On April 11th, Comet Halley will be at its closest point to Earth on this orbit, 0.4 Astronomical Units, about 38,000,000 miles away. It should be visible in the morning sky during the meeting. Thanks to M.D. Shelby for noting this coincidence and to J.D. Gingerich and A. Bouch for the cover concept.

PLEASE DON'T FORGET YOUR PROGRAM OR ABSTRACT BOOKLET

Extra copies of each will cost $5.00 each.

- NOTES -

1. **Smoking** is not permitted in Session Rooms.

2. All coffee breaks will be in the Chesapeake Foyer.

3. The phone number of the Sheraton Inner Harbour Hotel is: (301) 962-8300.
Seventeenth Annual Meeting - April 9-13, 1986
Sheraton Inner Harbour Hotel, Baltimore Md.

ENVIRONMENTAL MUTAGEN SOCIETY

The ENVIRONMENTAL MUTAGEN SOCIETY was founded in 1969 and incorporated under the laws of the District of Columbia. It is operated to encourage the study of mutagens in the human environment - particularly as they may affect public health - and to engage in and sponsor research, study, and dissemination of information related to this problem. Membership is open to all interested scientists.

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PLEASE REMEMBER to check the Message Board in the Registration Area (Chesapeake foyer, level three) frequently. Changes in the Program, including room assignments, special announcements, and messages will be posted there. In addition, please feel free to use the Message Board to leave messages for other attendees. If you wish to post any other material, please check at the Registration Desk first.
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REPRESENTATIVE: Dr. Robert H. Denlinger
ANALYSIS OF MUTATION AT THE DNA LEVEL, Potomac Room (level 3)
Larry H. Thompson
J. Patrick O'Neill,
Presiding, 1:00-3:00

Gerald Adair, Analysis of structural alterations at the \textit{aprt} locus

Kenneth Kraemer, Shuttle vectors to analyse mutations in mammalian cells

Barry Glickman, The endogenous \textit{aprt} gene in CHO cells as a mutation target

Janice Nicklas, The molecular analysis of HLA loss mutations in human lymphoblastoid cells

STATISTICAL TOPICS IN CYTOGENETIC STUDIES: IN VITRO, IN VIVO, IN US.
Severn Rooms II & III (level 2)
Barry H. Margolin, Presiding
1:00-3:00

This presentation will focus on a variety of statistical issues pertinent to the design and analysis of cytogenetic studies. It will draw upon recently or soon-to-be published papers dealing with in vitro, in vivo, and human studies. One main theme will be the benefits derived from a good model for the distribution of the endpoint of interest, e.g., Poisson model for SCEs in vitro. The primary benefits from such a model are: (i) an aid in experimental quality control, (ii) a guide to methods of statistical analysis, and most important, (iii) a means to explore assay sensitivity.
DOSE RATE EFFECTS FOR CHEMICALS
Severn Room I (level 2)
Ray Tice,
Presiding, 1:00-4:00

S. Abrahamson, Dose rate effects, experience from studies on ionizing radiation.

Experimental evidence for dose rate effects associated with chemical exposures:
(1) J. Yeager
    Somatic cell effects,
(2) W. Generoso
    Germ cell effects.

T. Tsongas, The impact of dose rate effects on regulatory decisions.

Additional topics and speakers are expected by the time of the meeting. In addition time will be allotted for a round table or open discussion.
POSSIBLE MECHANISMS OF TUMOR PROMOTION,
Severn Room II & III (level 2)
J. E. Trosko, Presiding
3:00-5:00

Thomas W. Kensler, Role of oxygen radicals in tumor promotion.

Peter M. Blumberg, Role of protein kinase C in tumor promotion.

Rudolf Fahrig, Role of genetic recombination in tumor promotion.

Eugene Elmore, Role of intercellular communication in tumor promotion.

Other topics may be discussed.

THE DIFFERENTIAL RECOVERY OF MUTANTS AT THE HGPRT LOCUS VERSUS THE TK LOCUS IN CULTURED MAMMALIAN CELLS
Potomac Room (level 3)
D.M. DeMarini, Presiding
3:00-6:00

This workshop will present an hypothesis that explains the higher mutant frequencies that are obtained at the TK locus compared to the HGPRT locus following treatment of mammalian cells with agents that cause primarily multilocus deletions and/or chromosomal rearrangements. The hypothesis suggests that the recovery of mutants induced by such agents may depend on the location of the target gene.

K.R. Tindall, Development of a system for the molecular analysis of mutation in pSV2gpt-transformed Chinese hamster ovary cells,

L.F. Stankowski, Quantitative and molecular analyses of mutation at the gpt and hprt loci in Chinese hamster ovary cells,

A.W. Hsie, Oxygen radicals induce mutations in mammalian cells.

H.H. Evans, The role of multilocus deletions in the locus specificity of mutation in L5178Y mouse lymphoma cells,

M.M. Moore, Genotoxicity of gamma irradiation and radiomimetic compounds in L5178Y/TK+-/- 3.7.2c Cells,

F.J. de Serres, Heterozygous loci in two-component heterokaryons of Neurospora mimic heterozygous loci in mammalian cells - permitting the recovery of both point mutations and multilocus deletions.

This will be followed by an open discussion.
Wednesday 8:30 pm

Public Symposium

-------------------------------------------------------------------

Status Report on Mutagens in the Diet

Potomac Room (level 3)  Mary Esther Gaulden, Presiding

8:00 Introductory Remarks

8:05 Toxicologic Strategy for Research on Dietary Mutagens
    Frederick T. Hatch
    Lawrence Livermore National Laboratory

8:25 Cancer Case-Control Studies of Food Intake and
    Preparation
    James R. Marshall
    State University of New York, Buffalo

8:45 Panel Discussion and Questions from the Audience
    Additional Panelists:
    Nitrites and Nitrites in Foods and Water Supplies
    Philip E. Hartman
    The Johns Hopkins University
    Agency Recommendations Concerning the American Diet
    Sushma Palmer
    National Academy of Sciences

This session will be open to the public and science
journalists as well as members. Public concerns about the
following topics related to dietary mutagens will be
addressed:

- Current status of toxicologic and epidemiologic
  information about some types of dietary mutagens

- Mutagens formed during the cooking and heat processing
  of foods

- Research strategies for achieving an evaluation of
  possible cancer risk from the consumption of dietary
  mutagens or precursor substances

- Scientific basis, or lack thereof, for recommendations
  on the American diet put forth by various agencies

This Symposium is co-sponsored by the EMS Committee on
Public Issues and the Department of Biology, the Johns
Hopkins University
THURSDAY, 8:30

TESTING I, Chesapeake I
J.T. MacGregor & R.D. Benz
Presiding

8:30

DETECTION OF MUTAGENIC COMPLEX MIXTURES WITH THE SOS (umu) TEST SYSTEM
W-Z. Whong, J.D. Stewart, and T. Ong
National Institute for Occupational Safety and Health

THURSDAY, 8:30

CYTOGENETICS I, Chesapeake II
D.A. Shafer & G. Littlefield, Presiding

8:30

CYTOSINE ARABINOSIDE (AraC) INDUCED CHROMOSOME ABERRATIONS IN AN X RAY SENSITIVE MOUSE MYELOID LEUKEMIA CELL LINE
M.J. Aardema & R.J. Preston
University of Tennessee & Oak Ridge National Laboratory

8:45

MUTAGENICITY/STRUCTURE-ACTIVITY EVALUATION OF A SERIES OF HALOGENATED PYRIDINES IN THE SALMONELLA ASSAY
K. Dearfield, L. Claxton, K.
Mortelmans, E. Riccio and V. Hanco
U.S. Environmental Protection Agency and SRI International

8:45

COMPARATIVE IN VIVO AND IN VIVO/IN VITRO CYTOGENETIC STUDIES IN MOUSE BONE MARROW AND SPLEEN CELLS.
G. Krishna, J. Nath, and T. Ong
National Institute for Occupational Safety and Health and West Virginia University

9:00

FLAVONE MUTAGENICITY IN SALMONELLA TYPHIMURIUM: DEPENDENCE ON THE pKM101 PLASMID AND EXCISION REPAIR DEFICIENCY
J.T. MacGregor and R.E. Wilson
USDA, ARS, Western Regional Research Center

9:00

CHROMOSOME ABERRATIONS IN IRRADIATED LYMPHOCYTES CULTURED BEFORE OR AFTER FREEZING
G. Littlefield, E. Joiner, S. Colyar & E. Fraone
Oak Ridge Associated Universities, Oak Ridge National Laboratory
THURSDAY, 8:30

Molecular Mechanisms, Chesapeake III
Howard L. Liber and A.J. Grosovsky
Presiding

\[ 8:30 \]

Effects of \textit{umuB} and \textit{mucB} Mutations on
Frameshift Mutagenesis in \textit{Escherichia Coli}.
S.M. Thomas and D.G. MacPhee
La Trobe University

\[ 8:45 \]

DNA Base Sequence Changes Induced by
Methylnitrosourea and Ethylnitrosourea
in \textit{E. Coli}.
K.K. Richardson, F.C. Richardson, J.A.
Swenber, and T.R. Skopek
Chemical Industry Institute of
Toxicology

\[ 9:00 \]

MUTAGENIC AND SITE SPECIFICITY OF
ALKYLATING AGENTS
P.A. Burns, A.J.E. Gordon, F.L. Allen
and B.W. Glickman
York University
THURSDAY, 9:15

TESTING I, Chesapeake I
J.T. MacGregor & R.D. Benz
Presiding

9:15  --------------------------------------------------------

EFFECT OF FIBER COMPONENTS AND pH ON
METHYLALOXYMETHANOL ACETATE
MUTAGENICITY
N.R. Green and Lynn Christie
Florida State University

9:30  --------------------------------------------------------

EFFECTS OF UV REPAIR, ERROR PRONE
REPAIR AND SITES OF BASE PAIR DAMAGE
ON MUTAGENESIS BY NITROSAMINES
M. Zielinska and J.B. Guttenplan
New York University Dental Center

9:45  --------------------------------------------------------

DOSE-RESPONSE OF FORMALDEHYDE-FUME-
INDUCED CHROMOSOME DAMAGE IN
TRADESCANTIA POLLEN MOTHER CELLS
Te-Hsui Ma, Zhidong Xu, Mary M. Harris
and Guangheng Lin

10:00  --------------------------------------------------------

COFFEE BREAK

10:30  --------------------------------------------------------

THURSDAY, 9:15

CYTOGENETICS I, Chesapeake II
D.A. Shafer & G. Littlefield, Presiding

9:15  --------------------------------------------------------

INDUCTION OF CHROMOSOME-TYPE
ABERRATIONS BY CHEMICALS IN G1-TREATED
HUMAN LYMPHOCYTES: A POSSIBLE METHOD
OF INCREASING THE SENSITIVITY OF THE
LYMPHOCYTE ASSAY
Cheryl Barbati Bast & Julian Preston
University of Tennessee &
Oak Ridge National Laboratory

9:30  --------------------------------------------------------

ENHANCED CHROMOSOME DAMAGE ASSAY
ENABLES DETECTION OF LOW-LEVEL
RADIATION EFFECTS IN HOSPITAL STAFF
CONDUCTING HEART CATHETERIZATION
PROCEDURES
D.A. Shafer, V.G. Dunbar, K.W.
Pecharka, M.L. Huber, & A. Palek
Emory University School of Medicine &
Georgia Mental Health Institute

10:00  --------------------------------------------------------

COFFEE BREAK

10:30  --------------------------------------------------------
THURSDAY, 9:15

MOLECULAR MECHANISMS. Chesapeake III
Howard L. Liber and A.J. Grosovsky
Presiding

9:15 ----------------------------------------

MUTAGENESIS BY 8-METHOXYPSORALEN PLUS
UVA: ANALYSIS OF SPECIFICITY IN THE
LACI GENE OF E. COLI.
F. Yatagai and B.W. Glickman
York University

9:30 ----------------------------------------

UV-INDUCTION OF MUTATIONAL DIMERS OF
THE CYCLOBUTANE-TYPE IN YEAST
Grace S.-F. Lee, E.A. Savage, R.G.
Ritzel and R.C. von Borstel
University of Alberta

9:45 ----------------------------------------

GENETIC COMPLEMENTATION AND
CHARACTERIZATION OF UV-SENSITIVE DNA
REPAIR MUTANTS OF CHO CELLS
Larry H. Thompson and Edmund P.
Salazar
Lawrence Livermore National Laboratory

10:00 ----------------------------------------

COFFEE BREAK

10:30 ----------------------------------------
THURSDAY, 10:30

TESTING I, Chesapeake I
J.T. MacGregor & R.D. Benz
Presiding

10:30

TERATOGENICITY OF XANTHINE OXIDASE GENERATED RADICAL SPECIES IN CULTURED RAT EMBRYOS
Diana Anderson, P.C. Jenkinson and S.D. Gangolli
The British Industrial Biological Research Association

10:45

GENOTOXICITY OF 1,3-BUTADIENE. SISTER CHROMATID EXCHANGE INDUCTION IN B6C3F1 MICE AND SPRAGUE-DAWLEY RATS IN VIVO
M.J. Cunningham, L.B. Rickard, G. Theall Arce and A.M. Sarraf
E.I. du Pont de Nemours and Co

11:00

EFFECTS ON DOMINANT LETHAL MUTATIONS, MULTIGENERATION PROSPERITY AND BONE MARROW SISTER CHROMATID EXCHANGES AND CELL CYCLE TIME BY 60 Hz, 50 kV/m - 10 GAUSS ELECTRIC/MAGNETIC FIELDS IN TWO STRAINS OF MICE
R.D. Benz and A.L. Carsten
Brookhaven National Laboratory

THURSDAY, 10:30

CYTOGENETICS I, Chesapeake II
D.A. Shafer & G. Littlefield, Presiding

10:30

THE INDUCTION OF CHROMOSOME ABERRATIONS BY RESTRICTION ENDONUCLEASES - FREQUENCIES FROM SPECIFIC LESIONS AND CHROMOSOME DISTRIBUTION
R.A. Winegar and R.J. Preston
University of Tennessee and Oak Ridge National Laboratory

10:45

INDUCTION OF CHROMOSOME AND CHROMATID ABERRATIONS IN CHINESE HAMSTER OVARY CELLS BY THE RESTRICTION ENDONUCLEASE ALU-I
O.P. Kamra (Introduction by Remi Odense)
Dalhousie University

11:00

A CHEMICAL PRODUCING UNUSUAL CHROMOSOME DAMAGE PATTERNS IN MOUSE BONE MARROW CELLS
A.P. McPhee, K.W. Lowe, S.L. Linkous
Oak Ridge Associated Universities
MOLECULAR MECHANISMS, Chesapeake III
Howard L. Liber and A.J. Grosovsky
Presiding

10:30 --------------------------------------

MOLECULAR EVENTS ASSOCIATED WITH
UV (254 nm) INDUCED CADMIUM
RESISTANCE: PARTIAL OR TOTAL
DEMETHYLATION OF THE METALLOTHIONEIN
LOCI IN EXCISION REPAIR DEFICIENT CHO
CELLS
Mark A. MacInnes
Los Alamos National Laboratory

10:45 --------------------------------------

MUTATIONS INDUCED IN HUMAN CELLS BY X-
RAYS MAY BE A COMBINATION OF DELETIONS
AND POINT MUTATIONS
Howard L. Liber and John B. Little
Harvard School of Public Health

11:00 --------------------------------------

ANALYSIS OF RESTRICTION POLYMORPHISMS
AND DNA SEQUENCE ALTERATIONS IN
SPONTANEOUS AND GAMMA RAY INDUCED
MUTANTS OF CHO CELLS
A.J. Grosovsky, J.G. deBoer, E.A.
Drobetsky and B.W. Glickman
York University
THURSDAY, 11:15

IN UTERO SCE INDUCTION BY TERATOGENIC/CARCINOGENIC CARBAMATE ESTERS
T. Neeper-Bradley and M.K. Conner
University of Pittsburgh

THURSDAY, 11:15

CYTOGENETICS I, Chesapeake II
D.A. Shafer & G. Littlefield, Presiding

11:15

DEVELOPMENT OF A MUTAGENICITY ASSAY ON MORONE SAXATILIS AND CYPRINODON VARIEGATUS EGGS AND LARVAE
S.M. Baksí and J.C. Means
Chesapeake Biological Laboratory

THURSDAY, 11:15

11:30

THE ANTINEOPLASTIC AGENT CISPLATIN INDUCES MITOTIC RECOMBINATION IN SOMATIC CELLS OF DROSOPHILA LARVAE
A.J. Katz
Illinois State University

11:30

DETECTION OF CHEMICALLY-INDUCED ANEUPLOIDY IN Vicia Faba Roots
G.N. Acosta, S.S. Sandhu
Environmental Health Research and Testing and U.S. Environmental Protection Agency

11:45

MUTAGENIC ACTIVITY ASSOCIATED WITH AN ISOTHIOALINONE BIocide USED IN COOLING TOWERS
G.M. Woodall, O.C. Pancorbo, R.D. Blevins, and K. Ferslew
East Tennessee State University
THURSDAY, 11:15

MOLECULAR MECHANISMS, Chesapeake III
Howard L. Liber and A.J. Grosovsky
Presiding

11:15

GARCIINOGEN-INDUCED HOMOLOGOUS
RECOMBINATION BETWEEN DUPLICATED
CHROMOSOMAL SEQUENCES IN MAMMALIAN
CELLS
Yenyun Wang, Veronica M. Maher, J.
Justin McCormick and R. Michael Liskay
Michigan State University and Yale
University School of Medicine

11:30

MOLECULAR ANALYSIS OF MOD-1 MUTANTS
Ronald R. Cobb, Lois B. Barnett and
Susan E. Lewis
Research Triangle Institute

11:45

MOLECULAR ANALYSIS OF MUTATIONS IN
MAMMALIAN CELLS USING AN aprt c-DNA
GENE
Pieter J. deJong
NIEHS, Research Triangle Park, NC
THURSDAY, 2:00-5:00

THE ROLE OF MUTATION, RECOMBINATION, AND TRANSLOCATION IN ONCOGENE ACTIVATION

Chesapeake II, J. Justin McCormick, Presiding

2:00 ONCOGENE ACTIVATION IN CHEMICALLY INDUCED TUMORS,
Sarasawti Sukumar
Frederick Cancer Research Center

2:50 ACTION OF ras AND src ONCOGENES,
Ulf Rapp
Frederick Cancer Research Center

3:40 COFFEE BREAK

4:10 CHROMOSOMAL REARRANGEMENTS AND ONCOGENE LOCALIZATION,
Joseph E. Testa
University of Maryland Cancer Center

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POSTER SESSION

Posters are to be set up on Wednesday, April 9th, after 6 p.m. Posters must be removed by 3:00 pm Friday, April 11th. They are to remain standing all day for viewing, with authors available at their convenience during the day. The only time it is required that the authors be present is from 5:00 - 7:00 pm.

There will be a cash bar in the area during these hours so you may enjoy a drink while engaging in informal discussion with the authors of posters.

- Th5H1  COMPARISON, OF TK^-/- MUTANT FREQUENCY AND CYTOGENETIC DAMAGE IN L5178Y/Tk^-/- MOUSE LYMPHOMA CELLS.
P.A. Poorman, R. Krehl, N.T. Turner and D. Clive
Burroughs Wellcome Co., Research Triangle Park, NC

- Th5H2  EPIGENESIS BY 5-AZACYTIDINE: MISLABELED GENOTOXICITY?
R. Krehl, P.A. Poorman and D. Clive
Burroughs Wellcome Co., Research Triangle Park, NC

- Th5H3  EVALUATING WEAK SCE RESPONSE: STUDIES WITH VITAMIN C AND THE ALKYLATOR CCNU.
Robert G. Best and Wendell H. McKenzie
North Carolina State University, Raleigh, NC

- Th5H4  USE OF BrdU LABELING IN THE HUMAN LYMPHOCYTE HGPRT SOMATIC MUTATION ASSAY.
Ciudad Universitaria, Mexico, D.F.

- Th5H5  EVALUATION OF GENOTOXICITY OF CHOLESTEROL OXIDATION PRODUCTS IN MOUSE COLONIC EPITHELIUM BY THE SISTER CHROMATID EXCHANGE TECHNIQUE.
Hari K. Kaul, David B. Couch, Robert W. Bruce, J.J. Krepinsky and John A. Heddie
Ludwig Institute for Cancer Research, Toronto, Ontario, Canada and York University, Toronto, Ontario, Canada

- Th5H6  MUTAGENICITY OF LEACHATES FROM A MODEL COAL PILE.
C.B. Daniels, S.M. Baksli, J.H. Tuttle and J.C. Means
Chesapeake Biological Laboratory, Solomons, MD
THURSDAY

Th5H7 IDENTIFICATION OF THE MAJOR DNA ADDUCT FORMED IN SALMONELLA TYPHIMURIUM AFTER EXPOSURE TO NEAR ULTRAVIOLET LIGHT-IRRADIATED 2-AMINOFLUORENE.
J.W. Nickols,* R.T. Okinaka, T.W. Whaley,* and G.P. Strniste
Los Alamos National Laboratory, Los Alamos, NM

Th5H8 MECHANISMS OF ANTHRACYCLINE-INDUCED MUTAGENESIS IN SALMONELLA TYPHIMURIUM.
Thomas A. Cebula
Food and Drug Administration, Washington, DC

Th5H9 THE ROLE OF FREE RADICALS IN THE MUTAGENIC RESPONSE OF SODIUM BISULFITE IN SALMONELLA TYPHIMURIUM STRAINS.
Dennis A. Pagano and Errol Zeiger
National Institute of Environmental Health Sciences, Research Triangle Park, NC

Th5H10 ESTABLISHMENT AND VALIDATION OF A MICRO-FORWARD MUTATION ASSAY USING SALMONELLA TYPHIMURIUM STRAIN TM677.
E.I. DuPont de Nemours and Co., Newark, DL

Th5H11 EFFECT OF PREINCUBATION TIME ON MUTAGENIC ACTIVITY IN THE AMES/SALMONELLA ASSAY.
D.M. Simmons, L.G. Monteith,* T.J. Hughes, and L.D. Claxton
RTI, RTP, and HERL, RTP, NC

Th5H12 EFFECT OF METHOD OF SACRIFICE USED IN PREPARATION OF S-9 FROM MALE AND FEMALE MICE ON AMES SALMONELLA/MICROSOME ASSAY.
Barbara C. Fine and Jane S. Allen
American Cyanamid Company, Princeton, NJ

Th5H13 USE OF SINGLE VS. MULTIPLE POSITIVE CONTROLS IN THE SALMONELLA/MICROSOME TEST.
D.M. Zimmerman, J.H. Mazurek and C.S. Aaron
The Upjohn Co., Kalamazoo, MI

Th5H14 MUTAGENICITY STUDIES OF FURAZOLIDONE AND ITS METABOLITES.
McMaster University, Hamilton, Ontario, Canada

Th5H15 EVALUATION OF THE MUTAGENICITY OF CRYSTAL VIOLET AND ITS METABOLITES IN SALMONELLA TYPHIMURIUM AND ESCHERICHIA COLI.
B.S. Hass, R.H. Heflich and J.J. McDonald
National Center for Toxico logical Research, Jefferson, AR
ANTIMUTAGENIC FACTORS IN COOKED PORK.
M.E. Harkins, V.F. Garry, and E.G. Schanus
University of Minnesota, Minneapolis, MN and Washington State University, Pullman, WA

VALIDATION OF A NEW PROTOCOL OF THE ALLIUM-MICRONUCLEUS TEST FOR CLASTOGENDS.
Te-Hsiu Ma and Zhidong Xu
Western Illinois University, Macomb, IL

PRONUTAGEN ACTIVATION BY THE GREEN ALGAE SELENASTRUM CAPRICORNUTUM IN THE PLANT CELL/MICROBE COINCUBATION ASSAY.
T. Shafer,* J.M. Gentile and M.J. Plewa
Hope College, Holland, MI and University of Illinois, Urbana, IL

GENOTOXICITY OF THE MUNICIPAL SEWAGE OF MADURAI, A SOUTH INDIAN CITY
C.B.S.R. Sharma, N. Panneerselvan and K. Arumakkili
Madurai Kamaraj University, Madurai, India

QUANTITATIVE AND MOLECULAR ANALYSES OF MUTATION INDUCED BY ANTICANCER DRUGS AT THE gpt AND hprt LOCi IN AS52 AND CHO-K1-BH4 CELLS
L.F. Stankowski, Jr., a K.R. Tindall, b E.G. Godek, a W.G. Tuman a and G.J. Kasper a
aPharmakon Research International, Inc., Waverly, PA and bNational Institute of Environmental Health Sciences, Research Triangle Park, NC

AN ISOSTERIC MODEL FOR APURINIC/APYRIMIDINIC SITES
SUNY at Stony Brook, Stony Brook, NY

INDUCTION OF MAMMALIAN CELL MUTATIONS BY FORMALDEHYDE.
L.F. Stankowski, Jr., W.G. Tuman, E.G. Godek and G.J. Kasper
Pharmakon Research International, Inc., Waverly, PA

DETOXICATION OF BENZO(a)PYRENE BY GLUTATHIONE-S-TRANSFERASES: A STUDY WITH THE CHO/HGPRt ASSAY
L. Recio and A.W. Hsieh
1University of Kentucky, Graduate Center for Toxicology, Lexington, KY and 2Oak Ridge National Laboratory, Oak Ridge, TN

SOUTHERN BLOT ANALYSIS OF GENOMIC ALTERATION AT THE HPRT LOCUS IN HUMAN CELLS INDUCED BY GAMMA IRRADIATION
S.L. Huang,1 S. Willis,1 S-M.S. Huang,2 G.H. Strauss,3 and M.D. Waters3
1Environmental Health Research and Testing, Inc., 2National Institute of Environmental Health Sciences, NC and 3Environmental Protection Agency, Research Triangle Park, NC
Th5H25  ENHANCEMENT OF MUTATION AT THREE LOCI IN L5178Y MOUSE LYMPHOMA CELLS BY 3-AMINOBENZAMIDE
A. M. Rogers-Back, C. Hay and R. A. Lubet
Microbiological Associates, Inc. Bethesda, MD

Th5H26  EFFECTS OF RETINOIDS ON UNSCHEDULED DNA SYNTHESIS IN THE PRIMARY RAT HEPATOCYTES
J. D. Budroe and D. A. Casciano
National Center for Toxicological Research, Jefferson, AR and University of Arkansas for Medical Sciences, Little Rock, AR

Th5H27  MOLECULAR ANALYSIS OF GENETIC ALTERATIONS AT THE APRT LOCUS IN 8-AZAADENINE-RESISTANT MUTANTS OF CHO CELLS
G. M. Adair, J. B. Scheerer, 2 K. A. Brotherman, 2 and P. A. Kimmitt 2
The University of Texas System Cancer Center, Smithville, TX

Th5H28  FURTHER CHARACTERIZATION OF AN INTACT HEPATOCYTE ACTIVATION SYSTEM FOR USE WITH THE MOUSE LYMPHOMA ASSAY
Karen H. Brock, 1 Linda A. Oglesby, 2 and Martha M. Moore 3
EHRT, TRP, NC, 2NSI, RTP, NC and 3U.S. EPA, RTP, NC

Th5H29  1,3-BUTADIENE AS AN S9 ACTIVATION-DEPENDENT GASEOUS POSITIVE CONTROL SUBSTANCE IN L5178Y CELL MUTATION ASSAYS
R. Sernau, J. Cavegnaro, P. Kehn
Hazleton Biotechnologies, Kensington, MD

Th5H30  GENOTOXICITY OF THREE ACRYLATE COMPOUNDS IN L5178Y MOUSE LYMPHOMA CELLS
Amanda L. Amsower, 2 Karen H. Brock, 1 Carolyn L. Doerr, 1 Kerry L. Dearfield, 2 Martha M. Moore 3

Th5H31  RESULTS OF L5178Y MOUSE LYMPHOMA CELL MUTAGENESIS EXPERIMENTS WITH CODED COMPOUNDS
D. B. McGregor, A. Brown, 2 P. Cattanach, 2 I. Edwards, 2 D. McBride 2 and W. J. Caspary
Inveresk Research International Limited, Musselburgh, Scotland, and NIEMS, Research Triangle Park, NC

Th5H32  RESULTS FROM THE TESTING OF CODED CHEMICALS IN THE L5178Y TK+/- MOUSE LYMPHOMA MUTAGENESIS ASSAY
B. C. Nyhr, L. R. Bowers, 2 W. J. Caspary
Hazleton Biotechnologies, Kensington, MD, and NIEMS, Research Triangle Park, NC

Th5H33  MOUSE LYMPHOMA TK+/- ASSAY OF 30 COMPOUNDS
J. Wangenheim and George Bolcsfoldi
AB Astra, Sodertalje, Sweden
Th5H34  GENOTOXICITY OF FECAPENTAENE-12 IN A BATTERY OF SHORT-TERM IN VITRO ASSAYS  
Microbiological Associates, Inc., Bethesda, MD and National Cancer Institute, Bethesda, MD

Th5H35  FACTORS THAT AFFECT THE FREQUENCY OF MUTANT LYMPHOCYTES DETECTED IN MICE FOLLOWING IN VIVO MUTAGENESIS  
K. Burkhart-Schultz, T.L. Crippen, C.L. Scott, and I.M. Jones  
Lawrence Livermore National Laboratory, Livermore, CA

Th5H36  IN VIVO CYTOGENETIC MEASUREMENTS OF CHROMOSOMAL REPLICS AND CHROMOSOME DAMAGE IN MOUSE BONE MARROW  
Florida Institute of Technology, Melbourne, FL and U.S. Environmental Protection Agency RTP, NC

Th5H37  CHARACTERIZATION OF SPONTANEOUSLY OCCURRING THIOGUANINE RESISTANT MOUSE LYMPHOCYTES  
I.M. Jones and K. Burkhart-Schultz  
Lawrence Livermore National Laboratory, Livermore, CA

Th5H38  AUTORADIOPHIC DETECTION OF DIPHTHERIA TOXIN RESISTANT CELLS IN CHINESE HAMSTER COLONIC TISSUE  
D.H. Couch and J.A. Heddle  
York University, Toronto, Ontario, Canada

Th5H39  EVENT FREQUENCY RELATIONSHIPS BETWEEN CYTOTOXICITY, ANAPHASE ABERRATIONS, AND MUTAGENESIS IN CULTURED FISH CELLS EXPOSED TO N-METHYL-N'-NITRO-N-NITROSOGUANIDINE  
K.L. Stark and R.M. Kocan  
University of Washington, Seattle, WA

Th5H40  REGIONAL SUB-LOCALIZATION OF THE MOUSE THYMIDINE KINASE GENE BY BREAKAGE ANALYSIS  
J.R. Sawyer, M.M. Moore, B. Clive, J.C. Hozier  
Florida Institute of Technology, Melbourne, FL and U.S. Environmental Protection Agency, RTP, NC and  
Burroughs Wellcome Company, RTP, NC

Th5S41  THE MECHANISM OF POTENTIATION BY INHIBITORS OF POLY (ADP-RIBOSE) SYNTHESIS OF CARCINOGEN-INDUCED SISTER CHROMATID EXCHANGES  
Jeffrey L. Schwartz  
University of Chicago, Chicago, IL
THE ROLE OF INTRACELLULAR GLUTATHIONE (GSH) IN FLUORESCENT LIGHT (FL) INDUCED SISTER CHROMATID EXCHANGE (SCE)
Janet Gamsow, Angelo Russo, and James B. Mitchell
National Cancer Institute, Bethesda, MD

SPECIES VARIABILITY IN DNA REPAIR IN RESPONSE TO N-ACETOXY-N-2-ACETYL-AMINOFURFURINE IN HEPATOCYTE PRIMARY CULTURES (HPCs)
J. Maslansky1,2 and G.M. Williams2
1,2GeoEnvironmental Consultants, Inc., White Plains, NY and 2American Health Foundation, Valhalla, NY

EVALUATION OF FOUR SCORING METHODS AND VALIDATION OF THE IN VITRO UNSCHEDULED DNA SYNTHESIS (UDS) ASSAY AT THE UPJOHN COMPANY
P.R. Harbach, S.K. Wiser, H.J. Rostami3 and C.S. Aaron
The Upjohn Company, Kalamazoo, MI

MEMBRANE FLUIDITY CHARACTERISTICS OF PRIMARY RAT HEPATOCYTES IN CULTURE AND AN EVALUATION OF TECHNICAL MODIFICATIONS IN THE PRIMARY RAT HEPATOCYTE CULTURE (PRHC)/DNA REPAIR TEST
J.A. Bradlaw, E. Alterman, K.C. Swentzel, A. Aszalos, and J.W. Hauswirth
Food and Drug Administration, Washington, DC

COMPARISON OF FOUR HOUR VS EIGHTEEN HOUR TREATMENT/LABELING PERIOD IN THE RAT HEPATOCYTE DNA REPAIR ASSAY
T.R. Barf knecht, D.J. Mecca and R.W. Naismith
Pharmakon Research International. Inc., Waverly, PA

INFLUENCE OF AGE, SEX AND STRAIN ON THE IN VITRO INDUCTION OF UNSCHEDULED DNA SYNTHESIS IN RAT HEPATOCYTES PRIMARY CULTURES
G.S. Probst and L.E. Hill
Lilly Research Laboratories, Greenfield, IN

GENOTOXICITY OF 1,3-BUTADIENE. ASSESSMENT BY THE UNSCHEDULED DNA SYNTHESIS ASSAY IN B6C3F1 MICE AND SPRAGUE-DAMLEY RATS IN VIVO AND IN VITRO.
D.R. Vincent, G. Theall Arce and A.M. Sarrif (Introdt. by D.A. Vlahos)
E.I. du Pont de Nemours and Co., Inc., Newark, DE

THE DYNAMICS OF 14C-DNM AND 3H-THYMIDINE UPTAKE INTO THE DNA OF RAT HEPATOCYTES IN VITRO
M. McKeon, and M.A. Cifone
Hazelton Biotechnologies, Kensington, MD

SISTER CHROMATID EXCHANGE IN A MARINE POLYCHAETA EXPOSED TO A CONTAMINATED HARBOR SEDIMENT
G.G. Pesch, C. Mueller, and C.E. Pesch
U.S. Environmental Protection Agency, Narragansett, RI
THUSSDAY

Th5S51 COOKED FOOD MUTAGEN PhIP
J.S. Felton, M.G. Knize,*, S.K. Healy,¹ L.H. Thompson, E.P.
Salazar, and F.T. Hatch
Lawrence Livermore National Laboratory, Livermore, CA

Th5S52 COMPARISON OF THE MUTAGENIC ACTIVITIES OF WATER SAMPLES
DISINFECTED WITH OZONE, CHLORINE DIOXIDE, MONOCHLORAMINE, OR
CHLORINE
J.R. Meier,¹ C.J. Rudd,² W.F. Blazak,² E.S. Riccio,² and R.G.
Miller¹*
¹USEPA, Cincinnati, OH, and ²SRI International, Menlo Park, CA

Th5S53 MUTAGENICITY STUDIES OF COFFEE EXTRACTS IN THE SALMONELLA ASSAY
T.I. Matula, B. Stavric, R. Klassen and R.H. Downie
Health and Welfare Canada, Ottawa, Ontario, Canada

Th5S54 GENOTOXICITY AND SUBCHRONIC TOXICITY STUDIES OF MUNICIPAL
WASTEWATER EFFLUENTS
J.R. Meier,¹ W.F. Blazak,² E.S. Riccio,² C.J. Rushbrook,² B.E.
Stewart, and L.W. Condie³
¹USEPA, Cincinnati, OH, and ²SRI International, Menlo Park, CA

Th5S55 MUTAGENICITY TESTING OF COMPLEX MIXTURES IN ARABIDOPSIS
S.S. Sandhu,¹ and G.N. Acedo²
¹U.S. Environmental Protection Agency, Research Triangle Park, NC
and ²Environmental Health Research and Testing, Research Triangle
Park, NC

Th5S56 GENETIC ACTIVITY PROFILE METHODOLOGY
W.F. Stack,¹ A.L. Brady,¹ and M.D. Waters²
¹Environmental Health Research and Testing, Inc., RTP, NC and ²U.S.
Environmental Protection Agency, RTP, NC

Th5S57 INFLUENCE OF GLUCOSE CONCENTRATION IN MINIMAL MEDIA ON FIVE AMES
STRAINS IN THE PLATE INCORPORATION ASSAY
S.E. Townsend² and S.N. Sehgal
Ayerst Laboratories Research, Inc., Princeton, NJ

Th5S58 COMPUTER-ASSISTED SEARCH FOR A COMPLETE TEST BATTERY--AN INTERIM
REPORT FROM ICP5MC COMMITTEE 1.
D.J. Brusick
Hazleton Biotechnologies, Kensington, MD

Th5S59 THE LACK OF GENOTOXICITY OF SODIUM FLUORIDE (NaF) IN AN IN VITRO
TEST BATTERY
C. Tong, C.A. McQueen, S. VedBrat and G.M. Williams
Amer. Hlth. Fdn., Valhalla, NY and Braton Biotech Inc., Hawthorne, NY

26
Th5S60  ASSESSMENT OF 2-ETHOXYETHANOL FOR GENOTOXICITY USING A BATTERY OF IN VITRO AND IN VIVO TEST SYSTEMS
  P.J. Guzzie,*, R.S. Slesinski, W.C. Hengler,* and T.R. Tyler*
  Bushy Run Research Center/Mellon Institute-Union Carbide Corporation, Export, PA

Th5S61  EVALUATION AND VALIDATION OF TWO IN VITRO TERATOLOGY SYSTEMS: RESULTS FROM THE FIRST TWELVE CODED COMPOUNDS
  L.L. Yang,1 V.E. Steele,*,2 J.C. Lamb, IV,3 L.M. Schechtman,1 R.D. Curren, P.M. Conklin,1 S. Toney2 and E.L. Elmore2
  1Microbiological Associates Inc., Bethesda, MD. 2Northrop Services, Inc., and 3NIH, Research Triangle Park, NC

Th5S62  THE DEVELOPMENT OF AN IN-LABORATORY MICROCOMPUTER SYSTEM FOR GENETIC TOXICOLOGY EXPERIMENTATION AND TESTING
  G.R.S. Strauswa, W.L. Stanford, b and S.J. Berkowitzb
  aU.S. Environmental Protection Agency, RTP, NC and bEnvironmental Health Research and Testing, Inc., Research Triangle Park, NC

Th5S63  OPTIMIZATION OF CLONAL ASSAY FOR 6-THIOGUANINE RESISTANT MUTANTS IN CRYOPRESERVED HUMAN LYMPHOCYTES
  Yu-Wah Wong* and Darrell J. Tomkins
  McMaster University, Hamilton, Ontario, Canada

Th5S64  S.C.E. FREQUENCIES IN LYMPHOCYTES OF PATIENTS WITH INFLAMMATORY BOWEL DISEASE
  J.M. Mackay, D.P. Fox, P.W. Brunt and G. Hawksworth
  University of Aberdeen, Scotland

Th5S65  IMAGE ANALYSIS OF HUMAN SPERM MORPHOLOGY
  A.J. Wyrbek, J.F. Moruzzi,*, B.H. Mayall,* and B.L. Gledhill
  Lawrence Livermore National Laboratory, Livermore, CA

Th5S66  RATE OF MUTAGENIC CHEMICALS IN SOIL COLUMNS TREATED WITH MUNICIPAL WASTEWATER SLUDGE
  R.D. Blevins, L.A. Brennan*, and O.C. Pancorbo* (Intro. by Mary Francis)
  East Tennessee State University, Johnson City, TN

Th5S67  DEVELOPMENT AND EVALUATION OF A PROTOCOL TO PREPARE ENVIRONMENTAL WATER AND WASTEWATER FOR GENOTOXICITY TESTING
  Y.Y. Wang1, M.J. DiBartolomeis1*, L.R. Williams2, C.P. Flesse1, K. Chang1, and S. Sun1
  California Dept. Health Services, Berkeley, CA and 2USEPA, Las Vegas, NV

7:00  AWARDS AND RECEPTION
     7:00 - 10:00
     Chesapeake II
     Sponsored by MICROBIOLOGICAL ASSOCIATES, INC

27
FRIDAY, 8:30-11:30

SYMPOSIUM

STRATEGIES FOR DETECTING MUTAGENS AND CLASTOGENS
(AND CARCINOGENS): A DECADE AFTER 300 CHEMICALS

Chesapeake II, Erroll Zeiger, Presiding

8:30 IN VITRO GENOTOXICITY TESTS AND RODENT TUMORS,
Erroll Zeiger,
National Institute Environmental Health Sciences

9:20 MUTAGENS, CARCINOGENS, AND COMPUTERS,
H. S. Rosenkranz,
Case Western Reserve University

10:10 COFFEE BREAK

10:40 THE IN VIVO, "PAC-MAN" APPROACH FOR GENOTOXICANTS
P. H. M. Lohman,
Netherlands Organization for Applied Scientific Research

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SPECIAL LECTURE

1:00

V. A. McKUSICK, THE HUMAN GENE MAP

Chesapeake II

2:00

ANNUAL BUSINESS MEETING

Chesapeake II

2:45
A Multidisciplinary Approach to Toxicology

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  Subchronic Toxicology
  Metabolism Studies
- STATISTICAL ANALYSIS
- RISK ASSESSMENT
- METHODS' DEVELOPMENT

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Dr. C. E. Cook, Vice President
Chemistry and Life Sciences
Research Triangle Institute
Post Office Box 12194
Research Triangle Park, North Carolina 27709
(919) 541-6676
SATURDAY, 8:30

MAMMALIAN CELLS IN VITRO. Potomac
Regine Goth-Goldstein and
D.A. Casciano
Presiding

8:30 _______________________________________________________

MUTAGENICITY OF m-AMSA AND pAMSA IN
MAMMALIAN CELLS IS DUE TO THE
CLASTOGENTIC EFFECTS OF THE COMPOUNDS
D.M. DeMarini, C.L. Doerr, M.K. Meyer
and M.M. Moore
U.S. Environmental Protection Agency
and EHRT

8:45 _______________________________________________________

LOW MUTAGENICITY OF CLASTOGENS AT THE
THYRIDINE KINASE LOCUS IN MOUSE L5178Y
CELLS MONOSOMIC FOR CHROMOSOME 11
Helen H. Evans and Jaroslav Nemcl
(Introd. by O.F. Nygaard)
Case Western Reserve University

9:00 _______________________________________________________

EVIDENCE THAT THE POTENTIALLY
MUTAGENIC LESIONS INDUCED BY MNNG IN
HUMAN CELLS ARE REPAIRED BY 8-
METHYLGuanINE-DNA-METHYLTRANSFERASE
(MT)
Jeanne Domaradzki, Veronica M. Maher,
J. Justin McCormick, Anthony E. Pegg
and M. Eileen Dolan
Michigan State University and
Pennsylvania State University

SATURDAY, 8:30

TESTING II. Chesapeake I
K.S. Loveday and Larry D. Claxton
Presiding

8:30 _______________________________________________________

IN VITRO CYTOGENETIC TESTING USING
SISTER CHROMATID EXCHANGE AND
CHROMOSOME ABERRATION ENDPOINTS IN CHO
CELLS
K.S. Loveday, M.J. Morris and E.
Zeiger
American Biogenics Corporation, and
NIEMS

9:00 _______________________________________________________

ANALYSIS, INCLUDING CORRELATION WITH
CARCINOGENICITY, OF THE SALMONELLA
TYPHIMURIUM BIOASSAY DATA BASES BY
CHEMICAL CLASS
Larry D. Claxton, Debra Walsh, and
Andrew Stead
U.S. Environmental Protection Agency
and Environmental Health Research and
Testing

9:00 _______________________________________________________

AN EVALUATION OF THE GENETIC ACTIVITY
PROFILES OF 65 PESTICIDES
N.E. Garrett, H.F. Stack and M.D.
Waters
Environmental Health Research &
Testing, Inc., and U.S. Environmental
Protection Agency
SATURDAY, 8:30

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CYTOGENETICS II, Chesapeake II
R. Schlegel and S.E. Bloom
Presiding

8:30 ---------------------------------

TARGETING OF MUTAGENS TO
DIFFERENTIATING B-LYMPHOCYTES IN VIVO:
DETECTION BY DIRECT DNA-LABELING AND
SISTER CHROMATID EXCHANGE INDUCTION
S.E. Bloom, U.C. Nanna and R.R.
Dietert
Cornell University

8:45 ---------------------------------

SODIUM CHLORIDE-INDUCED CHROMOSOME
STICKINESS: AN EXAMINATION IN LIVING
CELLS OF ITS RELATION TO CHROMOSOME
BREAKAGE
M.E. Gaulden
University of Texas Health Science
Center at Dallas

9:00 ---------------------------------

CHROMATID BREAKS IN PROLIFERATING
LYMPHOCYTES AND AN UNUSUAL MECHANISM
OF DICENTRIC FORMATION
J.A. Reidy, V.A. Wheeler, X-Z. Li, and
A.T.L. Chen
Centers for Disease Control, Atlanta

SATURDAY, 8:30

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ACTIVATION IN PLANTS, Chesapeake III
M.J. Plewa and Te-Hsiu Ma
Presiding

8:30 ---------------------------------

PLANT ACTIVATION OF DIBROMOETHANE,
m-PHENYLENEDIAMINE, AND NOPX BY
TRADESCANTIA CLONE 03 CELLS IN CULTURE
V.A. Anderson, M.J. Plewa, and J.M.
Gentile
University of Illinois and Hope College

8:45 ---------------------------------

PLANT ACTIVATION OF m-PHENYLENEDIAMINE
BY TOBACCO, COTTON, AND CARROT CELLS
IN THE PLANT CELL/MICROBE COINCUBATION
ASSAY
M.A. Lhotka, M.J. Plewa and J.M.
Gentile
University of Illinois and Hope
College

9:00 ---------------------------------

PLANT ACTIVATION OF
m-PHENYLENEDIAMINE: BIOLOGICAL AFFINITY
OF AN ENZYME SYSTEM IN CULTURED
TOBACCO CELLS
M.J. Plewa, E.D. Wagner, P.A. Dowd and
J.M. Gentile
University of Illinois and Hope
College
SATURDAY, 9:15

MAMMALIAN CELLS IN VITRO, Potomac
Regine Goth-Goldstein and D.A. Casciano
Presiding

9:15 -------------------------------------

EFFECT OF MNNG PRETREATMENT ON HeLa
CELLS OF MER+ AND MER- PHENOTYPE
Regine Goth-Goldstein
Lawrence Berkeley Laboratory

9:30 -------------------------------------

LETHAL AND MUTAGENIC EFFECTS OF
CHRONIC X IRRADIATION (0.3 AND 2
cGy/h) IN TWO STRAINS OF L5178Y CELLS
J.Z. Beer, J. Mencl, M.-T. Horng, C.
Sanchez, J. Hezler and H.H. Evans
(Introd. by V.M. Hitchins)
Center for Devices and Radiological
Health, FDA: Case Western Reserve
University and Applied Genetics
Laboratory

9:45 -------------------------------------

FAILURE OF METHAPYRILINE AND SELECTED
ANALOGUES TO INDUCE MUTATIONS IN THE
CHINESE HAMSTER OVARY MUTAGENESIS
ASSAY SYSTEM
D.A. Casciano, H.M. Schol, J.G.
Shaddock and R.J. Feuers
National Center for Toxicological
Research

10:00 -------------------------------------

COFFEE BREAK

10:30 -------------------------------------

SATURDAY, 9:15

TESTING II, Chesapeake I
K.S. Loveday and Larry D. Claxton
Presiding

9:15 -------------------------------------

EVALUATING BATTERIES OF SHORT-TERM
TESTS
F.K. Ennever, I.A. Rannug, and H.S.
Rosenkranz
Case Western Reserve University

9:30 -------------------------------------

INITIAL STUDIES ON THE GENOTOXIC
POTENTIAL OF L-CANAVANINE
A.A. Morollo and L.J. Turoczi
University of Virginia and Wilkes
College

10:00 -------------------------------------

COFFEE BREAK

10:30 -------------------------------------
SATURDAY, 9:15

CYTOGENETICS II, Chesapeake II
R. Schlegel and S.E. Bloom
Presiding

9:15 -----------------------------

CAFFEINE INDUCES MITOTIC EVENTS IN
MAMMALIAN CELLS ARRESTED IN EARLY S
PHASE
R. Schlegel and A.B. Pardee
Dana-Farber Cancer Institute

9:30 -----------------------------

THE CO-CIASTOGENIC EFFECTS OF 3-
AMINOBENZAMIDE ON X-RAY-INDUCED
ABERRATIONS ARE CELL CYCLE-DEPENDENT
John K. Wiencke, and William F. Morgan
University of California, San Francisco

9:30 -----------------------------

ACTIVATION IN PLANTS, Chesapeake III
M.J. Plewa and Te-Hsiu Ma
Presiding

THE INFLUENCE OF PLANT CELL CULTURE
AGE ON PROMUTAGEN METABOLISM IN THE
PLANT CELL MICROBE COINCUBATION ASSAY
D. Heydenburg, J.M. Gentile and M.J.
Plewa
Hope College and University of
Illinois

CONVERSION OF AZIDE TO A MUTAGENIC
METABOLITE BY O-ACETYLSERINE
SULFHYDROLASE ISOLATED FROM CICER
ARITETUNUM
W.M. Owais, S.R. Hazza and A. Hanaite
Yarmouk University

10:00 -----------------------------

COFFEE BREAK

10:30 -----------------------------

COFFEE BREAK
SATURDAY, 10:30-12:00

SYMPOSIUM

OXIDATIVE DAMAGE
AND STRATEGIES FOR ITS PREVENTION

Chesapeake II.  Philip E. Hartman, Presiding

10:30 OXIDATIVE STRESS IN Salmonella typhimurium:
REGULATION OF DEFENSES
Robin W. Morgan
University of Delaware

11:00 OXIDATIVE DAMAGE TO DNA
Robert L. Saul
University of California, Berkeley

11:30 POSSIBLE ANTI-AGING ROLE OF DEFENSE MECHANISMS AGAINST
ACTIVE OXYGEN SPECIES
Richard G. Cutler
National Institute on Aging

34
SATURDAY, 1:30-3:00  SYMPOSIUM

MUTAGENESIS IN MITOCHONDRIA AND CHLOROPLASTS

Chesapeake II,  James M. Gentile, Presiding

1:30  ASPECTS OF MUTAGENESIS OF MITOCHONDRIA BY CHEMICAL CARCINOGENS.
    David Wilkie
    University College of London

2:15  INDUCTION OF CHLOROPLAST DNA MUTATIONS BY THE ACTION OF A NUCLEAR GENE AND BY CHEMICAL AGENTS.
    Barbara Sears
    Michigan State University
SATURDAY, 3:30

MICROBES, Chesapeake I
R.K. Elespuru and U.G.G. Hennig
Presiding

✓ 3:30 ==============================

CHARACTERIZATION OF MUTAGENIC
INTERMEDIATES BY ANALYSIS OF MUTATION
FREQUENCIES AT MULTIPLE GENETIC LOCI
IN E. COLI
R.K. Elespuru and J.A. Gordon
NCI-Frederick Cancer Research Facility

SATURDAY, 3:45

5-HYDROXYMETHYL-2'-DEOXYURIDINE, A
PRODUCT OF IONIZING RADIATION, IS
GENOTOXIC IN BACTERIAL SYSTEMS
L. Shirname-More, K. Frenkel, W.
Troll, G.W. Teebor, and T.G. Rossman
New York University Medical Center

SATURDAY, 3:45

LECTIN BINDING TO SPERM AS A METHOD
FOR DETECTION OF MUTATIONS
L.C. Ginsberg, L. McKay, L. Hacker and
G. Ficsor
Western Michigan University

3:45 ==============================

4:00 ==============================

PHOTOINITIATED DNA DAMAGE BY
MELANOCYTIC INTERMEDIATES IN VITRO
W.H. Koch and M.R. Chedekel
The Johns Hopkins University

4:00 ==============================

STAGE SPECIFICITY OF SPERM ABNORMALITY
INDUCTION BY PHOTOMIREX IN MICE AND
RATS
Alida P. Hugenholtz and George R.
Douglas
Department of National Health and
Welfare, Canada
SATURDAY, 3:30

CYTOGENETICS III, Chesapeake II
J.L. Wilmer and L.E. Dillehay
Presiding

3:30

PARADOXICAL CHANGES IN SCE FREQUENCIES
PERSISTENTLY ELEVATED IN VIVO, ON
EXPOSURE TO A MUTAGEN IN VITRO
Warren W. Nicholas, Carole I. Bradt,
Jill Wartell, Lynn Andree, Sheila
Galloway, Paul D. Stolley, Keith A.
Soper and Sandra R. Wolman
Merck Sharp & Dohme Research
Labsoratories, Inst. for Medical
Research, Univ. Pennsylvania School of
Medicine and New York Univ. School of
Medicine

3:45

REPAIR OF MMC LESIONS WHICH INDUCE SCE
IN G0 AND CYCLING HUMAN LYMOPHOCYES
H. Murli, and J.L. Ivett
Hazleton Biotechnologies

SATURDAY, 3:30

ACTIVATION IN ANIMALS, Chesapeake III
R. Langenback and D.B. Couch
Presiding

3:30

AN ALTERNATIVE AND ECONOMIC NADPH-
GENERATING SYSTEM FOR MIXED FUNCTION
OXIDASES IN "IN VITRO" GENOTOXICITY
TESTS
M. Paolini, P. Hrelia, G. Bronzetti
and G. Cantelli-Forti
Universita degli Studi di Bologna and
Istituto di Mutagenesi e
Differenziaimento CNR

3:45

COMPARISON OF HUMAN AND RAT ORGAN
SPECIFIC METABOLISM AND MUTAGENICITY
OF 2-ACETYLAMINOFLUORENE
Kenneth Rudo and Robert Langenbach
National Institute of Environmental
Health Sciences

4:00

DETERMINATION OF THE BASELINE
FREQUENCY OF SISTER CHROMATID
EXCHANGES IN HUMAN AND MOUSE
PERIPHERAL LYMPHOCYTES USING
MONOCLONAL ANTIBODIES AND VERY LOW
DOSES OF BROMODEOXYURIDINE
J.D. Tucker, M.L. Christensen, C.L.
Strout and A.V. Carrano
Lawrence Livermore National Laboratory

4:00

UNSCHEDULED DNA SYNTHESIS IN THE LIVER
AND MUTAGENIC ACTIVITY IN THE URINE OF
RATS EXPOSED TO 2-NITROFLUORENE OR 2-
ACETYLAMINOFLUORENE
B. Beije and L. Moller
Stockholm University and Karolinska
Institute
MICROBES, Chesapeake I
R.K. Elespuru and U.G.G. Hennig
Presiding

A FRAMESHIFT DETECTION ASSAY IN THE
YEAST SACCHAROMYCES CEREVISIAE WHICH
DETECTS BASE-PAIR ADDITIONS AND
DELETIONS AS SEPARABLE EVENTS
R.C. von Borstel, E.A. Savage, P.O.
Andersson and U.G.G. Hennig
University of Alberta

THE SIMULTEST: A NEW APPROACH TO
SCREENING CHEMICALS WITH THE
SALMONELLA REVERSION ASSAY
E.R. Nestmann, R.L. Brillinger, M.F.
Sringeour and K.L. Maus
Department of National Health and
Welfare, Canada

INDUCTION OF SOS RESPONSES IN
SALMONELLA TYPHIMURIUM BY VOLATILE
CHEMICALS AND ENVIRONMENTAL POLLUTANTS
T.Ong, J.D. Stewart and W-Z. Whong
National Institute for Occupational
Safety and Health

MAMMALIAN CELLS IN VIVO I, Potomac
Alida P. Hugenholtz and G.A. Sega
Presiding

GLUTATHIONE AND THE POTENTIATION OF
ETHYL-N-METHYLSULFONATE (EMS) INDUCED
GERM CELL MUTAGENESIS BY ETHYLENE
DIBROMIDE (EDB) AND BUTHIONINE
SULFOXIMINE (BSO).
C.M. Teaf, J.B. Bishop and R.D.
Harbison
Florida State University, NIH and
University of Arkansas Medical
Sciences

HIGH RESISTANCE OF MOUSE OOCYTES TO
MUTATION INDUCTION BY ETHYLNITROSUREA
W.L. Russell, P.R. Hunsicker and J.W.
Bangham
Oak Ridge National Laboratory

ETHYLENE OXIDE-INDUCED DNA BREAKAGE IN
MOUSE GERM CELLS MEASURED BY ALKALINE
ELUTION
G.A. Sega and E.E. Generoso
Oak Ridge National Laboratory
SATURDAY, 4:15

CYTOGENETICS III. Chesapeake II
J.L. Wilmer and L.E. Dillehay
Presiding

4:15 -----------------------------

ACROLEIN (EC) DOES NOT MODULATE PHOSPHORAMIDE MUSTARD (PM)-INDUCED SISTER CHROMATID EXCHANGES (SCEs) IN CULTURED HUMAN LYMPHOCYTES
J.L. Wilmer, G.L. Brexson and A.D. Kligerman
Chemical Industry Institute of Toxicology

4:30 -----------------------------

INDUCTION OF SISTER CHROMATID EXCHANGES BY INHIBITORS OF TOPOISOMERASES
M. Lim and Jerry R. Williams (Introd. by V.L. Vaughan-Dellarco)
Johns Hopkins Oncology Center

4:45 -----------------------------

THE DNA TOPOISOMERASE INHIBITOR m-AMSA INDUCES SISTER-CHROMATID EXCHANGE STRONGLY IN ONLY A PART OF THE S PHASE OF THE CELL CYCLE
L.E. Dillehay, S.C. Denstman and J.R. Williams
Johns Hopkins Oncology Center

SATURDAY, 4:15

ACTIVATION IN ANIMALS. Chesapeake II
R. Langenback and D.B. Couch
Presiding

4:15 -----------------------------

OXIDATION OF THE 9-CARBON AND ITS EFFECT ON THE GENOTOXICITY OF 2-AMINOPHLORENE AND 2-NITROPHLORENE
R.T. Okinaka, T.W. Whaley, J.W. Nichols, and G.P. Stmniste
Los Alamos National Laboratory

4:30 -----------------------------

DEACETYLATION AS THE INITIAL STEP IN THE MUTAGENIC ACTIVATION OF 2-ACETYLMINOPHLORENE IN RABBIT PULMONARY AND HEPATIC MICROSOMAL FRACTIONS
I.G.C. Robertson
U.S. Environmental Protection Agency

4:45 -----------------------------

SYNTHESIS AND BIOLOGICAL ACTIVITY OF CYCLOPENTA EPOXIDES OF PAH CONTAINING PERIPHERALLY FUSED CYCLOPENTA RINGS
A.W. Bartczak, R. Sangaiah, L.M. Ball and A. Gold (Introd. by Heinrich Walling)
University of North Carolina
HAZLETON BIOTECHNOLOGIES WELCOMES THE 17TH ANNUAL EMS MEETING TO BALTIMORE

PLEASE VISIT OUR EXHIBIT FOR INFORMATION AND IDEAS ON:

- GENETIC TOXICOLOGY ASSAYS
- BIOTECHNOLOGY: PRODUCTS & SERVICE
- TISSUE CULTURE PRODUCTS

Hazleton Biotechnologies
5516 Nicholson Lane
Kensington
Maryland 20895
(301) 230-0001 Ext. 20

Hazleton Biotechnologies
9200 Leesburg Turnpike
Vienna
Virginia 22180
(703) 893-5400 Ext. 227
POSTER SESSION II

Posters are to be set up as soon as possible after
3:00 pm Friday, April 11th.
They are to remain standing for viewing until the end of the poster
session, with authors available at their convenience.
Authors are required to be present only from 5:00 pm to 7:00 pm.
There will be a cash bar in the area during these hours.

- Sa5H1 CONCLUSIVE DETERMINATION OF THE MUTAGENICITY OF SINGLET OXYGEN
  John Seed, Kathy Specht* and W. Robert Midden
  The Johns Hopkins University, Baltimore, MD

- Sa5H2 ERGOTHIONEINE (2-THIOL-L-HISTIDINE BETAIN= KT) AS AN
  ANTIMITAGEN: INTERCEPTION OF DIRECT-ACTING MUTAGENS FORMED FROM
  NITROSATION OF SPERMIDINE
  Zilata Hartman, Philip E. Hartman and Roland A. Owens
  The Johns Hopkins University, Baltimore, MD

- Sa5H3 THIOL LEVELS IN RELATION TO PHOTOSENSITIZED MORTALITY IN THE HOUSE
  FLY AND IN E. COLI
  John N. Wages, Jr., 1,2 James R. Heitz. 1 and Philip E. Hartman2
  'Mississippi State University, Miss. State, MS and 2The Johns
  Hopkins University, Baltimore, MD

- Sa5H4 SINGLET OXYGEN (1\frac{}{\chi} O_2) REACTIVITY OF SOME PUTATIVE BIOLOGICAL
  PROTECTORS
  Thomas A. Dahl, W. Robert Midden and Philip E. Hartman
  The Johns Hopkins University, Baltimore, MD

- Sa5H5 PROTECTION OF E. COLI AND S. TYPHIMURIIUM BY MICROMOLAR LEVELS OF
  EXOGENOUS REDUCED GLUTATHIONE (GSH)
  Roland A. Owens, Dick C. Kuo and Rebecca M. Bjornson
  The Johns Hopkins University, Baltimore, MD and National
  Institutes of Child Health and Human Development, Bethesda, MD

- Sa5H6 PROTECTION AFFORDED BY CARNOSINE AND BY ERGOTHIONEINE AGAINST
  BACTERIOPHAGE P22 INACTIVATION BY Y-RADIATION
  Philip E. Hartman and Martin J. Citardi
  The Johns Hopkins University, Baltimore, MD

- Sa5H7 CARCINOGEN ALTERATION BY ANAEROBES OF THE NORMAL HUMAN FLORA
  R.S. Coles, 1 K. Kulak. 1 S.S. Sandhu 2 and R.S. Athwal1
  1New Jersey Medical School, Newark NJ and 2U.S. Environmental
  Protection Agency, Research Triangle Park, NC
Sa5H8 CHEMICAL REACTIVITIES AND MUTAGENICITIES OF A SERIES OF CHLOROMETHYLBENZ(A)PYRINES IN BACTERIAL AND MAMMALIAN CELLS

James C. Ball, Alberto A. Leon, Susan Foxall-VanAken, Panos Zacimanidas and David L. VanderJagt
Ford Motor Company, Dearborn, MI and University of New Mexico, Albuquerque, NM

Sa5H9 CHLOROACETALDEHYDE-INDUCED DNA LESIONS BLOCK DNA REPLICATION AND PERMIT MISINCORPORATION AT A AND C RESIDUES

J. Steven Jacobson and M. Zafri Humayun (Intro. by Karl A. Traul)
University of Medicine and Dentistry of New Jersey, Newark, NJ

Sa5H10 GENETIC ASPECTS OF CADMIUM COMUTAGENESIS WITH SIMPLE ALKYLATING AGENTS

W. Hamilton-Koch and J.M. LaVelle
University of Connecticut, Storrs, CT

Sa5H11 MODIFYING THE SOS CHROMOTEST FOR COMPLEX MIXTURES: SOLVENT EFFECTS

J.H. Carver and M.L. Machado
Chevron Environmental Health Center, Inc., Richmond, CA

Sa5H12 DEVELOPMENT OF A YEAST SYSTEM TO ASSAY MUTAGENIC SPECIFICITY

N.K. Pierce,1 C.N. Giroux2 and B.A. Kunz1
1York University, Toronto, Ontario, Canada and 2NIEHS, Research Triangle Park, NC

Sa5H13 THE STRIP TEST: AN IMPROVEMENT OVER THE SPOT TEST

M.L. Dixon and R.H. Haynes
York University, Toronto, Ontario, Canada

Sa5H14 2-PYRROLIDINONE AND 1-METHYL-2-PYRROLIDINONE INDUCE ANEUPLOIDY IN SACCHAROMYCES CEREVISIAE

V.W. Mayer, C.J. Goin3 and R.E. Taylor-Mayer
Food and Drug Administration, Washington, DC, and Slippery Rock University, Slippery Rock, PA

Sa5H15 HEAT SHOCK AND RADIATION INDUCED WING SPOTS IN SOMATIC MUTATION AND RECOMBINATION TEST IN DROSOPHILA

Sidney Mittler
Northern Illinois University, DeKalb, IL

Sa5H16 CHEMICAL-SPECIFIC REACTION PATTERNS IN THE DROSOPHILA WING SPOT ASSAY

F.E. Wurgler, H. Frei, U. Graf and A. Kagi
Institute of Toxicology, Swiss Federal Institute of Technology and University of Zurich, Schwerzenbach, Switzerland
Sa5H17 FIBROBLASTS FROM PATIENTS WITH INHERITED PREDISPOSITION TO RETINOBLASTOMA ARE SLIGHTLY MORE SENSITIVE THAN NORMAL CELLS TO THE CYTOTOXIC EFFECTS OF IONIZING RADIATION. BUT NOT TO ITS MUTAGENICITY
Venyen Wang, William C. Parke,* Jeffrey C. Wigle,* Veronica M. Maher and J. Justin McCormick
Michigan State University, East Lansing, MI

Sa5H18 METABOLISM OF 2-ACETYLMIDOFUORENE IN THE CHINESE HAMSTER OVARY CELL MUTATION ASSAY
R.H. Heflich, Z. Djuric,* G.L. White, Z. Zhuo,* D.A. Casciano, and F.A. Beland
National Center for Toxicological Research, Jefferson, AR

Sa5H19 SODIUM AZIDE MUTAGENESIS IN MAMMALIAN CELLS
Pablo Arenaz and Francisco Mancillas
University of Texas El Paso, El Paso, TX

Sa5H20 GENE MUTATIONS INDUCED BY REACTIVE OXYGEN SPECIES IN CHO CELLS
University of Kentucky, Lexington, KY, and Oak Ridge National Laboratory, Oak Ridge, TN

Sa5H21 KINDS OF MUTATIONS INDUCED IN A BPDE-TREATED (7,8-DIOL-9,10-
EPOXIDE OF BENZO[a]PYRENE) SHUTTLE VECTOR REPLICA IN MAMMALIAN CELLS
Jia-Ling Yang, Veronica M. Maher, J. Justin McCormick, Saumyendra Sarkar,* and William C. Summers
Michigan State University, East Lansing, MI, and Yale University School of Medicine, New Haven, CT

Sa5H22 FORMALDEHYDE MUTAGENESIS IN HUMAN LYMPHOCYTES IN VITRO: EFFECT OF DOSE RATE ON CUMULATIVE INDUCED MUTANT FRACTION
T.R. Craft and T.R. Skopek
Chemical Industry Institute of Toxicology, Research Triangle Park, NC

Sa5H23 THE EFFECTS OF IN VITRO FORMALDEHYDE TREATMENT ON THE CELLS OF THE RAT NASAL EPITHELIUM
E. Bermudez and L.L. Delechanty
Chemical Industry Institute of Toxicology, Research Triangle Park, NC

Sa5H24 QUANTIFICATION OF MUTATION AT THE HGPT LOCUS IN CHO CELLS USING SUSPENSION TREATMENT AND SOFT AGAR CLONING
T.J. Oberly, B.J. Bewsey* and G.S. Probst
Lilly Research Laboratories, Greenfield, IN
Sa5H26 SPONTANEOUS VARIATION AND SOURCES OF ERROR IN THE CHO/HGPRT ASSAY
Pharmakon Research International, Inc., Waverly, PA

Sa5H27 A CHO/HGPRT CHEMICAL MUTAGENESIS ASSAY WITH IMPROVED RESOLUTION
R. Young, G. Fischetti,* B. Myhr, W. Caspary
Hazleton Biotechnologies, Kensington, MD and NIEHS, Research Triangle Park, NC

Sa5H28 MUTAGENICITY OF SOLUBLE METAL SALTS USING THE V79/HGPRT MUTATION
ASSAY
J.T. Zelikoff, N. Atkins and T.G. Rossman
New York University Medical Center, New York, NY

Sa5H29 DETECTION OF MAMMALIAN CELL MUTAGENESIS IN AS52 CELLS
L.F. Stankowski, Jr., E.G. Godek, W.G. Tuman, G.J. Kasper, and
R.W. Naismith
Pharmakon Research International, Inc., Waverly, PA

Sa5H30 ASSESSMENT OF THE GENOTOXIC POTENTIAL OF UNLEADED GASOLINE AND
2,2,4-TRIMETHYL PENTANE IN HUMAN LYMPHOBLASTS IN VITRO
K.A. Richardson, J.L. Wilmer, D. Smith-Simpson, and T.R. Skopek
Chemical Industry Institute of Toxicology, Research Triangle Park, NC

Sa5H31 EFFECT OF HIGH OSMOTIC STRENGTH ON CHROMOSOME ABERRATIONS, SCEs,
AND DNA SINGLE STRAND BREAKS
D. Densey, C.L. Bean, A. Kraynak, A. Armstrong, S.M. Galloway and
M.O. Bradley
Merck Institute for Therapeutic Research, West Point, PA

Sa5H32 CYTOGENETIC ANALYSIS OF PERIPHERAL BLOOD LYMPHOCYTES (PBLs) AND
LUNG CELLS OF MICE EXPOSED TO METHYL ISOCYANATE (MIC) BY
INHALATION
A.D. Kligerman, 1 J.A. Campbell, G.L. Eriezen, M.D. Shelby, 2 and
J.W. Allen 3
1Environmental Health Research and Testing, Inc., Research
Triangle Park, NC, 2 National Institute of Environmental Health
Sciences, Research Triangle Park, NC and 3 U.S. Environmental
Protection Agency, Research Triangle Park, NC
Sa5H33 EVIDENCE TO ASSOCIATE THE TERATOGENICITY OF GLYCEROL FORMAL WITH ETHYLENEGLYCOL MONOMETHYLEETHER (EGME) RATHER THAN WITH FORMALDEHYDE
J. Ashby, * F. Ratpan
Imperial Chemical Industries PLC, Cheshire, UK and Polysar Ltd., Sarnia, Ontario, Canada

Sa5H34 GENOTOXICITY AND TUMOR PROMOTING CAPABILITIES OF BLUE HAIR DYES IN RODENT AND PRIMATE LIVER
SRI International, Menlo Park, CA and NIEHS/NTP, Research Triangle Park, NC

Sa5H35 L-PAM INDUCED SCE IN MURINE TISSUES
P. Guzzie, M.K. Conner, and J.H. Turner
University of Pittsburgh, Pittsburgh, PA

Sa5H36 ETHYLENE OXIDE INDUCES GERM AND SOMATIC CELL DAMAGE IN STRAIN SEC MICE
University of Tennessee and Oak Ridge National Laboratory, Oak Ridge, TN

Sa5H37 CYCLOPHOSPHAMIDE-INDUCED DAMAGE TO SYNAPTONEMAL COMPLEXES AND METAPHASE CHROMOSOMES IN RODENT MEIOTIC CELLS
1 U.S. EPA, Research Triangle Park, NC and 2 Duke University, Durham, NC

Sa5H38 CYTOGENETICS OF HUMAN SPERM: CHROMOSOMAL ABERRATIONS INDUCED BY IN VITRO IRRADIATION
Lawrence Livermore National Laboratory, Livermore, CA

Sa5H39 CHARACTERIZATION OF THE HUMAN TERATOBLASTOMA CELL LINE, P3, FOR GENOTOXICITY ASSAYS. CYTOGENETIC STUDIES
NCTR, Jefferson, AR

Sa5H40 THE EFFECT OF 3-AMINOBENZAMIDE (3AB) ON X-RAY INDUCTION OF CHROMOSOME ABERRATIONS IN NORMAL AND DOWN SYNDROME (DS) LYMPHOCYTES
Renate A. MacLaren, * William W. Au, Marvin S. Legator
The University of Texas Medical Branch, Galveston, TX
Sa5S41 CHROMOSOMAL RADIOSENSITIVITY OF DOWN SYNDROME (DS) LYMPHOCYTES AT DIFFERENT STAGES OF THE CELL CYCLE
Hasnaa M. Shafik,1 William W. Au, Marvin S. Legator
The University of Texas Medical Branch, Galveston, TX

Sa5S42 DEVELOPMENT OF A MOUSE PERIPHERAL BLOOD LYMPHOCYTE (PBL) MICRONUCLEUS TEST USING CYTOCHALASIN B
G.L. Erxleben,a A.D. Kligerman,a and J.W. Allenb
aEHRT, Inc., Research Triangle Park, NC and bU.S. EPA, Research Triangle Park, NC

Sa5S43 COMPUTER ASSISTED MICROSCOPIC ENUMERATOR AND RECORDING APPARATUS (CAMERA): APPLICATION IN THE MOUSE MICRONUCLEUS TEST
A.P. Andrese,* R.C. Shean,1 and W.J. Kraft* (Introed. by E.D. Barber)
Eastman Kodak Company, Rochester, NY

Sa5S44 SOLVENT-INDUCED CHROMOSOME ABERRATIONS AND SCEs IN CULTURED CHINESE HAMSTER OVARY CELLS
J.R. San Sebastian, P.E. Palilla,* M.J. Berta,* P. Barton,* S.M. Lucenti* and R.W. Naismith
Pharmacia Research Internationa, Inc., Waiverly, PA

Sa5S45 ANALYSIS OF GROSS ABERRATIONS IN MOUSE LYMPHOMA CELLS EXPOSED TO VARIOUS GENOTOXIC AGENTS
Carolyn L. Doerr,1 Karen H. Brock,1 David M. DeMarini,2 and Martha M. Moore2
aEHRT, Research Triangle Park, NC and bU.S. EPA, Research Triangle Park, NC

Sa5S46 DPMO SENSITIZES CELLS TO THE CYTOTOXIC ACTION OF PUVA: IMPLICATION FOR ALTERATIONS IN CHROMATIN STRUCTURE
J.W. Opishinski* and J.R. Williams
Johns Hopkins Oncology Center, Baltimore, MD

Sa5S47 DNA REPAIR AND RBE OF FAST NEUTRONS FOR CELL KILLING AND ONCOGENIC TRANSFORMATION
M.A. Hannan and D.P. Gibson*
King Faisal Specialist Hospital and Research Centre, Riyadh, Saudi Arabia

Sa5S48 THE TUMOR PROMOTER TPS INHIBITS MELANIN FORMATION IN CULTURED CHICK RETINAL PIGMENTED EPITHELIAL CELLS AT 10^-12 M
S.H.H. Swierenga, U. Vliekind,* P. Lee,* and B.J. Crawford*
Health and Welfare Canada, Ottawa, Ontario, Canada, and University of British Columbia, Vancouver, British Columbia, Canada
Sa5549  EVIDENCE FOR A LINEAR RESPONSE FOR MUTATION INDUCTION AT THE hprt LOCUS IN CHINESE HAMSTER OVARY CELLS BY LOW REPEETITIVE DOSES OF CHEMICAL MUTAGENS
L.P. Stankowski, Jr., W.G. Tahmoo, E.G. Godek, G.J. Kasper and R.W. Naismith
Pharmakon Research International, Inc., Waverly, PA

Sa5550  USE OF THE MOUSE LYMPHOMA MUTAGENESIS ASSAY TO COMPARE THE ACTIVITIES OF CONCENTRATES OF TREATED DRINKING WATER
P.S. Lee,1 C.J. Rudd,1 and J.R. Meier2
1SRI International, Menlo Park, CA and 2USEPA, Cincinnati, OH

Sa5551  MUTAGENICITY OF A PETROLEUM OIL EXTRACT TO SALMONELLA TYPHIMURIUM AND MOUSE LYMPHOMA CELLS
T.R. Barchuk, R.C. Nardone, L.J. Lane and R.W. Naismith
Pharmakon Research International, Inc., Waverly, PA

Sa5552  USE OF THE MICROSCREEN PHAGE-INDUCTION ASSAY TO ASSESS THE GENOTOXICITY OF SELECTED PESTICIDES AND HAZARDOUS WASTES
V.S. Hour and D.M. DeMarini
GD, U.S. EPA, Research Triangle Park, NC

Sa5553  COMPARISON OF TWO EXTRACTION METHODS ON THE RECOVERY OF BENZO(a)PYRENE FROM SLUDGE
Thomas B. Atherhold, Gerard J. McGaritty
Institute for Medical Research, Camden, NJ

Sa5554  CHARACTERIZATION OF DNA REACTION PRODUCTS FORMED BY IN VITRO ACTIVATION OF 14C-DBCP BY MICROSOMES OR GSH
T.R. Irvin and V.L. Sawin
Texas A and M University, College Station, TX, and Shell Development Company, Houston, TX

Sa5555  PEROXIDASE-MEDIATED METABOLIC ACTIVATION OF AMITROLE
Diane M. Daston, Robert S. Krauss, Thomas E. Eling, William J. Caspary
NIHES/NIH, Research Triangle Park, NC

Sa5556  ONTOGENY OF THE CHICKEN CYTOCHROME P-450 ENZYME SYSTEM: EARLY EXPRESSION AND DEVELOPMENT OF RESPONSIVENESS TO PHENOBARBITAL INDUCTION
N.A. Lorr and S.E. Bloom
Cornell University, Ithaca, NY

Sa5557  CHROMIUM-INDUCED DNA DAMAGE IN VIVO IN THE CHICK EMBRYO
Joshua W. Hamilton and Karen E. Wetterhahn
Dartmouth College, Hanover, NH
Sa5S58 XENOBIOITIC METABOLISM BY HUMAN LIVER HOMOGENATE: COMPARISON TO OTHER ANIMAL SPECIES
A.P. Li, W.P. Ridley,* A.M. Kirk, C.A. Myers,* J. Warren* and M.W. Flye
Monsanto Environmental Health Laboratory and Washington University School of Medicine, St. Louis, MO

Sa5S59 PROMUTAGEN ACTIVATION BY COMBINED PLANT AND MAMMALIAN IN VITRO ACTIVATION SYSTEMS
Hope College, Holland, MI and University of Illinois, Urbana, IL

Sa5S60 THE DETECTION OF DINITROPHENY DUCTS IN DNA
I.B. Lambert,* P.A. Andrews,* L.M. Davison,* D.W. Bryant and D.R. McCalla
McMaster University, Hamilton, Ontario, Canada

Sa5S61 CYTOGENETIC MONITORING OF PETROCHEMICAL WORKERS
X.T. Zhou, L.R. Li,* M.Y. Cui,* R.F. Yu,* L. Li* and Z.A. Yan*
Institute of Genetics, Academia Sinica, China

Sa5S62 MUTAGENICITY OF COFFEE AND ITS RELATIONSHIP TO PANCREATIC CANCER
B.S. Shane
Louisiana State University, Baton Rouge, LA

Sa5S63 SMOKING AND CHROMOSOME BREAKAGE IN LOW FOLIC ACID MEDIUM
A.T.L. Chen, J.A. Reidy and X-T. Zhou
Centers for Disease Control, Atlanta, GA

Sa5S64 SISTER CHROMATID EXCHANGE IN UNION MEMBERS OF THE PAINTING TRADES
Karl T. Kelsey, John K. Wenccke, Frederic F. Little,* Edward L. Baker,* and John B. Little
Harvard School of Public Health, Boston, MA

Sa5S65 HUMAN PLASMA LIPOPROTEINS AND THE MUTAGENICITY OF B(a)P
M. Gomes, J. Rueff, A. Laires, H. Borba, T. Chaveco and M. Halpern
Universidade Nova de Lisboa, Lisbon

Sa5S66 METHODS FOR DETECTING MUTAGENS IN CERTIFIED AZO COLORS USED IN FOODS
W.J. Privat2, V.M. Davis2, M. Peiperli2, and S.J. Bell1,2
1Genetic Toxicology Branch and 2Division of Color Technology, U.S. Food & Drug Administration, Washington, DC

Sa5S67 USE OF A HUMAN CELL LINE WITH ENDOGENOUS BIOACTIVATION FOR GENE MUTATION STUDIES
George Chang*, David Jacobson-Kram and Jerry R. Williams
Johns Hopkins Oncology Center, Baltimore, MD
SOS CHROMOTEST
and
TOXI CHROMOTEST

The SOS CHROMOTEST

The SOS CHROMOTEST is a highly sensitive, rapid bacterial detection for genotoxic agents (mutagens, carcinogens). Fusion of the SOS repair system to β-galactosidase gene allows for detection of genotoxic activity by a simple staining reaction. Quantitative results are obtained in one day.

The TOXI CHROMOTEST

The TOXI CHROMOTEST is a fast and simple detection for a wide range of toxicants. Sensitivity is enhanced by the use of an inducible enzyme (β-galactosidase) of a stressed bacterial system. Inhibition of the enzyme production is demonstrated by a colorimetric reaction. Quantitative results can be obtained in a few hours.

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SUNDAY, 8:30

COMPLEX MIXTURES, Chesapeake I
R.T. Taylor and J.R. Meier
Presiding

8:30

INFLUENCE OF pH AND CHLORINE RESIDUAL ON THE RECOVERY OF MUTAGENICITY FROM DRINKING WATER BY XAD RESINS
U.S. Environmental Protection Agency

SUNDAY, 8:30

MAMMALIAN CELLS IN VIVO II,
Chesapeake II
Charles R. Geard, and A.S. Raj
Presiding

8:30

ON THE USE OF PREVALENCE AND LIFETABLE ANALYSIS OF TUMOR DATA IN THE MORTALITY DEPENDENT CONTEXT
E.B. Whorton, Jr.
University of Texas Medical Branch

8:45

MUTAGENIC ACTIVITY OF SIDESTREAM AND MAINSTREAM CIGARETTE SMOKE IN THE AMES/SALMONELLA ASSAY
L.G. Monteith, D.M. Simmons, K.H. Davis, J.T. Reeve, J.C. Callahan, T.J. Hughes and L.D. Claxton
RTI, Research Triangle Park and HERL, EPA

8:45

RADIATION-INDUCED SPERMATOGENIAL DOMINANT LEthal MUTATION RATES AND THEIR RELATION TO TRANSLOCATIONS
D. Grahn and B.A. Carnes
Argonne National Laboratory

9:00

MUTAGENICITY OF A SIMULATED WASTEWATER EFFLUENT IN THE SALMONELLA/AMES MICROSOMAL GENE MUTATION ASSAY
R.G. Stahl, Jr., L.A. Sklar, P.H. Lieder and G. Theall Arce
E.I. Du Pont de Nemours & Co. Inc.,

9:00

CHEMICALLY INDUCED ANEUPLOIDY IN MOUSE METAPHASE II OOCYTES
John B. Mailhes, R. Julian Preston, Z. Yuan and L.E. Bairnsfather
L.S.U. Medical Center and Oak Ridge National Laboratory
HUMAN POPULATION MONITORING,
Chesapeake III
J.A. Nicklas and K. Messing
Presiding

8:30 -------------------------

MICRONUCLEI: SPONTANEOUS VARIATION,
INDUCED FREQUENCIES, AND KINETICS OF
EXPRESSION IN HUMAN LYMPHOCYTE
CULTURES
G.K. Livingston, R.N. Reed, and J.S.
Lee
University of Utah Medical Center

8:45 -------------------------

DETECTION OF CYTOGENIC DAMAGE BY
ANALYSIS OF MICRONUCLEI IN HUMAN
PERIPHERAL BLOOD ERYTHROCYTES
R.B. Eversen, R. Schlegel, C.M. Wehr,
K. Lundgren and J.T. MacGregor
National Institute of the
Environmental Health Sciences, Dana-
Farber Cancer Institute and U.S.D.A.
Western Regional Research Center

9:00 -------------------------

BASELINE AND RADIATION-INDUCED
CHROMATID ABBERRATIONS IN PERIPHERAL
BLOOD LYMPHOCYTES OF
RADIATIONMUNOGLOBULIN THERAPY PATIENTS
S. Olinger, M.C. Augustyn, D.
Jacobson-Kram and J.R. Williams
(Introd. by L.R. Valcovic)
Johns Hopkins Oncology Center

SUNDAY, 8:30

DNA REPAIR AND TRANSFORMATION,
Potomac
R.D. Snyder and H.E. Brockman
Presiding

8:30 -------------------------

AN EXAMPLE OF THE PREFERENTIAL
INHIBITION OF DNA REPAIR-PROFICIENT
CELLS
M.A. McCartney, E.C. McCoy and H.S.
Rosenkranz
Case Western Reserve University School
of Medicine

8:45 -------------------------

ENZYMIC CLEAVAGE OF PURINE
PHOTOPRODUCTS FORMED BY ULTRAVIOLET
IRRADIATION OF A HUMAN DNA SEQUENCE
Patricia E. Gallagher and Nahum J.
Duker
Temple University School of Medicine

9:00 -------------------------

IS DNA TOPOISOMERASE INVOLVED IN THE
UV EXCISION REPAIR PROCESS? NEW
EVIDENCE FROM STUDIES WITH DNA
INTERCALATING AND NON-INTERCALATING
ANTITUMOR AGENTS
R.D. Snyder
Stauffer Chemical Company
SUNDAY, 9:15

COMPLEX MIXTURES, Chesapeake I
R.T. Taylor and J.R. Meier
Presiding

9:15

MUTAGEN FORMATION IN A MODEL BEEF SUPERNATANT FRACTION: ELUCIDATION OF THE ROLE OF WATER IN FRIED GROUND BEEF MUTAGENICITY
R.T. Taylor, E. Fultz and M. Knize
Lawrence Livermore National Laboratory

9:30

DEVELOPMENT OF A SMALL SCALE INHALATION SYSTEM FOR GENETIC TOXICITY EVALUATION OF CHRONIC EXPOSURE TO AN INDUSTRIAL GAS MIXTURE
J.B. Ward, Jr., V.M. Sadagopa
Ramanujam, G. Talaska and M.S. Legator
University of Texas Medical Branch

9:45

INDUCTION OF CHROMOSOMAL DAMAGE IN VARIOUS TISSUES AFTER CHRONIC LOW DOSE EXPOSURE TO AN INDUSTRIAL GAS MIXTURE
William W. Au, Barbara L. Harper,
Jonathan B. Ward, Jr., V.M. Sadagopa
Ramanujam and Marvin S. Legator
University of Texas Medical Branch

10:00

COFFEE BREAK

10:30

SUNDAY, 9:15

MAMMALIAN CELLS IN VIVO II, Chesapeake II
Charles R. Geard, and A.S. Raj
Presiding

9:15

AN EVALUATION OF THE GENOTOXIC EFFECTS OF WATERBORNE XENOBOTICS IN AN AMPHIBIAN (RANA PIPiens)
Charles R. Geard and Alexander D. Soutter
College of Physicians and Surgeons of Columbia University, New York

9:30

CYTOGENETIC EFFECTS INDUCED BY RADIATION IN IMMATURE OOCYTES OF THE MOUSE
R.L. Dobson, T. Straume and T.C. Kwan
Lawrence Livermore National Laboratory

9:45

THE CORRELATION BETWEEN DNA ADDUCTS AND CHROMOSOMAL ABERRATIONS IN THE TARGET ORGAN OF BENZIDINE EXPOSED MICE
G. Talaska, William W. Au, K.
Randerath, J.B. Ward, Jr., and M.S.
Legator
The University of Texas Medical Branch and Baylor College of Medicine

10:00

COFFEE BREAK

10:30
SUNDAY,  9:15

HUMAN POPULATION MONITORING,
Chesapeake III
J.A. Nicklas and K. Messing
Presiding

9:15 ----------------------------------

THE INDUCTION, ACCUMULATION, AND
PERSISTENCE OF LESIONS LEADING TO
CYTOGENETIC CHANGES IN LYMPHOCYTES OF
PATIENTS RECEIVING CHEMOTHERAPY FOR
BREAST CANCER
A.V. Carrano, R.B. Everson, A.J.
Wyrobek, J.D. Tucker, L.K. Ashworth
and G.V. Burton
Lawrence Livermore National
Laboratory, Natl. Inst. of
Environmental Health Sciences and Duke
University

9:30 ----------------------------------

STUDIES OF SCE INDUCTION IN HUMAN PBLS
BY L-PAM
J.H. Turner, M.K. Conner and H.
Rockette
University of Pittsburgh

9:45 ----------------------------------

HUMAN SOMATIC GENE MUTATION IN VIVO:
I. OPTIMIZATION OF CLONAL ASSAY FOR
T-CELL MUTANTS
M.J. McGinniss, J.K. Berman, L.M.
Sullivan, J.P. O'Neill and R.J.
Albertini
University of Vermont

10:00 ----------------------------------

COFFEE BREAK

10:30 ----------------------------------
SUNDAY, 10:30

COMPLEX MIXTURES, Chesapeake I
R.T. Taylor and J.R. Meier
Presiding

10:30 -----------------------------------

DETERMINATION OF ENVIRONMENTAL
ELECTROPHILES BY MONOCLONAL ANTIBODY-
BASED ELISA
A.M. Cheh, P.L. Miller, A.E. Karu, H.
Al-Rukhaimi, D. Tokarchick and R. Cool
American University and University of
California

SUNDAY, 10:30

MAMMALIAN CELLS IN VIVO II,
Chesapeake II
Charles R. Geard, and A.S. Raj
Presiding

10:30 -----------------------------------

METHOD OF SCE DETERMINATION DURING
THREE SUBSEQUENT CELL CYCLES IN MURINE
BONE MARROW CELL IN VIVO
P. Morales-Ramirez, T. Villarino-Kelly
and R. Rodriguez-Reyes
Instituto Nacional de Investigaciones
Nucleares

√10:45 -----------------------------------

THE ADDITION OF A FORWARD MUTATION
MARKER TO THE MICROSCREEN ASSAY
T.C. Rossmelen and M. Molina (Intro. by
Catherine Klein)
New York University Medical Center

10:45 -----------------------------------

GENOTOXICITY OF 1,3-BUTADIENE.
INDUCTION OF BONE MARROW MICRONUCLEI
IN B6C3F1 MICE AND SPRAGUE-DAWLEY RATS
IN VIVO
W.N. Choy, D.A. Vlachos, M.J.
Cunningham, G. Theall Arce and A.M.
Sarrif
E.I. Du Pont de Nemours & Co., Inc.

11:00 -----------------------------------

CHEMICAL BASIS FOR PHOTOMUTAGENICITY
IN SYNTHETIC FUELS AND CORRELATION
WITH CARCINOGENICITY
Christopher P. Selby, John Calkins,
Harry G. Enoch, Cherylyn W. Wright and
Bary W. Wilson
University of Kentucky, Kentucky
Center for Energy Research and Pacific
Northwest Laboratory

11:00 -----------------------------------

SELENIUM AS AN INHIBITOR OF MUTAGEN-
INDUCED CLASTOGENICITY IN MICE TESTED
BY MICRONUCLEUS ASSAY
A.S. Raj and Morris Katz
York University
SUNDAY, 10:30

HUMAN POPULATION MONITORING,
Chesapeake III
J.A. Nicklas and K. Messing
Presiding

10:30

HUMAN SOMATIC GENE MUTATION IN VIVO:
II. MOLECULAR CHARACTERIZATION OF T
CELL MUTANTS
J.A. Nicklas, J.P. O' Neill and R.J.
Albertini
University of Vermont

SUNDAY, 10:30

DNA REPAIR AND TRANSFORMATION,
Potomac
G. Hatch and M.J. Sawey
Presiding

10:30

EFFECT OF ANTICARCINOGEN CO-TREATMENTS
ON THE INITIATION PHASE OF CARCINOGEN-
INDUCED TRANSFORMING ACTIVITY IN
BALB/c-3T3 CELLS
Edwin J. Matthews
Hazleton Biotechnologies

10:45

HUMAN SOMATIC GENE MUTATION IN VIVO.
III. AUTORADIOGRAPHIC ASSAY FOR T-
CELL MUTANTS
R.J. Albertini, L.N. Sullivan and C.J.
Greene
University of Vermont

10:45

INTERACTION BETWEEN TUMOR PROMOTERS
C.H. Cubbison and T.E. Cody
University of Cincinnati

11:00

HUMAN SOMATIC GENE MUTATION IN VITRO:
DEVELOPMENT OF A CLONAL ASSAY FOR T-
CELL MUTANTS
J.P. O' Neill and R.J. Albertini
University of Vermont

11:00

INCREASED ADENOVIRUS (SA7)
TRANSFORMATION IN A LINE OF CLONED RAT
EMBRYO (CREF) CELLS PRETREATED WITH
CARCINOGENS
G. Hatch, L. Rogers, J. Bilotta and T.
Anderson
Northrop Services, Inc.
SUNDAY, 11:15

COMPLEX MIXTURES, Chesapeake I
R.T. Taylor and J.R. Meier
Presiding

11:15

SHORT-TERM BIOASSAYS OF EXTRACTS OF
AIRBORNE PARTICULATE MATTER COLLECTED
AT STREET AND ROOFTOP LEVELS
G. Lofroth, Ewa Agurell and L. Romert
Nordic School of Public Health and
University of Stockholm

11:45

NON-ADDITIVE MUTAGENIC RESPONSES BY
COMPONENTS OF COAL-DERIVED MATERIALS
R. Schoeny, D. Warshawsky and G. Moore
U.S. Environmental Protection
Agency, University of Cincinnati
Medical Center and U.S. DOE, PETC

SUNDAY, 11:15

MAMMALIAN CELLS IN VIVO II,
Chesapeake II
Charles R. Geard, and A.S. Raj
Presiding

11:15

IN VIVO TESTS (TRADESCANTIA- AND
MOUSE-MICRONUCLEUS) ON MUTAGENICITY OF
DRINKING WATER
T.H. Ma, R.E. Neas, M.M. Harris, Z.
Xu, C. Cook and D. Swofford
Western Illinois University and
Illinois Natural History Survey

11:30

THE MUTAGENIC POTENTIAL OF BINARY
MIXTURES NITRO-POLYCHLORINATED
DIBENZO-P-DIOXINS AND RELATED
COMPPOUNDS
K.C. Donnelly, K.W. Brown, D.H. Jones
and S.H. Safe
Texas A&M University

11:30

THE MAJOR SOURCE OF VARIABILITY IN THE
MOUSE MICRONUCLEUS ASSAY
John Ashby and R. Mohammed
ICI Central Tox. Lab., Macclesfield,
U.K.
SUNDAY, 11:15

HUMAN POPULATION MONITORING.
Chesapeake III
J.A. Nicklas and K. Messing
Presiding

11:15

A LONGITUDINAL STUDY OF THE FREQUENCY
OF 6-THIOGUANINE-RESISTANT LYMPHOCYTES
FROM MULTIPLE SCLEROSIS PATIENTS
RECEIVING CYCLOPHOSPHAMIDE
M.M. Ammenheuser, J.B. Ward, Jr., and
J.M. Killion
University of Texas Medical Branch and
Baylor College of Medicine

11:30

METHODS DEVELOPMENT: A TEST BATTERY
APPROACH TO THE MEASUREMENT OF TOXIC,
IMMUNOLOGIC, AND GENOTOXIC EFFECTS IN
LYMPHOCYTES EXPOSED TO MUTAGENS
G.H.S. Strauss
U.S. Environmental Protection Agency

11:45

MUTANT FREQUENCY OF NUCLEAR MEDICINE
PATIENTS RISES AFTER EXPOSURE TO VERY
LOW DOSES OF GAMMA RADIATION
A.M. Seifert, W.E.C. Bradley and K.
Messing
Universite du Quebec a Montreal and
Institut du Cancer de Montreal

SUNDAY, 11:15

DNA REPAIR AND TRANSFORMATION.
Potomac
G. Hatch and M.J. Sawey
Presiding

11:15

ENHANCEMENT OF ADENOVIRUS SAT
TRANSFORMATION IN HAMSTER EMBRYO CELLS
PRETREATED WITH DIVERSE PHARMACEUTICAL
AGENTS
T.M. Anderson, P.M. Conklin and G.G.
Hatch (Intro. by B. Elmore
Northrop Services, Inc.

11:30

ACTIVATION OF MYC AND RAS ONCOGENES IN
RADIATION-INDUCED RAT SKIN TUMORS
M.J. Sawey and S.J. Garte
New York University Medical Center

11:45

PHENOTYPIC REVERSION OF CULTURED MOUSE
ADENOCARCINOMA CELLS: MEDIATION BY
CELL DENSITY AND CHEMICAL EXPOSURE
Maxwell A. Bempong and J.A. Myers
Norfolk State University
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SU = Sunday       I, II, or III respectively
                  H = Harbour Room (level 2)

AARDEMA, M.J.    THB:30CII
AARON, C.S.       THSS44    HARBACH, P.R.
AARON, C.S.       THSH13    ZIMMER, D.M.
ABRAHAMSON, S.    WE1SI
ACEDO, G.N.       TH11:30CII
ACEDO, G.N.       THSS55    SANDHU, S.S.
ADAIR, G.         WE1P
ADAIR, G.M.       THSS27
AGURELL, E.       SU11:15CI    LOFROTHER, G.
AL-RUKHAIMI, H.   SU10:30CI    CHEE, A.M.
ALBERTINI, R.J.   SU10:45CII
ALBERTINI, R.J.   SU9:45CII    MCGINNIS, M.J.
ALBERTINI, R.J.   SU10:30CIII
ALBERTINI, R.J.   SU11:00CIII
ALLEN, F.L.       TH9:00CIII
ALLEN, J.S.       THSH12    FINE, B.C.
ALLEN, J.W.       SASH37    BACK, L.C.
ALLEN, J.W.       SASH42    BERNSEL, G.L.
ALLEN, J.W.       SASH32    KLESSIGERMAN, A.D.
ALLEN, J.W.       THSS36
ALTERNBERG, E.    THSS45    STEFAN, H.F.
AMMENHEUSER, M.M. SU11:15CII    BRADLAW, J.A.
ANTOWER, A.L.     THSSH0
ANDERSON, D.      TH10:30CII
ANDERSON, T.      SU11:00P    HATCH, G.
ANDERSON, T.M.    SU11:15P
ANDERSON, V.A.    SASH30CII
ANDERSSON, P.O.   SASH18CII
ANDREE, L.        SASH30CII
ANDREE, A.P.      SASH43
ANDREWS, P.A.     SASH60    LAMBERT, I.B.
ARCE, G.T.        SU10:45CII
ARCE, G.T.        TH10:45CII
ARCE, G.T.        THSSH10
ARCE, G.T.        SU9:00CII
ARCE, G.T.        THSSH48
ARENAZ, P.        SASH19
ARMSTRONG, A.     SASH31    DEASY, D.
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BRADLAU, J. A. TH5S45
BRADLEY, M.O. SA5H31
BRADLEY, W.E.C. SU11:45CIII SEIFERT, A.M.
BRADT, C.I. SA3:30CII NICHOLS, W.W.
BRADY, A.L. TH5S56
BRANDRIFF, B. SA6H38
BRENNAN, L.A. TH5S66
BRELLINGER, R.L. SA4:30CII NESTMANN, E.R.
BROCK, K.H. TH5H28
BROCK, K.H. TH5H30 AMTOWER, A.L.
BROCK, K.H. SA5S45 DOERR, C.L.
BROCKMAN, H.E. SU9:15P DE SERRES, F.J.
BROCKMAN, H.E. SU9:30P
BRONZETTI, G. SA3:30CIII PAOLINI, M.
BROTHERMAN, K.A. TH5H27 ADAIR, G.M.
BROWN, A. TH5H31 McGREGOR, D.B.
BROWN, K.W. SU11:30CII DONELLEY, K.C
BRUCE, R.W. TH5H5 Kaul, H.K.
BRUNK, P.W. TH5564 MACKAY, J.M.
BROOM, C.J. TH5S58
BRYANT, D.W. TH5H14 DAVIDSON, L.M.
BRYANT, D.W. SA5S60 LAMBERT, I.B.
BUDROE, J.D. TH5H26
BURKHART-SCHULTZ, K. TH5H35
BURKHART-SCHULTZ, K. TH5H37 JONES, I.M.
BURNS, P.A. TH9:00CIII
BURTON, G.V. SU9:15CIII CARRANO, A.V.
CALKINS, J. SU11:00CII SELBY, C.P.
CALLAHAN, J.C. SU8:45CII MONTEITH, L.G.
CAMPELL, J.A. SA6H32 KLIGERMAN, A.D.
CANTERI-FORTI, G. SA3:30CIII PAOLINI, M.
CARNES, B.A. SU8:45CII GRAHN, D.
CARRANO, J.A. SU9:15CIII
CARRANO, A.V. SA5H38 BRANDRIFF, B.
CARRANO, A.V. SA4:00CII TUCKER, J.D.
CARSTEN, A.L. TH11:00CII BENZ, R.D.
CARVER, J.H. SA5H11
CASCIO, D.A. SA9:45P
CASCIO, D.A. TH5H26
CASCIO, D.A. SA5H18
CASPARI, W. SA9H37
CASPARI, W.J. SA5S55
CASPARI, W.J. TH5H31 McGREGOR, D.B.
CASPARI, W.J. TH5H32 MTHR, B.C.
CATTANACH, P. TH5H31 McGREGOR, D.B.
CAYNARO, J. TH5H29
CEBULA, T.A. TH5H3
CHANG, G. SA5S57
CHANG, K. TH5S77
CHAPMAN, M.A. SU9:45P VAN ARNOLD, J.D.
CHAVECA, T. SA5S66
CHEDDICK, M.R. SA4:00CII
CHEC, A.N. SU10:30CII
CHEN, A.T.L. SA5S63
CHEN, A.T.L. SA9:00CII REIDY, J.A.

62
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DEMARINI, D.M.  SA8:30P  DOERR, C.L.
DEMARINI, D.M.  SA5S45  DOERR, C.L.
DEMARINI, D.M.  SA5S52  HOUK, V.S.
DENSMAN, S.C.  SA4:45CII  DILLEHAY, L.E.
DIBARTOLOMEIS, M.J.  TH5S67  WANG, Y.Y.
DIELTERT, R.R.  SA8:30CII  BLOOM, S.E.
DILLEHAY, L.E.  SA4:45CII  
DIXON, M.L.  SA5H13  
DJURIC, Z.  SA5H18  HEFLICH, R.H.
DOBSON, R.L.  SU9:30CII  
DOERR, C.L.  SA5S45  
DOERR, C.L.  TH5H30  AMTOWER, A.L.
DOERR, C.L.  SA8:30P  DEMARINI, D.M.
DOLAN, M.E.  SA9:00P  DOMORADZKI, J.
DOMON, O.E.  SA5H39  MORRIS, S.M.
DONORADZKI, J.  SA9:00P  
DONELLY, K.C.  SU11:30CII  
DONOVAN, S.D.  TH5H10  RICKARD, L.B.
DOUGLAS, G.R.  SA4:00P  HUGENHOLTZ, A.P.
DOX, P.A.  SA9:00CII  PLEWA, M.J.
DOWNIE, R.H.  TH5S53  MATULA, T.I.
DROBECKY, E.A.  TH11:00CII  GROSOVSKY, A.J.
DUKER, N.J.  SUB:45P  GALLAGHER, P.E.
DUNBAR, V.G.  TH9:30CII  SHAFER, D.A.
EDWARDS, I.  TH5H31  MCGREGOR, D.B.
ELESPRU, R.K.  SA3:30CII  DASTON, D.L.
ELING, T.E.  SA5S55  
EMORE, E.  WE3SII  
EMORE, E.L.  TH5S61  YANG, L.L.
ENNESSER, F.K.  SA9:15CII  
ENOCH, H.G.  SU11:00CII  SELBY, C.P.
ERIKSON, G.L.  SA5S42  
ERIKSON, G.L.  SA5H32  KLIGERMAN, A.D.
ERIKSON, G.L.  SA4:15CII  WIIMER, J.L.
EVANS, H.H.  SA9:45P  
EVANS, H.H.  WE3P  
EVANS, H.H.  SA9:30P  BEER, J.Z.
EVERSON, R.B.  SUB:45CII  
EVERSON, R.B.  SU9:15CII  CARRANO, A.V.
FAHRIG, R.  WE3SII  
FAKEL, A.  TH9:30CII  SHAFER, D.A.
FELTON, J.S.  TH5S51  
FERSLEW, K.  TH11:45CII  WOODALL, G.M.
FEUERS, R.J.  SA9:45P  CASCIONO, D.A.
FICEROR, G.  SA3:45P  GINSBERG, L.C.
FINE, B.C.  TH5H12  
FISCHETTI, G.  SA5H27  YOUNG, R.
FLESSEL, C.P.  TH5S67  WANG, Y.Y.
FLYE, M.N.  SA5S58  LI, A.P.
FOX, D.P.  TH5S64  MACKAY, J.M.
FOXALL-VANAKEN, S.  SA5H8  BALL, J.C.
FREI, H.  SA5H16  WURGER, F.E.
FRENKEL, K.  SA3:45CII  SHIRNAME-MORE, L.

64
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67
<p>| MACINNES, M.A. | TH10:30CIII |
| MACKAY, J.M. | TH5564 |
| MACCLAREN, R.A. | SA8H4D |
| MACPHEE, D.G. | TH8:30CIII |
| MEAH, V.M. | SA9:00P |
| MEAH, V.M. | TH11:15CIII |
| MEAH, V.M. | SA8H17 |
| MEAH, V.M. | SA5H21 |
| MAHYES, J.B. | SU9:00CII |
| MANCILLAS, F. | SA8H19 |
| MARSHALL, J.R. | WE8:28P |
| MARSHANK, C.J. | TH5543 |
| MATHIES, E.J. | SU10:30P |
| MATULA, T.I. | TH5553 |
| MAUS, K.L. | SA4:30C1 |
| MAVALL, D.H. | TH5565 |
| MAH, V.W. | SA5H14 |
| MAZUREK, J.H. | TH5513 |
| MCARIE, D. | TH5531 |
| MCCALLA, D.R. | TH5514 |
| MCCALLA, D.R. | SA5560 |
| MCCARTY, B.E. | TH5514 |
| MCCARTY, M.A. | SU8:30P |
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| MCCORMICK, J.J. | SA5H17 |
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| MCCORMICK, J.J. | SA5H21 |
| MCCOEY, E.C. | SU8:30P |
| MCDONALD, J.J. | TH5515 |
| MCPEE, A.F. | TH11:00CII |
| MCGARRITY, G.J. | SA5553 |
| MCGARRITY, L.J. | SA5H39 |
| MCGINNESS, M.J. | SU9:45CIII |
| MCGREGOR, D.B. | TH5531 |
| MCKAY, L. | SA3:45P |
| MCKENZIE, W.H. | TH553 |
| MCKEN, M. | TH5549 |
| MCKUSICK, V.A. | FR1:00CII |
| MCOYEN, C.A. | TH5559 |
| MEANS, J.C. | TH11:15CII |
| MEANS, J.C. | TH556 |
| MECCA, D.J. | TH5546 |
| MEIER, J.R. | TH5554 |
| MEIER, J.R. | TH5552 |
| MEIER, J.R. | SA8S50 |
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| MEFFING, K. | SU11:45CIII |
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| MIDDEN, W.R. | SA5H4 |
| MIDDEN, W.R. | SA5H1 |
| MILLER, P.L. | SU10:30C1 |
| MILLER, R.G. | TH5552 |
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RICHARDSON, K.A.
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RINGHAM, H.P.
RITZEL, R.G.
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ROCKETE, H.
RODRIGUEZ-REYES, R.
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RUD, K.
RUEFF, J.
RUSHER, C.J.
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RUSSELL, L.B.
RUSSELL, W.L.
ROSSO, A.
SAFE, S.H.
SALAZAR, E.P.
SALAZAR, E.P.
SAN SEBASTIAN, J.R.
SANCHEZ, C.
SANDHU, S.S.
SANDHU, S.S.
SANDHU, S.S.
SANGALAH, R.
SARKAR, S.
SARRIF, A.M.
SARRIF, A.M.
SARRIF, A.M.
SARRIF, A.M.
SAUL, R.L.
SAVAGE, E.A.
SAVAGE, E.A.

TH5H23
SA5H20
SUB:30CII
SA9:00CII
SA5S63
TH9:45CII
TH5S54
TH5S52
TH8:45CIII
SA5H30
TH8:45CIII
TH6H10
TH10:45CII
SA5S88
SU8:30CII
TH9:30CIII
SA4:30CIII
SU9:30CIII
SU10:30CII
SU11:00P
TH5H25
SU11:15CII
FR9:20CII
SA9:15CII
SO9:30P
SU10:45CII
SA3:45CI
SA5H28
TH5S44
SA5S50
TH5S52
SA3:45CIII
SU5S65
TH5S43
TH5H10
SA3:30P
SA4:30P
TH5S42
SU11:30CII
TH5S51
TH9:45CIII
SA5S44
SA9:30P
TH5S56
TH11:30CII
SA5H7
SA4:45CIII
SA6H21
SU10:45CII
TH10:45CII
TH5H10
TH5S58
SA11:90CII
TH9:30CIII
SA4:15CI
HSIE, A.W.
LIVINGSTON, G.K.
CHEN, A.T.L.
DEARFIELD, K.
MEIER, J.R.
MEIER, J.R.
RICHARDSON, K.K.
CUNNINGHAM, M.J.
LI, A.P.
LEE, G.S.F.
TURNER, J.H.
MORALES-RAMIREZ, P.
BATCH, G.
LOFROTH, G.
ENNEVER, F.K.
MCCARTNEY, M.A.
SHIRNANE-MORE, L.
ZELIKOFF, J.T.
HARBACH, P.R.
LEE, P.S.
MEIER, J.R.
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RICKARD, L.B.
SAMSON, J.
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FELTON, J.S.
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COLES, R.S.
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CHOW, W.N.
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RICKARD, L.B.
VINCENT, D.R.
LEE, G.S.F.
VON BORSTEL, R.C.
STEELE, V.E. TH5551 YANG, L.L.
STEFAN, H.F. TH5536
STERN, K.L. SA5534 MIRSAIIS, J.C.
STERN, R.E. TH5554 MEIER, J.R.
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STERN, J.D. TH8:30CII WHONG, W.Z.
STOLLEY, P.D. SA3:30CII NICHOLS, N.W.
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SUN, S. TH5557 WANG, Y.Y.
SWENBERG, J.A. TH8:45CIII RICHARDSON, K.K.
SWENZEL, K.C. TH5545 BRADLAY, J.A.
STEWENGA, S.H.H. SA5548
Swofford, D. SU11:15CII MA, T.H.
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TALASKA, G. SA5521
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THOMPSON, L.H. TH9:45CIII
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TOMKINS, T. TH5514 DAVIDSON, L.M.
TONEY, S. TH5561 YANG, L.L.
TONG, C. TH5559
TOWNSEND, S.E. TH5597
TROLL, W. SA3:45CII SHIRMANE-MORRIS, L.
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The centre column gives the day, time, and room of the paper, indexed by each author. When this is not the senior author, the senior author's name is given in the right column so that you can easily find the abstract. These are arranged alphabetically by senior author in the abstract book. All posters, and only posters have "5" as the time.
FRIDAY, APRIL 11TH

Symposium:
8:30-11:30 Strategies for Detecting Mutagens and Clastogens (and Carcinogens): A Decade after 300 chemicals, Chesapeake II

Special Lecture:
1:00 V.A. McKusick, The Human Gene Map
Chesapeake II

Annual Business Meeting: 2:00, Chesapeake II

Posters must be down by 3:00 from Session I; Posters for Session II should now be put up.

SATURDAY, APRIL 12TH

Presented Papers:
8:30-10:00 - Mammalian Cells in vitro, Potomac
- Testing II, Chesapeake I
- Cytogenetics II, Chesapeake II
- Activation in Plants, Chesapeake III

Symposium:
10:30-12:00 Oxidative Damage and Strategies for its Prevention, Chesapeake II
1:30-3:00 Mutagenesis in Mitochondria and Chloroplasts, Chesapeake II

Presented Papers:
3:30-5:00 - Microbes, Chesapeake I
- Mammalian Cells in vivo I, Potomac
- Cytogenetics III, Chesapeake II
- Activation in Animals, Chesapeake III

Posters Session II, Harbor and Severn Rooms, 5:00-7:00

SUNDAY, APRIL 13TH

Presented Papers,
8:30-12:00 - Complex Mixtures, Chesapeake I
- Mammalian Cells in vivo II, Chesapeake II
- Human Population Monitoring, Chesapeake III
- DNA Repair and Transformation, Potomac

Council Meeting: 1:00, Board Room.
Council Meeting: 8:30 Board Room (level 2)

Registration: 11:00 to 8:00 Chesapeake Gallery, (level 3)

Workshops:
1:00-3:00 Analysis of Mutation at the DNA level
    Potomac Room (level 3)
1:00-3:00 Statistical Topics in Cytogenetic Studies:
    In Vitro, In Vivo, In US,
    Severn Room II and III (level 2)
1:00-4:00 Dose Rate Effects for Chemicals,
    Severn I (level 2)
3:00-5:00 Possible Mechanisms of Tumor Promotion
    Severn II & III (level 2)
3:00-6:00 The Differential Recovery of Mutants at the
    HGPRT Locus versus the TK Locus in
    Cultured Mammalian Cells, Potomac Room
    (level 3)

Public Affairs Presentation:
8:30 Status Report on Mutagens in the Diet
    Potomac Room (level 3)

Posters may be put up for Poster Session I in the Harbour
and Severn Rooms (level 2) after 6:00 p.m.

Presented Papers:
8:30-12:00 - Testing I, Chesapeake I
    - Cytogenetics I, Chesapeake II
    - Molecular Mechanisms, Chesapeake III

Symposium:
2:00-5:00 The Role of Mutation, Recombination,
    and Translocation in Oncogene Activation
    Chesapeake II

Poster Session I: Harbour & Severn Rooms
5:00-7:00

Awards and Reception: Chesapeake II
7:00

(Continued inside back cover)