 KALE P. (U.S.A.)
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PT 3 KRAMERS, P. G. N., Mout, H. C. A., Koopmans F. and van Dijken F. R. (The Netherlands)
Measurements on Fitness Parameters in Drosophila Females Heterozygous for Diepoxybutane-Treated X-Chromosomes

PT 4 KÄGI, A., Frei, H. J., Juon, H., Graf U. and Würgler F. E. (Switzerland)
The Detection of Promutagens and Procarcinogens in the Drosophila Wing-Spot Test

PT 5 RASMUSON Å. (Sweden)
Somatic Versus Germ Line Mutagenesis in an Unstable Locus in *Drosophila melanogaster*

PT 6 SMITH P. D. and Dusenbery R. L. (U.S.A.)
Effect of the *MEI-41*^{D5}, *MUS(1)101*^{D1}, *MUS(1)103*^{D1}, *MUS(2)205*^{A1} and *MUS(3)310*^{D1} on Loci on Alkylation-Induced Mutagenesis

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A DECADE OF ENVIRONMENTAL MUTAGEN SOCIETY OF INDIA

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The Environmental Mutagen Society of India (EMSI) was founded in 1974 by a handful of scientists of the Bio-Medical Group, Bhabha Atomic Research Centre, Bombay, with the main objectives of promoting research in basic and applied aspects of mutagenesis and providing a medium for dissemination of relevant scientific information among researchers and other concerned agencies. Concurrently, a training course was organized at BARC with the help of International and Indian agencies on Mutagenicity Evaluation of Drugs and Chemicals. This workshop included teacher participants from India and the Western countries and trainees from various Asian countries. The first one day Annual Conference of the Society was held as a part of the DAE Symposium on Carcinogens Mutagens and Teratogens in 1975. Since then the Society has not looked back and Annual Conferences have been regularly organized every year in various parts of the country. The active membership has increased from few in 1975 to over 200 in 1985. EMSI has also co-sponsored symposia and seminars with other Societies during 1976 and 1980. In 1982, another Workshop was conducted on Basic and Technical Aspects of Mutagenicity, Evaluation. An Asian meeting on Environmental Mutagen studies was organized as a Satellite meeting of the IX International Congress of Genetics in 1983 at New Delhi. The 10th Annual Conference was held at BARC in February 1985 and was attended by over 200 registered participants, including half a dozen from the Western world. The Society is currently planning a coordinated National Programme on coded chemicals to facilitate inter-laboratory comparisons. A task group of experts is preparing monograms on pesticides. Since its inception EMSI has been publishing a Newsletter. EMSI has a close contact with other agencies in the country and looks forward to international cooperation to achieve its goal of promoting research for identification of environmental mutagens and to help develop strategies for prevention from such genotoxic chemicals.

AA 2

EFFECTS OF HYDROXYUREA ON DEOXYNUCLEOTIDE POOLS OF MOUSE FIBROBLASTS

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Mouse fibroblasts (3T6 line) treated with hydroxyurea (HU) were used as a model system to study the regulation of deoxynucleotide metabolism. HU is an inhibitor of ribonucleotide reductase (RNR), a key enzyme in the biosynthesis of deoxynucleotides.

Although all the four DNA precursors depend on RNR for their production, their pool sizes were differently affected by HU: dATP and dGTP decreased drastically and continuously, dCTP slowly turned over after an early drop, dTTP expanded much above the control level. A marked unbalance of deoxynucleotide pool was thus produced.

To investigate the mechanisms involved, cells were incubated with tritiated nucleosides and the in situ activity of several enzymes participating in deoxynucleotide metabolism was determined. The different behaviour of purine and pyrimidine deoxynucleotide pools in the presence of HU could be referred to the different relevance of the salvage pathway for their synthesis. By that means pyrimidine deoxynucleosides present in conditioned medium can be directly phosphorylated to nucleotides bypassing the inhibition of RNR.

*Recipient of a Research Fellowship from the European Science Foundation.

MECHANISTIC ASPECTS ON CHEMICAL INDUCTION OF C-MITOSIS AND ABNORMAL CHROMOSOME NUMBERS

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Within an ongoing project, concentration response studies on mammalian cells in vitro are performed with a variety of compounds. The concentration inducing 10% c-mitosis is determined under standardized conditions and related to the partition coefficient in octanol/water for the compound, when known. There is for c-mitosis, as with several other biological effects of many different compounds, a negative correlation between "threshold" concentration and the partition coefficient. This unspecific physico/chemical mechanism is usually overlooked. One of the aims of the project is to get a reference system for c-mitosis allowing the identification of outliers i.e. compounds that may act through chemical mechanisms rather than physico/chemical interactions with cellular hydrophobic compartments. Beside c-mitosis, concentration response for toxicity and levels of sulfhydryl groups and ATP are investigated. Induction of heteroploidy is also studied. An appropriate statistical analysis of this and similar data sets can increase our understanding of which chemical and physical properties that characterize an efficient heteroploidy inducing compound. It can also, hypothetically, reveal a pattern for the various biological and biochemical parameters giving us important information about their predictive value in a test system for induction of heteroploidy. The action of some model compounds that appear to be more active than predicted from their lipophilic character will be discussed.

AA 4

A MODIFICATION OF THE SOS-CHROMOTEST[1] ALLOWING THE DETECTION OF LOW QUANTITIES OF ALKYLATING AGENTS

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Among baecterial tests used to detect genotoxic compounds some are based upon the properties of these substances to induce the SOS response. The strains used generally carry a uvr mutation which sensitizes them to compounds inducing bulky lesions in DNA. Many alkylating substances although known to be potent carcinogens are barely detected using these strains. It is known that Escherichia coli mutants in the tagA gene (coding for the 3-methyladenine DNA glycosylase I) and/or in the alkA gene coding for the unspecific alkylated purine DNA-glycosylase) are sensitive to low concentrations of alkylating agents. The induction of SOS function sfiA by methylating agents is measured using the sfiA: :lac operon fusion in E.coli carrying the tagA- and/or alkA- mutations[2]. The sfiA operon was turned on at a 10 fold lower concentration of methylmethane sulfonate or dimethylsulfate in tagA strains than in wild type strains. It should be emphasized that the induction of sfiA by UV light was neither affected by a tagA nor an alkA mutation. We confirm that tagA strains accumulate 3-methyladenine in their DNA. It suggests that this lesion most likely induces the SOS functions. In vitro results on DNA synthesis furtger suggest that this induction is due to an unscheduled arrest of DNA synthesis at this lesion.

1. Quillardet, P. et al. Proc.Natl.Acad.Sci.USA., 79, 5971-5975, 1982.
2. Boiteux, S. et al. EMBO J., 3, 2569-2573, 1984.

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AA 5

CYTOGENETIC DETECTION FOR THE INTERACTION BETWEEN DRUG AND RADIATION

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The genetic risk of two antischistosomal drugs, Hycanthone (Hyc) and Praziquantel (PZ) were tested in mice.
Normal male and female mice were implanted subcutaneously with BrdUrd-tablets 7 hr before their exposure to 0.6-15 mglkg Hyc, 8-200 mglkg PZ and/or 10-200 rad gammairradiation. Cytogenetic analysis such as SCE, cellular division and replication were performed on the bone marrow cells after 24 hr of the exposure. Hyc and PZ induced dose-dependent increase in the SCE frequencies, and reduction in the cellular division and replication. However, PZ exhibiting a significantly lower response than Hyc. Slight increase in SCE levels of gamma irradiated cells were noticed.
The interaction effects of these drugs at human therapeutic doses with 100 rad of gamma - irradiation indicated that Hyc had a synergistic effect, while PZ had an antigonistic effect if their administration preceded irradiation. However, both drugs exhibited an additive effect when they were given immediately post irradiation
The data suggested that Hyc and PZ interact differently with the cellular DNA. Hyc acted as a radiosensitizer while PZ acted as a radioprotector. The data also supported the validity of cytogenetic analysis in the evaluation of radio-sensitizer or - protector efficacy.

AA 6

THE GENERATION OF HYDROXYL AND SUPEROXIDE RADICALS DURING THE PEROXIDASE CATALYSED OXIDATION OF CARCINOGENIC ARYLAMINES:

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In the presence of NADH or GSH and traces of carcinogenic arylamine substrates, peroxidase catalysed extensive oxygen activation to form large amounts of H_2O_2 and superoxide and hydroxyl radicals. Approximately 0.8 and 0.4 moles of oxygen were consumed per mole of NADH or GSH oxidised respectively. NAD^+ or GSSG were the products formed. The carcinogens 2-naphthylamine, 4- aminobiphenyl, methylaminoazobenzene and aminofluorene were highly effective and other noncarcinogenic arylamines investigated were ineffective.
It is proposed that initially formed arylamine cation radicals oxidise NADH or GSH to radicals which react with oxygen. In the case of carcinogenic arylamines this leads to redox cycling.

THE GENERATION OF HYDROXYL AND SUPEROXIDE RADICALS DURING THE AUTO-OXIDATION OF BENZENE AND BROMOBENZENE METABOLITES.

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1,2,4-Trihydroxy benzene (TB) and hydroquinone (H) are active metabolites implicated in the leukemia and bone marrow toxicity induced in vivo by benzene. 2-Bromohydroquinone (BH) has also been implicated as an active metabolite in the bromobenzene-induced necrosis of the kidney proximal convoluted tubules. In aqueous solution at pH 7.5, TB and BH were found to rapidly autoxidise to form superoxide anions, H_2O_2 and hydroxyl radicals. In the cell this could lead to DNA strand breaks, base changes and membrane damage. TB autoxidation was prevented by superoxidedismutase/diethylenetriaminopentacetic acid suggesting the catalyst is a TB-Fe^{3+}-superoxide complex. BH and H autoxidation, however, was stimulated (x2) by superoxide dismutase apparently by preventing the back reaction between superoxide and the quinone product, but was unaffected by metal chelating agents. Oxygen activation by TB was enhanced by ascorbate as a result of quinone reduction. However, BH-mediated oxygen activation was prevented by ascorbate. Autoxidisable GSH conjugates were formed in both systems if GSH was present.

DNA ADDUCTS AND SISTER CHROMATID EXCHANGE IN CIGARETTE SMOKERS AND NON SMOKERS

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In order to validate markers of the biologically effective dose of a carcinogen in a "model" population, samples of DNA from volunteer smokers and non smokers were analyzed for levels of carcinogen-DNA adducts and sister chromatid exchange (SCE). BPDE-I-DNA adducts were quantitated in white blood cell DNA using enzyme linked immunosorbent assays (ELISA) with color or fluorescence detection. SCEs were measured in lymphocytes from the same blood samples. The correlation between the two measurements was examined as well as the relationship between exposure to benzo|a|pyrene via cigarette smoking and to other mutagens/carcinogens via other sources (diet, occupation, etc.).

DOMINANT LETHALS AND ANEUPLOIDY INDUCED BY X-RAYS IN DROSOPHILA FEMALES FED WITH ERGOSTEROL DEFICIENT YEAST

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Feeding D.melanogaster with erg$^-$ yeast mutant /deficient in ergosterol/ raised sensitivity of imago to the X-rays treatment in tests for dominant lethals and for the first chromosome loss.

Virgin females have been fed during 5 days exclusivly with biomass of erg$^-$ strain Saccharomyces cerevisia on agare-saccharose medium. After this period the flies were exposed to 500 R in dominant lethals test and to 1000 R in aneuploidy test and then were treated according to the routine methods for those tests. Control variant of experiments differed from this procedure by utilization of erg$^+$ strain of yeast isogenic to the erg$^-$ one. In tests with erg$^-$ yeast strain the frequency of induced dominant lethals was 2 times higher and the frequency of aneuploidy was 3 times higher than with erg$^+$ one.

Our results suggest that sterole dificit sensitize Drosophila to the agents inducing chromosomal abnormalities.

AA 10

THE ROLE OF LIPIDS IN THE CELL RESPONSE OF CANDIDA TROPICALIS STRAIN D-2 UNDER THE EFFECT OF CHEMICAL SUBSTANCES

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It is established that a higher amount of lipids in cells of Candida tropicalis strain D-2 and their nature result in an increased survival, a decreased morphological, biochemical variability, variability in respiration insufficiency and resistance to polyene antibiotics under the effect of chemical mutagens from the group of nitroso compounds.

The "protective" action of lipids is due to their higher reactivity relative to nitroso compounds resulting in free-radical processes intensification as well as due to changes in a lipid-crystal state and in other physicochemical characteristics of lipid components.

A complex analysis of mutagenic activity of nitroso compounds depending on the amount of lipids, the dose of mutagens and the cell cycle stage of the cells makes it possible to suggest an "indirect" participation of modified lipids in mutant inthrough error formation in the work of reparation and replication enzymes.

THE MUTAGENIC EFFECT OF INFLUENZA VIRUS ON MICE SPLENOCYTES

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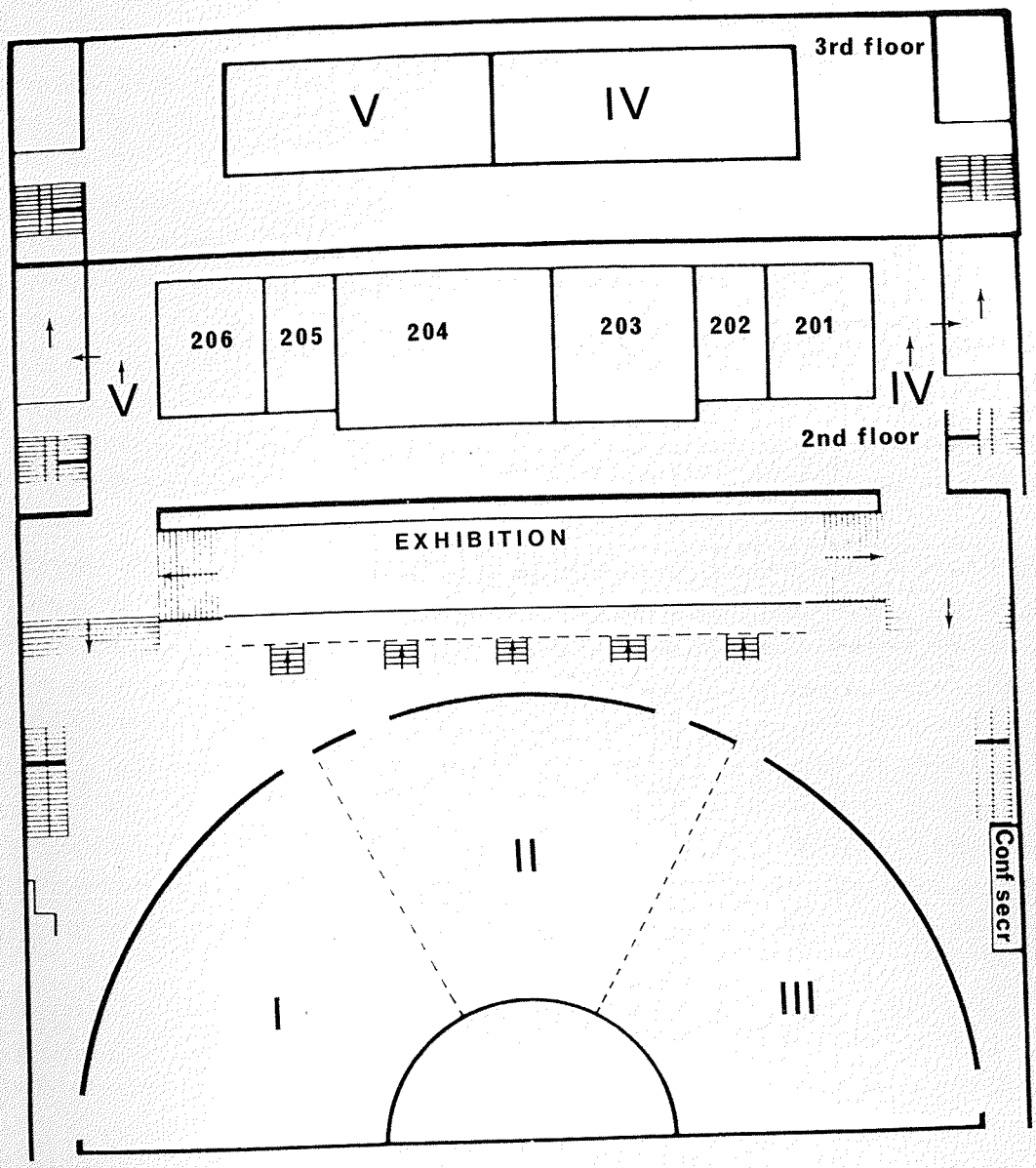
Influenza virus cocancerogenic action was revealed in experiments on mice of different lines and in mouse fibroblast culture. In order to ascertain the mechanism of this phenomenon mutagenic activity of influenza virus at early stages of its interaction with target cells wasinvestigated. Through DNA reparative replication assay of splenocytes of mice, different in susceptibility to influenza infection and cocancerogenic effect was studies.

Essential increase (5.8 times) of DNA reparative replication indexes was found in line CBA mice (lowly susceptible to acute influenza infection, percent of development of lung tumors after influenza virus infection was equal to 23.9) I - 3 days after infection.

The intensity of reparative activity in C57Bl line mice (highly susceptible to acute influenza infection, percent of development of lung tumors was equal to IO.0) was 3.5 times lower than that of intact animals.

These observation confirm our earlier suggestion on influenza virus ability to mutagenic action on susceptible cells, similar to chemical and physical mutagens.



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Fourth International Conference on Environmental Mutagens

Stockholm June 24–28 1985

The main Conference will be held in
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Oslo, Norway, June 20–22, 1985