

ENVIRONMENTAL MUTAGEN SOCIETY

Thirty-Fourth Annual Meeting

Environmental Mutagenesis: From Mechanisms to Risk Assessment

**Fontainebleau Hilton Resort, Miami Beach, FL
May 10-14, 2003**

The Environmental Mutagen Society was founded in 1969 and is incorporated under the laws of the District of Columbia. Its purpose is to encourage the study of mutagens in the human environment, particularly as they may affect public health, and to engage in and sponsor research and the dissemination of information related to mutagens. Membership is open to all interested scientists.

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Warren Glaab	Maik Schuler
Bhaskar Gollapudi	Martyn Smith
Andrew Grosovsky	Joann Sweasy
David Jacobson-Kram	Ray Tennant
Fred Kadlubar	Larry Thompson
Bill Morgan	Marty Veigl

FUTURE MEETINGS

October 2-6, 2004	September 16-22, 2006
Pittsburgh Hilton Towers	Hyatt Regency Vancouver
Pittsburgh, PA	Vancouver, British Columbia
September 3-8, 2005	
Hyatt Regency San Francisco	
San Francisco, California	

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EMS 2003 Thank you!

EMS sincerely appreciates the effort and hard work of the following people who have helped make this a successful and worthwhile meeting.

Program Committee Members

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Marilyn Aardema	Suzanne Morris
Sid Aaron	Ofelia Olivero
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Maik Schuler	
Martyn Smith	Exhibitors
Joann Sweasy	Linda Bowers
Ray Tennant	
Larry Thompson	Sponsorship
Marty Veigl	Marilyn Aardema

Symposia and Platform Chairs

Sid Aaron
Gerry Adair
Dan Benz
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Dan Casciano
Allen Christian
Kerry Dearfield
George Douglas
Kathleen Hill
Nina Holland
Fred Kadlubar
Mats Ljungman
Jim MacGregor

Photography

Jim Lee

Other Key Individuals

Dan Benz
John DeLuca
David DeMarini
Pam Lee
Larry Loeb
Jeness Majeska
Mike Salamone
Jonathan Ward
Paul White
Suzanne Wright

SATURDAY, MAY 10, 2003

8:00 AM – 10:30 AM

Executive Board Meeting
Imperial II

10:45 AM – 12:00 PM

ICEM Strategic Steering Committee Meeting
Imperial III

1:00 PM – 5:00 PM

EMS Council Meeting
Imperial II

Poster Set-up and Take-down Schedule

Assigned poster number to match numbers on poster boards

Session	Set-up	Take-down
Sunday	by 1:30 PM	at 7:00 PM
Monday	by 1:30 PM	by 7:00 PM
Tuesday	by 8:30 AM	at 1:15 PM

Poster presenters not attending another session during afternoon are encouraged to attend their posters. All Poster presenters should attend their posters during the late afternoon or mid-day poster sessions.

SATURDAY, MAY 10, 2003

3:30 PM – 7:00 PM

Registration

French Room Foyer

6:30 PM – 9:00 PM

Student Poster Session

Versailles Galerie

Sponsored by

Eli Lilly and Company

Welcoming Reception

Versailles Galerie

Sponsored by

Genetic Toxicology Association and Pfizer

SUNDAY, MAY 11, 2003

7:00 AM – 8:30 AM

Breakfast Meetings

2004 Program Committee (1st Meeting)

Imperial I

Finance Committee

Voltaire

Hollaender Committee

Lafayette

Nominating Committee

Pasteur

Organization Committee

Monaco

Student and Young Investigator Breakfast

Le Mans

7:30 AM – 5:00 PM

Registration

Fontainebleau Gallerie

1:30 – 7:00 PM

Exhibits Open

Fontainebleau C and D

SUNDAY, MAY 11, 2003

8:30 AM–9:15 AM

Plenary Lecture
Fontainebleau A

Frederica P. Perera, Columbia University, New York, NY

**Molecular Epidemiologic Approaches to
Evaluating the Effects of Prenatal and Postnatal
Environmental Exposures**

SUNDAY, MAY 11, 2003

9:20 AM – 12:10 PM

DNA Damage Checkpoint Signaling Symposium

Fontainebleau B

Chairpersons

Mats Ljungman, University of Michigan

and

Peter J. Stambrook, University of Cincinnati

Sponsored by Merck Research Laboratories

- 9:20 – 9:50 AM Introduction: DNA Damage Checkpoint Signaling—Who's on First?
Mats Ljungman, University of Michigan
- 9:50 – 10:20 AM Activation of and Signaling by the ATM Kinase after DNA Damage
Michael B. Kastan, St. Jude Children's Research Hospital
- 10:20 – 10:40 AM Break
- 10:40 – 11:10 AM Analysis of the ATR-Mediated DNA Damage and Replication Checkpoints in Xenopus Egg Extracts
Karlene Cimprich, Stanford University
- 11:10 – 11:40 AM Convergence of the p53 and MAP Kinase Genotoxic Stress Signaling Pathways in Cell Cycle Control
Al Fornace, National Cancer Institute
- 11:40 – 12:10 PM Fanconi Anemia Pathway in the DNA Damage Response
Alan D'Andrea, Harvard University

SUNDAY, MAY 11, 2003

9:20 AM – 12:10 PM

**Embryonic and Fetal Exposure and
Children's Health Symposium**

Fontainebleau A

Chairpersons

James D. Tucker, Wayne State University

and

Radim J. Sram, Institute of Experimental Medicine, Czech Republic

- | | |
|------------------|---|
| 9:20 – 9:50 AM | Physiologic and Genetic Risk Factors for Paternally Transmitted Chromosomal Abnormalities
<i>Andrew J. Wyrobek, Lawrence Livermore National Laboratory</i> |
| 9:50 – 10:20 AM | Impact of Environmental Pollution on Pregnancy Outcome
<i>Radim J. Sram, Institute of Experimental Medicine, Czech Republic</i> |
| 10:20 – 10:40 AM | Break |
| 10:40 – 11:10 AM | Cigarette Smoking During Pregnancy: Genetic Susceptibility and Cytogenetic Consequences in Mothers and Newborns
<i>James D. Tucker, Wayne State University</i> |
| 11:10 – 11:40 AM | Genetic Polymorphisms and Down Syndrome: Maternal Risk and Fetal Survival
<i>S. Jill James, U.S. FDA/NCTR</i> |
| 11:40 – 12:10 PM | Clinical Consequences of Intrauterine Mutagen Exposures
<i>David K. Manchester, University of Colorado</i> |

SUNDAY, MAY 11, 2003

1:30 PM – 4:20 PM

Advances in Somatic Mutation Models Symposium

Brittany/Champagne

Chairpersons

Suzanne Morris

and

Daniel A. Casciano, U.S. FDA/NCTR

Sponsored by FDA/ National Center for Toxicological Research

- 1:30 – 1:35 PM Introduction
Daniel A. Casciano, U.S. FDA/NCTR
- 1:35 – 2:00 PM Relevance of Model Somatic Mutation Systems to Humans
Richard J. Albertini, University of Vermont
- 2:00 – 2:30 PM *Hprt* and *Tk* Mutation in Model Systems
Robert H. Heflich, U.S. FDA/NCTR
- 2:30 – 3:00 PM The *Aprt* Model for Genomic Instability and Loss of Heterozygosity
Jay Tischfield, Rutgers University
- 3:00 – 3:20 PM Break
- 3:20 – 3:50 PM Application of the Pink-Eyed Unstable *p(un)* Mouse for Detection of Genotoxicity *In Vivo*
Jiri Aubrecht, Pfizer
- 3:50 – 4:20 PM PhiX and Other Transgenic Mutation Systems
Heinrich V. Mallig, NIEHS

SUNDAY, MAY 11, 2003

1:30 PM – 4:20 PM

**Children's Susceptibility
to Environmental Agents Symposium**

Fontainebleau A

Chairpersons

Nina T. Holland, University of California, Berkeley

and

William Suk, NIEHS

Sponsored by Health Effects Institute

1:30 – 2:00 PM	Children's Health and the Environment <i>William Suk, NIEHS</i>
2:00 – 2:30 PM	Emerging Environmental Threats to Children's Health—The Situation in Developing Countries <i>Kalpna Balakrishnan, Deemed University, Chennai, India</i>
2:30 – 3:00 PM	Functional Genomics and Pesticide Exposure in Children and Pregnant Women <i>Nina T. Holland, University of California, Berkeley</i>
3:00 – 3:20 PM	Break
3:20 – 3:50 PM	Health and Genetic Impacts of the Chernobyl Accident <i>Yuri Dubrova, University of Leicester, United Kingdom</i>
3:50 – 4:20 PM	Molecular Epidemiology of Childhood Leukemia <i>Martyn T. Smith, University of California, Berkeley</i>

SUNDAY, MAY 11, 2003

1:30 PM – 4:20 PM

**Potential Modifiers of Carcinogenesis
at Low Doses Symposium**

Fontainebleau B

Chairpersons

R. Julian Preston, U.S. EPA

and

Antone L. Brooks, Washington State University

1:30 – 2:00 PM	Bystander Effects: Radiation and Chemicals <i>Charles R. Geard, Columbia University</i>
2:00 – 2:30 PM	Molecular Responses to Low Dose Ionizing Radiation <i>David A. Boothman, Case Western Reserve University</i>
2:30 – 3:00 PM	Genomic Instability: Radiation and Chemicals <i>Jeffrey L. Schwartz, Univ. of Washington</i>
3:00 – 3:20 PM	Break
3:20 – 3:50 PM	Gene Expression Approaches: New Ideas <i>Thomas J. Vasicek, Lynx Therapeutics</i>
3:50 – 4:20 PM	Risk Assessment Models for Radiation and Chemicals <i>Suresh H. Moolgavkar, Fred Hutchinson Cancer Research Center</i>

SUNDAY, MAY 11, 2003

4:30 – 7:00 PM

Posters: DNA Damage, Repair, and Mutagenesis Fontainebleau C and D

Odd numbered posters to be attended 4:30 - 5:45 PM

Even numbered posters to be attended from 5:45 - 7:00 PM

Poster	Abstract	
1	40	DIFFERENT CONTRIBUTIONS OF PRE- AND POST-REPLICATION DNA REPAIRS FOR INFORMATION MAINTENANCE de Buendia PG, Herrera OL, Arteaga CE
2	74	INDUCTION OF CHROMOSOME STRUCTURAL ABERRATIONS AND ANEUPLOIDY IN MOUSE SPERM DETECTED BY SPERM FISH AFTER EXPOSURE TO ETOPOSIDE Hill F, Marchetti F, Bishop JB, Wyrobek AJ
3	79	SEQUENCE CONTEXT DEPENDENCE OF DAMAGE AND BASE EXCISION REPAIR Hong CM, Holmquist, GP, O'Connor T
4	87	MECHANISMS FOR REPAIRING SINGLE-STRAND BREAKS DURING REPLICATION WHEN BASE-EXCISION REPAIR FAILS Karumbati AS, Deshpande RA, Vance JR, Wilson TE
5	92	ROLE OF DNA POLYMERASE ETA IN CISPLATIN- AND UV-INDUCED <i>IN VIVO</i> MUTAGENESIS AT THE HUMAN <i>HPRT</i> LOCUS King NM, Bassett E, Bryant MF, Chaney SG, Cordeiro-Stone M
6	94	<i>IN VITRO</i> MUTAGENICITY OF THE REVERSE TRANSCRIPTASE INHIBITOR N-HYDROXY-CYTIDINE AND MECHANISTIC CONSIDERATIONS Kirchner S, Albertini S, Chételat AA, Muster W, Gocke E

SUNDAY, MAY 11, 2003

Poster	Abstract	
7	99	ROLE OF P53 GENE IN APOPTOTIC REPAIR OF GENOTOXIC TISSUE DAMAGE IN T-LYMPHOCYTES AND EARLY SPERMATIDS INDUCED BY LOW DOSE RATE IRRADIATION IN MICE Kunugita N, Kakihara H, Kato F, Kawamoto T, Norimura T
8	100	PURIFICATION AND CHARACTERIZATION OF A NOVEL ATP-INDEPENDENT TYPE I DNA TOPOISOMERASE FROM A MARINE METHYLOTROPH Kwak MS, Lee JS
9	123	INVESTIGATION OF THE TESTICULAR RESPONSE TO ETHYLNITROSUREA (ENU) OR CYCLOPHOSPHAMIDE (CP) IN P53 WILD-TYPE (HOM) AND NULL (NULL) MICE Marty MS, Singh NP, Stebbins KE, Gollapudi BB
10	130	ANALYSIS OF MUTATIONS IN THE <i>HPRT</i> AND <i>TK</i> GENES OF <i>TK</i> ^{+/-} MICE TREATED AS NEONATES WITH ZIDOVUDINE Mittelstaedt RA, VonTungeln LS, Shaddock JG, Dobrovolsky VN, Beland FA, Heflich RH
11	131	1,4-BENZOQUINONE AND BIOACTIVATED HYDROQUINONE, TWO METABOLITES OF BENZENE, INHIBIT TOPOISOMERASE II BY STABILIZING THE CLOSED CLAMP VIA A NOVEL MECHANISM THAT DIFFERS FROM THAT OF ICRF-187 Mondrala ST, Eastmond DA
12	138	ANEUPLOIDOGENS: MUTATIONS AND PHENOCOPIES INDUCERS Muñoz A, Ramos-Morales P
13	153	INDUCTION OF DNA ADDUCTS, H- <i>RAS</i> CODON 61 CAA TO AAA MUTATIONS, AND TUMORS IN THE LIVERS OF B6C3F ₁ MICE TREATED AS NEONATES WITH 4-AMINOBIIPHENYL Parsons BL, Beland FA, Von Tungeln LS, Delongchamp RR, Fu P, Heflich RH

SUNDAY, MAY 11, 2003

Poster	Abstract	
14	163	DOES TOXOPLASMOSIS CAUSE DNA DAMAGE? AN EVALUATION IN ISOGENIC MICE UNDER NORMAL DIET OR DIETARY RESTRICTION Ribeiro DA, Pereira PCM, Machado JM, Silva SB, Pessoa AWP, Bazo AP, Salvadori DMF
15	181	EFFECTS OF ISOFLAVONE, GENESTEIN ON THE MUTANT FREQUENCY (MF) AND TYPES OF MUTATION INDUCED IN THE HEART OF FEMALE RATS TREATED WITH THE PROTOTYPE CARCINOGEN 7,12-DIMETHYLBENZ[A]ANTHRACENE (DMBA) Shelton SD, Rhodes BS, Bishop ME, Lyn-Cook LE, Aidoo A, Manjanatha MG
16	184	THE DEVELOPMENT OF A MICROPLATE ASSAY TO DETECT SINGLE MUTANT PFUS OF ϕ X174 IN GENE A Slattery SD, Valentine CR
17	198	FANCG KNOCKOUT MUTATION IN HAMSTER CHO CELLS CONFERS DIVERSE MUTAGEN SENSITIVITIES AND INCREASED REACTIVE OXIDATIVE SPECIES Thompson LH, Tebbs RS, Hinz JM, Limoli CL, Salazar EP, Jones IM, Yamada NA
18	216	BIOMARKER FOR THE ASSESSMENT OF CANCER RISK ON THE BASIS OF A NOVEL RECOMBINATIVE REPAIR ASSAY Wiesmüller L, Akyüz N
19a	228	IN VITRO CLASTOGENICITY OF PARA-HYDROXY PHENYLAMINO (PHENOXY) COMPOUNDS - STRUCTURE-ACTIVITY RELATIONSHIP (SAR) AND MECHANISTIC INVESTIGATIONS Muster W, Chetelat AA, Kirchner S, Speit G, Gocke E
19b	253	BIOCHEMICAL EFFECTS OF "CLUSTERED" DAMAGE ON THE MRE11 NUCLEASE Arthur LM, Carney J
19c	259	DIFFERENCES BETWEEN MOUSE AND HUMAN NUCLEOTIDE EXCISION REPAIR-COUPLED CHROMATIN ASSEMBLY Gontijo A, Green C, Almouzni G

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Poster	Abstract	
19d	263	TARGETING THE HUMAN 8-OXOGUANINE GLYCOSYLASE REPAIR ENZYME TO MITOCHONDRIA OF OLIGODENDROCYTES PROTECTS CELLS AGAINST MENADIONE-INDUCED OXIDATIVE STRESS. Druzhyina NM, Hollensworth SB, Kelley MR, Wilson GL, LeDoux SP

ENVIRONMENTAL AGENTS: DETECTION AND EFFECTS

20	12	METABOLIC ACTIVATION OF THE ENVIRONMENTAL POLLUTANT 3-NITROBENZANTHRONE AND ITS METABOLITES BY HUMAN N-ACETYLTRANSFERASES, SULFOTRANSFERASES AND CYTOCHROME P450 Arlt VM, Glatt H, Seidel A, Schmeiser HH, Phillips DH
21	15	BIOLUMINESCENT SALMONELLA REVERSE MUTATION ASSAY: A HIGH THROUGHPUT SCREEN FOR DETECTING MUTAGENICITY Aubrecht J, Osowski JJ, Ku WW, Cheung JR, Ackerman JI, Hoogendoorn SM, Blake JF
22	19	LYMPHOCYTE <i>HPRT</i> MUTANT FREQUENCY AND SPERM TOXICITY IN C57BL/6 MICE TREATED CHRONICALLY WITH AZATHIOPRINE Bendre SV, Shaddock JG, Dobrovolsky VN, Patton RE, Heflich RH
23	21	WEAK YET DISTINCT MUTAGENICITY OF ACRYLAMIDE IN MAMMALIAN CELLS Besaratina A, Pfeifer GP
24	25	LOW DOSE RADIATION RESEARCH PROGRAM: POTENTIAL IMPACT ON RISK ESTIMATES FROM CHEMICALS Brooks AL
25	36	ENU INDUCED MUTANT GERM CELL CLUSTERS IN <i>DROSOPHILA MELANOGASTER</i> Cole DN, Clark KB, Lee WR, Wilson VL

SUNDAY, MAY 11, 2003

Poster	Abstract	
26	37	ETHYLENE DICHLORIDE INDUCES STERILITY IN MICE AND DROSOPHILA MELANOGASTER Daigle HJ, Daters AT, Tapp RA, Carlson JA, Wilson VL, Lee WR
27	38	EVALUATION OF BACTERIAL MUTATION HISTORICAL CONTROL DATA Dakoulas EW, Hines R, Atta-Safah S, Viray E, Wondree MR, Klug ML, Wagner VO
28	46	GENOTOXIC STRESS-ASSOCIATED GENE EXPRESSION PROFILES IN SACCHAROMYCES CEREVISIAE Dickinson DD, Warnes GR, Aubrecht J
29	47	UTILITY OF SCREENING AMES ASSAY IN RESOLVING ISSUES IN DRUG DISCOVERY: COMPARATIVE RESULTS WITH RAT AND HUMAN LIVER S9 Diehl MS, Sonders PA, Fagerland JA, Krishna G
30	48	MINIATURIZATION OF AN IN VITRO TRANSGENIC MUTATION ASSAY Douglas GR, White PA, Gingerich J, Soper L
31	51	VALIDATION OF TH1/TH2 INTRACELLULAR CYTOKINE AND IGE ASSAYS AS BIOMARKERS OF ENVIRONMENTAL EXPOSURE IN CHILDREN Duramad P, Golden D, VanderWall K, Swearingen S, Birch K, Bae J, Holland NT
32	72	<i>IN VIVO</i> GENOTOXICITY EVALUATION OF 4-(METHYLNITROSAMINO)-1-(3-PYRIDYL)-1-BUTANONE (NNK) IN MUTA TM MOUSE Hashimoto K, Ohsawa K, Kimura M
33	81	GENES ASSOCIATED WITH CANCER CAN AFFECT SOMATIC INTRACHROMOSOMAL RECOMBINATION EARLY IN CARCINOGENESIS Hooker AM, Morley AA, Tilley WD, Sykes PJ
34	86	CLASTOGENICITY OF ANILINE HCL IN THE RAT BONE MARROW Jones E, Fox V, Elliott BM, Bomhard E

SUNDAY, MAY 11, 2003

Poster	Abstract	
35	89	GENOTOXIC EFFECTS OF NICKEL MONOARSENIDE AND NICKEL SUBARSENIDE IN THE SOMATIC WING SPOT ASSAY OF DROSOPHILA Katz AJ, Chiu A, Chiu N, Beaubier J, Shi X
36	122	EVALUATION OF THE MINISCREEN AMES TEST FOR INDUSTRIAL MUTAGENICITY SCREENING Martus HJ, Glowienke S, Mendezu C, Suter W
37	128	INDIVIDUAL DIFFERENCES IN AMPHETAMINES METABOLISM AND GENOTOXICITY EVALUATED IN LYMPHOCYTE CULTURES Miranda-G E, Sordo M, Castillejos A, Sequeida K, Ostrosky-Wegman P
38	132	GENOTOXIC DAMAGE IN BUCCAL CELLS OF ADOLESCENTS LIVING IN MEXICO CITY CORRELATED WITH NAT1 METABOLIC POLYMORPHISM AND IS SIGNIFICANTLY HIGHER THAN THE DAMAGE FOUND IN COAL INDUSTRY WORKERS (CONACYT 28097-M) Montero-Montoya R, Albores A, Salinas J, Serrano L, Dávila V
39	139	THE EFFECTS OF ENVIRONMENTAL EXPOSURES ON THE FREQUENCY OF V(D)J-MEDIATED ABERRANT REARRANGEMENTS Murray JM, Finette BA
40	147	VARIABILITY IN INTERINDIVIDUAL GENOTOXIC RESPONSE IN NORMAL HUMAN MAMMARY EPITHELIAL (NHME) CELLS EXPOSED TO ZIDOVUDINE Olivero OA, Das S, Whipkey DL, Weston A, Poirier M
41	150	A BIOLUMINESCENT BETA-LACTAMASE-BASED REVERSE MUTATION SCREENING ASSAY IN SALMONELLA TYPHIMURIUM Oowski JJ, Cheung JR, Ackerman JI, Aubrecht J
42	169	A MODIFIED AMES ASSAY FOR MUTAGENICITY SCREENING Sagbini MG, Wing LR, Hamlin S

SUNDAY, MAY 11, 2003

Poster	Abstract	
43	171	BUTADIENE DIEPOXIDE CAUSES DIFFERENTIAL DNA DAMAGE IN LYMPHOCYTES FROM WILD TYPE AND EPOXIDE HYDROLASE KNOCKOUT MICE Salazar JJ, Ward JB, Wickliffe JK, Lloyd RS
44	174	MUTAGENICITY STUDIES OF URINARY METABOLITES FROM RATS TREATED ORALLY WITH LOCAL ANESTHETICS Sanders JM, Abu-Shakra A, Burka LT, Cunningham ML
45	177	HAVE WE BEEN MISINFORMED ABOUT LOW DOSE RADIATION BEING HARMFUL? Scott BR, Walker DM
46	183	EVALUATION OF MUTATIONS FOLLOWING IMPLANTATION OF ESSURE DEVICE IN DOUBLE TRANSGENIC MICE Shimon JA, Riccio ES, Carignan CS, Mirsalis JC
47	186	IS CANCER RISK ONLY RELEVANT ENDPOINT FOR QUANTITATIVE ASSESSMENT OF RISKS? Smerhovsky Z, Dejmek J, Solansky I, Sram RJ
48	190	DETECTION OF EXTREMELY RARE ALLELES BY BIDIRECTIONAL PYROPHOSPHOROLYSIS-ACTIVATED POLYMERIZATION ALLELE-SPECIFIC AMPLIFICATION (BI-PAP-A): TOWARD MEASUREMENT OF MUTATION LOAD IN MAMMALIAN TISSUES Sommer S, Liu Q
49	191	EVALUATION OF MICRONUCLEI FREQUENCY IN THE UMBILICAL CORD BLOOD OF NEWBORNS EXPOSED TO PESTICIDES Sordo M, Levario-Carrillo M, Rocha F, González-Horta C, Amato D, Ostrosky-Wegman P
50	200	GSTT1, GSTM1, AND CYP2E1 POLYMORPHISMS, AND SUSCEPTIBILITY TO ACUTE LYMPHOBLASTIC LEUKEMIA IN COLOMBIAN CHILDREN Uribe GI, Torres MM, Beltran E, Groot H
51	201	BASAL DNA DAMAGE IN CORD BLOOD CELLS OF NEWBORNS IN MEXICO CITY ASSESSED BY SINGLE CELL GEL ELECTROPHORESIS ASSAY Valverde M, Granados A, Sollano L, Rojas E

SUNDAY, MAY 11, 2003

Poster	Abstract	
52	207	VALIDATION OF THE YEAST RAD54-GFP GENOTOXICITY ASSAY Walmsley RM, Billinton N, Knight AW, Walsh L, Barker MG, Cahill PA
53	208	PHOTOMUTAGENICITY OF AZULENE Wang L, Yan J, Cohly H, Hwang H, Yu H
54	209	TIME COURSE OF CII GENE MUTANT MANIFESTATION IN THE LIVER AND SPLEEN OF N-ETHYL-N-NITROSOUREA-TREATED BIG BLUE TRANSGENIC MICE Wang J, Liu X, Moore MM, Heflich RH, Chen T
55	218	EFFECT OF XPD POLYMORPHISMS ON PLACENTAL DNA ADDUCTS AND PREGANCY OUTCOME IN AN ENVIRONMENTALLY EXPOSED POPULATION Wolfe KJ, Affatato AA, Sram A, Binkova R, Abdel-Rahman SZ
56	221	CHARACTERIZATION OF A LUNG EPITHELIAL CELL LINE DERIVED FROM MUTA™ MOUSE TO LUNG TISSUE USING DIFFERENT MICROARRAY PLATFORMS Yauk CL, Berndt L, Gingerich J, White PA, Douglas GR
57	223	MOLECULAR CYTOGENETIC CHARACTERIZATION OF CHILDHOOD ACUTE LYMPHOBLASTIC LEUKEMIA AND ITS RELATION TO FHIT GENE METHYLATION Zhang L, Zheng S, Ma X, Wiemels JL, Buffler PA, Smith MT, Wiencke JK
58	251	CELL PROLIFERATION, DNA STRAND BREAKS AND HISTOLOGY OF GAMBUSIA AFFINIS LIVERS AFTER EXPOSURE TO BENZIDINE AND 2-AMINOFUORENE Lentz S, Eversole R, Jelaso A, Ide C, Means J
59	256	EVALUATION OF THREE ANESTHETICS, BUPIVACAINE HYDROCHLORIDE, MEPIVACAINE HYDROCHLORIDE AND PRILOCAINE HYDROCHLORIDE, IN MOUSE MICRONUCLEUS TESTS. Xu J, Shore KSK, Thilagar A

MONDAY, MAY 12, 2003

7:30 AM – 5:00 PM

Registration

Fontainebleau Galerie

7:00 AM – 8:30 AM

Breakfast Meetings

Exhibitor's Breakfast

Voltaire

Genomics Group

Imperial II

Molecular Epidemiology Group

Imperial IV

Risk Assessment Group

Sponsored by

Boehringer Ingelheim Pharmaceuticals Inc.

Imperial I

Transgenic and *In Vivo* Mutagenesis Group

Lafayette

MONDAY, MAY 12, 2003

8:30 AM – 11:20 AM

Genomic Instability Symposium

Fontainebleau B

Chairpersons

William F. Morgan, University of Maryland

and

Robert H. Schiestl, University of California, Los Angeles

- | | |
|------------------|--|
| 8:30 – 9:00 AM | Transgenerational Effects of Paternal Exposure to Ionizing Radiation
<i>Janet E. Baulch, University of California, Davis</i> |
| 9:00 – 9:30 AM | Analyses of Meiotic Recombination and Germline Mutation in Mice
<i>Carole L. Yauk, Health Canada, Ottawa</i> |
| 9:30 – 10:00 AM | Effects of Carcinogens and Cancer Predisposing Mutations on the Frequency of DNA Deletions
<i>Robert H. Schiestl, University of California, Los Angeles</i> |
| 10:00 – 10:20 AM | Break |
| 10:20 – 10:50 AM | <i>Cis</i> -Acting Mechanisms for Genomic Instability
<i>Andrew J. Grosovsky, University of California, Riverside</i> |
| 10:50 – 11:20 AM | The Origin of Mutations <i>In Vivo</i> and in Stem Cells
<i>Peter J. Stambrook, University of Cincinnati</i> |

MONDAY, MAY 12, 2003

8:30 AM – 11:20 AM

Toxico- and Medical Genomics Symposium

Fontainebleau A

Chairpersons

Michael D. Waters, NIEHS

and

C. Sid Aaron, Pharmacia

- 8:30 – 9:00 AM Toxicogenomic Classification of Toxic Effects
Raymond Tennant, NIEHS
- 9:00 – 9:30 AM Liver Gene Expression Profiles From Chronic
and Acute TCDD, PCB153 or PCB126 Treated
Rats
*Renae L. Malek, The Institute for Genomic
Research*
- 9:30 – 10:00 AM Microarray Analysis in Mechanistic Toxicologic
Research
Roger G. Ulrich, Rosetta Inpharmatics/Merck
- 10:00 – 10:20 AM Break
- 10:20 – 10:50 AM The ILSI/HESI Genomics Studies
Jiri Aubrecht, Pfizer
- 10:50 – 11:20 AM Proteomic Analysis of Cancers
Emanuel F. Petricoin, III, U.S. FDA-NCI

MONDAY, MAY 12, 2003

11:30 AM – 12:15 PM

Plenary Lecture

Fontainebleau A

Lawrence A. Loeb
University of Washington, Seattle, WA

A Mutator Phenotype in Cancer

1:30 – 7:00 PM

Exhibits Open

Fontainebleau C and D

MONDAY, MAY 12, 2003

1:30 PM – 4:30 PM

**Assembly and Regulation
of DNA Repair Machines Symposium**

Fontainebleau A

Chairpersons

Larry H. Thompson, Lawrence Livermore National Laboratory

and

John A. Tainer, Scripps Research Institute

- | | |
|----------------|---|
| 1:30– 1:45 PM | Overview
<i>Larry H. Thompson, Lawrence Livermore
National Laboratory</i> |
| 1:45 – 2:10 PM | Role and Regulation of DNA-PK in DNA
Double-Strand Break Repair
<i>Susan Lees-Miller, University of Calgary,
Canada</i> |
| 2:10– 2:35 PM | Biochemical Reconstitution and <i>In Situ</i>
Visualization of Nonhomologous End-Joining
Complexes
<i>William S. Dynan, Medical College of Georgia</i> |
| 2:35– 3:00 PM | Rad50/Mre11/NBS1 Complex in Human Disease
Checkpoint Implementation and Repair
<i>James P. Carney, University of Maryland</i> |
| 3:00– 3:20 PM | Break |

MONDAY, MAY 12, 2003

- 3:20– 3:45 PM Structural Biochemistry and Interaction Architecture of Mre11 Nuclease and Rad50-ATPase in DNA Recombination and Repair
John A. Tainer, Scripps Research Institute
- 3:45– 4:10 PM Mismatch Repair Machinery and ATP-hydrolysis: Implications for Repeat Expansions in Humans
Cynthia T. McMurray, Mayo Clinic
- 4:10 - 4:20 PM Nuclear Localization of Mre11, Rad50, and Nbs1 Immunoreactivity in Human Brain Neurons
Ahn J, Marietta CA, Brooks PJ
- 4:20 - 4:30 PM Nijmegen Breakage Syndrome cells exhibit increased mis-rejoining of DNA double-strand breaks
Pluth JM, Yamazaki V, Cooper BA, Rydberg BE, Kirchgessner CU, Cooper PK
-

MONDAY, MAY 12, 2003

1:30 PM – 4:30 PM

Platform Session 1: DNA Damage and Response Le Mans/Bordeaux

Chairpersons

*Allen T. Christian, Lawrence Livermore National Laboratory
and
Elizabeth T. Snow, Deakin University*

Sponsored by SITEK Research Laboratories

Abstract

- | | | |
|--------------|-----|---|
| 1:30-1:50 PM | 7 | Gene Expression Profiles and Genetic Damage in BPDE-Exposed TK6 Cells
Akerman GS, Domon OE, Culp SJ, MacGregor JT, Rosenzweig B, Sistare FD, Morris SM |
| 1:50–2:10 PM | 202 | Classification of Chemical Carcinogens by Gene Expression Profiling: Discrimination of Genotoxic versus Non-genotoxic Carcinogens
van Agen E, Kleinjans JCS, van Delft JHM |
| 2:10–2:30 PM | 188 | Coordinated Regulation of Gene Expression by Low Dose Arsenic
Snow ET, Sykora P, Schuliga M, Hu Y |
| 2:30–2:50 PM | 252 | Histopathology of Exposure to Low Doses of Ionizing Radiation in a Population of Bats
Meehan K, Truter E, Parker MI |
| 2:50–3:10 PM | 118 | Ionizing Radiation-induced Sperm DNA Lesions are Repaired in the Egg by Double-strand Break Repair Pathways
Marchetti F, Essers J, Kanaar R, Wyrobek AJ |
| 3:10–3:30 PM | | Break |

MONDAY, MAY 12, 2003

Abstract

- 3:30–3:50 PM 204 Apoptotic Nucleases Initiate Leukemogenic Translocations
Vaughan AT, Betti CJ, Villalobos MJ, Diaz MO
- 3:50–4:10 PM 212 Relationship Between Toenail Concentration of Selenium and the Level of Genotoxic Stress within the Aging Prostate
Waters DJ, Shen S, Cooley DM, Bostwick DG, Qian J, Glickman LT, Morris JS
- 4:10–4:30 PM 222 Effect of Smoking Habit on the Frequency of Micronuclei in Human Lymphocytes: Results from the Human MicroNucleus Project
Zeiger E, Bonassi S, Chang WP, Holland N, Kirsch-Volders M, Fenech M
-

MONDAY, MAY 12, 2003

1:30 PM – 4:30 PM

Mode of Action in Risk Assessment Symposium

Fontainebleau B

Chairpersons

Kerry L. Dearfield, U.S. EPA

and

James T. MacGregor, U.S. FDA

Sponsored by EPRI and

Schering Plough Research Institute

- | | |
|----------------|--|
| 1:30 – 1:45 PM | Mode of Action in Risk Assessment
<i>Kerry L. Dearfield, U.S. EPA</i> |
| 1:45 – 2:10 PM | Is the Dose-Response Linear or Nonlinear for
Genotoxic Effects?
<i>R. Julian Preston, U.S. EPA</i> |
| 2:10 – 2:35 PM | Follow-up Test Strategies for Determining Mode of
Action
<i>Warren W. Ku, Pfizer</i> |
| 2:35 – 3:00 PM | Follow-up Strategies for Determining Relevance of
Genotoxicity
<i>Sheila M. Galloway, Merck</i> |
| 3:00 – 3:20 PM | Break |
| 3:20 – 3:45 PM | Non-Linear Modes of Action:
A Case Study
<i>Matthew S. Bogdanffy, Dupont</i> |

MONDAY, MAY 12, 2003

- 3:45 – 4:10 PM Physiologically Based Pharmacokinetic (PBPK)
Modeling and Mode of Action in Dose-Response
Analysis
Hugh A. Barton, U.S. EPA
- 4:10 – 4:30 PM An FDA Perspective on Mode of Action in Mu-
tagenicity and Carcinogenicity Risk Assessment
James T. MacGregor, U.S. FDA
-

MONDAY, MAY 12, 2003

4:30PM – 7:30 PM

Posters: DNA Damage, Repair and Mutagenesis Fontainebleau C and D

Odd numbered posters to be attended 4:30 - 5:45 PM

Even numbered posters to be attended from 5:45 - 7:00 PM

Poster	Abstract	
1	13	MEASUREMENT OF DNA DAMAGE AND REPAIR IN HT1080 CELLS BY THE COMET ASSAY Arroyo JC, Sicard DM, Groot H
2	49	COMPARATIVE GENOMIC HYBRIDIZATION ANALYSIS OF HETEROCYCLIC AMINE-INDUCED RAT MAMMARY TUMORS Dugan LC, Snyderwine E, Christian AT
3	58	CHEMICALLY INDUCED DAMAGE TO SPECIFIC REGIONS OF DNA DETECTED BY COMET-FISH Escobar PA, Zhang L, Smith MT
4	61	INCREASED FREQUENCY OF CELLS LACKING <i>HPRT</i> AND <i>PIG-A</i> GENE EXPRESSION DURING T-LYMPHOCYTE PROLIFERATION <i>IN VITRO</i> Gabdoulkhakova AG, Sallmyr A, Bredberg A
5	63	ASSOCIATION OF CANCER WITH CHRONIC INFLAMMATION: AN INVESTIGATION INTO MECHANISMS ASSOCIATED WITH TREMATODE INFECTIONS Gentile GJ, Norden B, Stowe T, Gentile JM
6	67	DEVELOPMENT AND IMPLEMENTATION OF A DIRECT SELECTION ASSAY FOR LACI- MUTANTS: EXPRESSION OF HTLV-I TAX ENHANCES UV-INDUCED MUTAGENESIS Granados LS, Lemoine FJ, Marriott SJ, Higginbotham RH, Broussard GW, Ennis DG

MONDAY, MAY 12, 2003

Poster	Abstract
7	69 BLEOMYCIN AS A MODEL FOR OXIDANT-INDUCED MUTAGENESIS IN <i>LACZ</i> MICE: MUTATIONAL PROFILE AND EFFECTS OF DIETARY ANTIOXIDANTS Guttenplan JB, Khmelnsky M, Kosinska W, Zhao Z
8	80 CHARACTERIZATION OF THE GENOMIC INSTABILITY IN MISMATCH REPAIR DEFICIENT HUMAN LYMPHOBLASTOID CELL LINES Honma M, Kato T, Yatagai F, Hayashi M
9	93 EFFECTS OF THE ANTIMUTAGENS VANILLIN AND CINNAMALDEHYDE ON SPONTANEOUS MUTATION IN MISMATCH-REPAIR DEFICIENT CELLS King AA, Mure K, Shaughnessy DT, DeMarini DM, Klein CB
10	107 IONIZING RADIATION INDUCTION OF DNA METHYLATION IN MAMMALIAN CELLS Leszczynska J, Lasano S, Bowser D, Klein CB
11	108 HUMAN GERMLINE MUTATION ORIGINS: ANOMALIES IN THE MALE TO FEMALE SEX RATIO FOR G:C>A:T NON CPG TRANSITIONS AND THE FIRST OBSERVATION OF A SINGLE NUCLEOTIDE BIMUTATION ARE CONSISTENT WITH EVENTS IN EARLY EMBRYOGENESIS Li X, Halangoda A, Scaringe WA, Hill KA, Sommer SS
12	111 DNA DAMAGE AND PROSTATE CANCER SUSCEPTIBILITY Lockett KL, Robinson B, Hall MC, Hu JJ
13	126 CHANGES IN DNA 8-HYDROXYGUANINE LEVELS AND ITS REPAIR ACTIVITY IN HUMAN CELLS AFTER SODIUM ARSENITE TREATMENT Mei N, Kunugita N, Kasai H
14	127 COMPARISON OF MUTAGENICITY OF STEREO-CHEMICAL FORMS OF 1,2,3,4-DIEPOXYBUTANE AT <i>HPRT</i> AND <i>TK</i> LOCI IN HUMANS CELLS Meng Q, Hodge RP, Long L, Hackfeld LC, Walker VE

MONDAY, MAY 12, 2003

Poster	Abstract
15	161 DETERMINATION OF EXPERIMENTAL PARAMETERS FOR THE SEPARATION OF <i>IN VITRO</i> BURSTS DURING SINGLE BURST ANALYSIS OF ϕ X174 BY THE FORWARD MUTATIONAL ASSAY FOR GENE A Raney JL, Valentine CR
16	162 INVOLVEMENT OF KU80 IN HOMOLOGOUS RECOMBINATION Reliene R, Schiestl RH
17	173 REGULATION OF NON-HOMOLOGOUS END-JOINING DURING MYELOID DIFFERENTIATION Sallmyr A, Gabdoulkhakova AG, Miller AV, Henriksson G, Bredberg A
18	178 ROLE OF ERCC1/XPF IN NON-HOMOLOGOUS END JOINING Scuric Z, Schiestl RH
19	182 INCORRECT INCORPORATION OF OXIDIZED DNTPS BY Y-FAMILY DNA POLYMERASES Shimizu M, Gruz P, Kamiya H, Kim SR, Pisani FM, Masutani C, Kanke Y, Harashima H, Hanaoka F, Nohmi T
20	194 DNA DAMAGE CAUSED BY THE N-HYDROXY METABOLITES OF 4-AMINOBIIPHENYL, AN ENVIRONMENTAL HUMAN BLADDER CARCINOGEN, TRANSIENTLY BLOCKS S-PHASE DAMAGE CHECKPOINT IN HUMAN UROEPITHELIAL CELLS Swaminathan S
21a	248 MUTATOR PHENOTYPE IN HUMAN CANCER Anderson JP, Loeb KR, Nickerson D, Rieder M, Loeb LA
21b	258 ELEVATED MUTAGENESIS AND DECREASED DNA REPAIR IN TRANSGENIC P53 DEFICIENT CELLS IS ASSOCIATED WITH PROLIFERATION BUT NOT APOPTOSIS. Bielas JH, Heddle JA

MONDAY, MAY 12, 2003

Environmental Agents: Detection and Effects

Poster	Abstract	
22	11	EFFECT OF AN AQUEOUS EXTRACT OF PROPOLIS ON RAT COLON CARCINOGENESIS Alves de Lima RO, Bazo AP, Abou RS, Sforcin JM, Salvadori DMF
23	14	GENETIC AND ENVIRONMENTAL FACTORS FOR CERVICAL CARCINOGENESIS Au WW, Sierra-Torres H, Salama SA, Tying SK
24	22	EFFECT OF CHRONIC FEEDING OF SOY ISOFLAVONES, GENISTEIN AND DAIDZEIN ON 7,12-DIMETHYLBENZ[A]ANTHRACENE (DMBA)-INDUCED MUTANT FREQUENCIES IN OVERIECTOMIZED TRANSGENIC RATS Bishop ME, Shelton SD, Lyn-Cook LE, Manjanatha MG, Chen T, Aidoo A
25	23	TOWARD A FLOW CYTOMETRIC ASSAY OF MICRONUCLEATED RETICULOCYTES IN RAT AND DOG PERIPHERAL BLOOD Bishop ME, Dertinger SD, McNamee JP, Moore MM, Harper SB, Hayashi M, MacGregor JT
26	24	INDUCTION OF MICRONUCLEI IN ERYTHROCYTES OF CD-1 MOUSE PUPS EXPOSED TO 3'-AZIDO-3'-DEOXYTHYMIDINE (AZT) AND DIDEOXYINOSINE (DDI) IN UTERO VIA MATERNAL DOSING, AND POSTNATALLY VIA NURSING AND DIRECT GAVAGE Bishop JB, Witt KL, Tice RR, Wolfe GW
27	29	EFFECT OF BETA-CAROTENE AND CHLOROPHYLLIN ON THE GENOTOXIC EFFECT AND BIOACCUMULATION OF ARSENIC Cabrera GL, Estrada SC, Gonsebatt ME, Del Razo LM, Loarca-Piña GF
28	30	MITOTIC RECOMBINATION INDUCED BY EMETINE AFTER BIOACTIVATION IN THE w/w+ ASSAY OF DROSOPHILA MELANOGASTER Carbajal ML, Castenada AN, Ordaz MG, Rorgiguez-Arnaiz R

MONDAY, MAY 12, 2003

Poster	Abstract	
29	32	EFFECT OF GENISTEIN ON MUTANT FREQUENCIES AND TYPES OF MUTATIONS INDUCED BY 7, 12-DIMETHYLBENZ(A)ANTHRACENE IN THE LIVER CII GENE OF OVARIECTOMIZED BIG BLUE RATS Chen T, Hutts RC, Liu X, Shelton S, Bishop ME, Manjanatha MG, Aidoo A
30	33	ABSENCE OF GENOTOXICITY AND CARCINOGENICITY IN RED BLOOD CELLS TREATED WITH S-303 Ciaravino V, McCullough T, Sullivan T
31	55	PERIPHERAL BLOOD IN VIVO MN ASSAY WITH FLOW CYTOMETRY IN ACUTE AND CHRONIC EXPOSURES OF RATS TO CHEMICALS Elhajouji A, Kovalchuk Z, Pralet D, Roman D, Suter W
32	59	INTRA- AND INTER-LABORATORY VARIATION IN THE SCORING OF MICRONUCLEI AND NUCLEOPLASMIC BRIDGES IN BINUCLEATED HUMAN LYMPHOCYTES. RESULTS OF AN INTERNATIONAL SLIDE-SCORING EXERCISE BY THE HUMN PROJECT Fenech M, Bonassi S, Chang WP, Holland N, Kirsch-Volders M, Zeiger E
33	60	SERUM SELENIUM LEVELS AND DNA DAMAGE IN BLOOD LYMPHOCYTES FROM A HIGH RISK GROUP FOR PROSTATE CANCER Ferguson LR, Karunasinghe N, Ryan J, Tuckey J, Masters J, Jamieson M, Marshall JM
34	65	THE IN VIVO MOUSE SKIN MICRONUCLEUS ASSAY FOR DETECTING SITE-OF-CONTACT GENOTOXICITY INDUCED AFTER DERMAL EXPOSURE Gibson DP, Aardema MJ
35	70	POSITIVE CORRELATION BETWEEN THE PREVALENCE OF MICRONUCLEATED CELLS AND DYSPLASIA IN PAP SMEARS Guzmán P, Sotelo-Regil R, Mohar A, Gonsebatt ME

MONDAY, MAY 12, 2003

Poster	Abstract	
36	82	PURIFICATION AND CHARACTERIZATION OF A NOVEL CA ²⁺ -INDEPENDENT PROTHROMBIN ACTIVATING ENZYME FROM VIBRIO VULNIFICUS ATCC 29307 Hwang SM, Kwack MS, Lee JS
37	83	COMPARISON OF GENE EXPRESSION PROFILES GENERATED IN MOUSE AND HUMAN CELLS TREATED WITH DIRECT-ACTING MUTAGENS Islaih M, Deahl T, Li B, Reid-Hubbard J, Newton RK
38	90	GENE EXPRESSION PATTERNS IN HUMAN LIVER CELLS EXPOSED TO TETRACHLOROETHYLENE AND ITS METABOLITE USING MICROARRAY ANALYSIS Keshava N, Ong T
39	104	DEVELOPMENT OF A SINGLE-SHEET TLC POSTLABELING METHOD FOR THE DETECTION OF DINUCLEOTIDES CONTAINING 8,5'-CYCLO-2'-DEOXYADENOSINE AND OF OTHER TYPE II-COMPOUNDS Langham GL, Brooks PJ
40	105	COMPARISON OF GENE EXPRESSION PROFILING BETWEEN GENOTOXIC CARCINOGEN AND GENOTOXIC NONCARCINOGEN WITH cDNA MICROARRAYS Lee M, Kwon J, Koh WS, Song CW
41	119	EVALUATION OF POLYPLOIDY IN THE <i>IN VITRO</i> CYTOGENETICS ASSAY- IS IT A GOOD PREDICTOR OF ANEUGENIC POTENTIAL? Martin JA, Dobo KL, Ku WW
42	121	GRAPEFRUIT JUICE AND NARINGIN: AN EVALUATION OF THEIR ANTIGENOTOXIC AND ANTIOXIDANT CAPACITY Martino RL, Alvarez GI, Madrigal BE

MONDAY, MAY 12, 2003

Poster	Abstract	
43	133	THE USE OF ANIMAL AND <i>IN VITRO</i> MODELS TO STUDY THE CONSEQUENCE OF ESSIAC(R) HERBAL TONIC EXPOSURE ON THE MAMMARY GLAND Montgomery J, Kulp KS, Ramsey MJ, Latham ER, Cutter B, Knize M, Bennett LM
44	134	AUTOMATION OF ANEUPLOIDY AND POLYPLOIDY EVALUATION: PROCESS VALIDATION STUDIES Muehlbauer PA, Schuler MJ
45	135	AUTOMATION OF ANEUPLOIDY AND POLYPLOIDY EVALUATION: A NOVEL PROCESS FOR DETECTING ANEUGENIC AGENTS Muehlbauer PA, Schuler MJ
46	140	AFFYMETRIX MICROARRAY ANALYSIS OF BENZO[A]PYRENE INDUCED CHANGES IN GENE EXPRESSION IN RAT LIVER N'Jai A, Jelaso AM, Ide CF, Means JC
47	143	GENE EXPRESSION ANALYSIS OF PROXIMAL TUBULAR AND GLOMERULAR NEPHROXICANTS Nordone PJ, Hu R, Sullivan L, Piddington C, Fitzpatrick VD, Healy L, Wen D, Hamadeh H, Cosenza ME, Afshari C, Thukral SK
48	146	CHARACTERIZATION OF THE NUMERICAL CHROMOSOMAL ABERRATIONS DURING CERVICAL CARCINOGENESIS USING MULTIPLE PROBE FLUORESCENCE IN SITU HYBRIDIZATION IN A MEXICAN POPULATION Olaharski AJ, Guzman P, Gonsebatt ME, Sotelo-Regil R, Eastmond DA
49	149	THE SYRIAN HAMSTER EMBRYO CELL TRANSFORMATION ASSAY: NEGATIVE RESULTS WITH AMPICILLIN Oshiro Y, Bunch RT
50	160	NON-DISJUNCTION EVENTS INDUCED BY ALBENDAZOLE AND ITS ACTIVE METABOLITE IN HUMAN LYMPHOCYTES TREATED <i>IN VITRO</i> Ramirez T, Eastmond DA, Herrera LA
51	165	PROTEOMIC ANALYSIS OF SECRETED PROTEINS FROM HEPG2 LIVER CELLS Rudd CR, Shaler T

MONDAY, MAY 12, 2003

Poster	Abstract	
52	166	ISOLATION OF ANTIGENOTOXIC COMPONENTS AND ANTIOXIDANTS FROM COMMERCIAL CORN PROCESSING BY-PRODUCTS Rundell MS, Muellner MG, Wagner ED, Plewa MJ, Berhow MA, Vaughn SF
53	170	EVALUATION OF P53 PROTEIN IN CIRCULATING LYMPHOCYTES Salazar AM, Calderon-Aranda E, Bendesky A, Sordo M, Zacarias MM, Cebrian ME, Ostrosky-Wegman P
54	197	EFFECTS OF DIETARY FOLATE ON ARSENIC-INDUCED GENE EXPRESSION IN MICE Thai SF, Barnes J, McDorman E, Fuscoe J, Allen JW
55	199	MULTI-LABORATORY VALIDATION OF A FLOW CYTOMETRIC MICRONUCLEUS ANALYSIS SYSTEM: RESULTS FROM METHOTREXATE AND VINCRISTINE Torous DK, Hall NE, Gleason SE, Murante FG, Illi-Love AH, McNamee JP, Blakey DH
56	203	DOSE-RESPONSE STUDY OF VEGETABLES ON GENE EXPRESSION IN COLON MUCOSA OF C57BL6 FEMALE MICE van Breda SGJ, van Agen E, Kienhuis AS, Kleinjans JCS, van Delft JHM
57	224	APPLICATION OF A TWO-STAGE MORPHOLOGICAL TRANSFORMATION MODEL OF SYRIAN HAMSTER EMBRYO (SHE) CELLS TO DETECT CHEMOPREVENTIVE AGENTS Zhang H, Borman HD, Myhr BC
58	255	ANTI-CLASTOGENICITY OF IONIZING RADIATION BY APIGENIN Tungjai M, Whorton EB, Rithidech K
59	257	EVALUATION OF THREE NATURAL PRODUCTS, BILBURY FRUIT EXTRACT, BLUE GREEN ALGAE AND SOYGOLD IN MOUSE MICRONUCLEUS TESTS. Xu J, Shore KSK, Thilagar A
60	260	EFFECT OF ETHANOL ON THE SPECTRUM OF CODON 61 H-RAS MUTATIONS IN LIVER TUMORS OF MALE B6C3F ₁ MICE TREATED WITH URETHANE Hamilton LP, Pogribny IP, Mellick PW, Beland FA

TUESDAY, MAY 13, 2003

7:00 AM – 8:30 AM

Breakfast Meetings

EMS Executive Board
Imperial Boardroom

Awards and Honors Committee
Imperial I

Membership and Professional Development Committee
Imperial IV

DNA Repair Group
Voltaire

Germ Cells/Aneuploidy/Human Genetic Diseases Group
Imperial III

New Technologies Group
Lafayette

7:30 AM – 1:00 PM

Registration
Fontainebleau Gallerie

TUESDAY, MAY 13, 2003

8:30 AM – 9:15 AM

Plenary Lecture
Fontainebleau A

Louis J. Guillette, Jr.
University of Florida, Gainesville

Contaminants, Genes and Health: Lessons from Wildlife

9:20 AM – 10:50 AM

Business Meeting/Awards Presentation

Fontainebleau A

TUESDAY, MAY 13, 2003

10:50 AM – 1:15 PM

Exhibits Open

Posters: DNA Damage, Repair and Mutagenesis Fontainebleau C and D

Odd numbered posters to be attended from 10:50 AM - 12:00 PM

Even numbered posters to be attended from 12:00 - 1:15 PM

Poster	Abstract	
1	4	EFFECT OF XPD POLYMORPHISMS ON THE GENOTOXIC DAMAGED INDUCED BY THE TOBACCO-SPECIFIC NITROSAMINE NNK Affatato AA, Wolfe KJ, Hallberg C, Abdel-Rahman SZ
2	244	ANALYSIS OF DNA-PK COMPLEX IN ESTABLISHED CELL LINES AFTER X-RAY EXPOSURE Barattini P, Stronati L, Grollino MG, Gumiero D, Tirindelli Danesi D
3	34	INDUCTION AND ACCUMULATION OF CYTOGENETIC DAMAGE IN P53 KNOCKOUT HETEROZYGOUS AND ISOGENIC PARENTAL STRAIN MICE AFTER SIX MONTHS ORAL TREATMENT WITH MELPHALAN Cinelli S, Ranaldi R, Lascialfari A, Pacchierotti F, Stronati L, Pecis A
4	41	SATURATING DNA LOOP RELAXATION FOR ACCURATE DOUBLE STRAND BREAK DETECTION IN THE NEUTRAL COMET ASSAY De Miranda Cabral Gontijo AM, Salvadori DMF, Rothfuss A
5	56	HEAVY METALS STIMULATE GENETIC DAMAGE BY HUMAN RETROTRANSPOSONS Elsawy MM, Kale S, Bruch H, Deininger PL
6	71	ATM IS ACTIVATED BY DNA DOUBLE STRAND BREAKS GENERATED DURING RECOMBINATIONAL REPAIR OF HEXAVALENT CHROMIUM [CR(VI)]-INDUCED DNA DAMAGE Ha L, Ceryak S, Fornsgaglio JL, Patierno SR

TUESDAY, MAY 13, 2003

Poster	Abstract	
7	76	MODIFICATION OF THE MOLECULAR COMPOSITION OF SIRNA MOLECULES PERMITS GENE SILENCING IN BACTERIA Hofmann ER, Lamberton JS, Dugan LC, Christian AT
8	96	EFFECTS OF EXTRACELLULAR AND INTRACELLULAR FACTORS ON CHROMIUM (III) AND CHROMIUM (VI) GENOTOXICITY Kirpnick Z, Schiestl RH
9	102	VARYING THE NUCLEIC ACID COMPOSITION OF SHORT INTERFERING MOLECULES GREATLY VARIES THE DEGREE AND DURATION OF GENE SILENCING Lamberton JS, Christian AT
10	120	GENOTOXIC EFFECT OF AFLATOXIN IN ANIMALS WITH PARASITE-ASSOCIATED INFLAMMATION Martin H, Gentile GJ, Gentile JM
11	124	GENETIC SENSITIVITY TO LOW-DOSES OF IONIZING RADIATION Mata-López D, Arizmendi-Pérez O, Ostrosky-Wegman P
12	136	STRUCTURE-ACTIVITY RELATIONSHIPS FOR GENOTOXICITY AMONG A SERIES OF EPOTHILONES Mueller L, Frieauff W, Plappert U, Hartmann A, Martus HJ, Wartmann M, Suter W
13	144	INCISION OF CHROMIUM-INDUCED DNA DAMAGE BY THERMAL-RESISTANT UVRABC ENDONUCLEASE O'Brien TJ, Jiang GH, Mandel HG, States JC, Patierno SR
14	192	IMPLICATION FOR NOVEL P53-REGULATED GENE PRODUCTS INVOLVED IN S-PHASE PROGRESSION FOLLOWING ULTRAVIOLET RADIATION Spronck JC, Becerril C, McKay BC

TUESDAY, MAY 13, 2003

Poster	Abstract	
15	196	SINGLE BASE INSTABILITY IN HUMAN CANCER Tapp RA, Feng JT, Carlson JA, Wilson VL
16	246	OXIDATION OF 8-OXOdG IN SINGLE-STRANDED DNA FORMS HIGHLY MUTAGENIC BASE LESIONS THAT ARE REFRACTORY TO REPAIR <i>IN VIVO</i> . Henderson PT, Delaney JC, Muller JG, Neeley WS, Tannenbaum SR, Essigmann JM
17	210	DO SPONTANEOUS MULTIPLE MUTATIONS CLUSTER? Wang J, Hill KA, Nasrawi S, Li X, Sommer SS
18	215	A MODEL OF SENSITIVITY: 1,3-BUTADIENE IN- DUCES <i>HPRT</i> MUTANTS IN MICE LACKING MI- CROSOMAL EPOXIDE HYDROLASE ACTIVITY Wickliffe JK, Ammenheuser MM, Hastings-Smith DA, Ward JB
19	217	RAPID DNA SYNTHESIS FROM SHORT OLIGODEOXYRIBONUCLEOTIDES Williams JM, Mariella RP, Christian AT
20a	229	OKADAIC ACID, AN INHIBITOR OF PHOSPHATASE 1 AND 2A, INDUCES PREMATURE CENTROMERE SEPARATION OF SISTER CHROMATIDS DURING MEIOSIS AND ANEUPLOIDY IN MOUSE OOCYTES Mailhes JB, Mastromatteo C
20b	247	PROGERIA FIBROBLASTS CAN ENTER SENESENCE IN THE PRESENCE OF TELOMERASE: CYTOGENETIC FINDINGS Corso C, Faragher RGA, Parry EM, Parry JM
20c	254	GENETIC INSTABILITY IN BLOOM SYNDROME MICE Wang Y, Heddle JA
20d	264	TET-REGULATED TARGETING OF ENDOIII AND ENDOVIII INTO MITOCHONDRIA Rachek LI, Alexeyev MF, Pastukh VV, LeDoux SP, Wilson GL

TUESDAY, MAY 13, 2003

Environmental Agents: Detection and Effects

Poster	Abstract	
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23	10	COMPARATIVE ANALYSIS OF GENE EXPRESSION CHANGES IN PRIMARY CULTURED MOUSE HEPATOCYTES AND MOUSE LIVER FOLLOWING TREATMENT WITH METHYL METHANESULFONATE Altizer JL, Islaih M, Newton RK
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41	97	GENOTOXICITY OF FORMALDEHYDE IN SCREENING AMES AND <i>IN VITRO</i> MICRONUCLEUS ASSAYS Krishna G, Diehl MS, Sonder PA, Fagerland JA
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43	110	SPERM COMET AND TUNEL ASSAYS: EFFECTS OF INTRA-INDIVIDUAL VARIABILITY OVER TIME AND FREEZING Lim KL, Xun L, Robbins WA

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46	250	GENETICALLY MODIFIED CHO CELLS EXPRESSING HUMAN UGT1A1 FOR STUDYING THE GLUCURONIDATION OF HETEROCYCLIC AMINES FROM COOKED FOOD. Wu RW, Malfatti MA, Felton JS
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52	156	MAMMALIAN CELL CYTOTOXICITY AND GENOTOXICITY OF NEW DRINKING WATER DISINFECTION BY-PRODUCTS Plewa MJ, Wagner ED, Kim AC, Nelson R, Richardson SD
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57	214	THE INFLUENCE OF OXYGENATED FUEL DERIVATIVES ON THE MUTAGENICITY OF LIGHT-DUTY DIESEL EMISSIONS White PA, Zhu J, Aikawa B, Gingerich J, Bailey J, Soper L, Douglas GR

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- 58 1 IDENTIFICATION OF GENE EXPRESSION PROFILE
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Aardema MJ, Hu T, Gibson DP, Carr GJ, Torontali SM,
Tiesman JP
- 59 261 INDUCTION OF *TK* AND *HPRT* LYMPHOCYTE
MUTATIONS AND MICRONUCLEI IN B6C3F₁/*TK*^{+/-} MICE
TREATED NEONATALLY WITH THE ANTI-RETROVIRAL
DRUGS STAVUDINE, ZALCITABINE, AND NEVIRAPINE.
Von Tungeln LS, Hamilton LP, Dobrovolsky VN, Shaddock JG,
McGarrity LJ, Morris SM, Heflich RH, Beland FA
-

1:15 PM – 7:30 PM

Free afternoon

7:30 PM – 10:30 PM

Dessert Cruise

AD

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WEDNESDAY, MAY 14, 2003

7:00 AM – 8:30 AM

Breakfast Meetings

2004 Program Committee (second meeting)
Imperial Boardroom

Education and Student Affairs Committee
Monaco

7:30 AM – Noon

Registration

Fontainebleau Gallerie

8:30 AM – 9:10 AM

Plenary Lecture

Fontaine Room

Richard B. Setlow
Brookhaven National Laboratory, Upton, NY

**Nucleotide Excision Repair and the Identification of
DNA Lesions in Malignant Melanoma:
Epidemiology and Fish Stories**

WEDNESDAY, MAY 14, 2003

9:15 AM – 11:30 AM

Excision Repair Symposium

Fontaine Room

Chairpersons

Joann B. Sweasy, Yale University

and

Samuel H. Wilson, NIEHS

- 9:15 – 9:45 AM Overview of Base Excision Repair
Samuel H. Wilson, NIEHS
- 9:45– 10:15 AM Nucleotide Excision Repair: Solved and Unsolved
Problems
Richard D. Wood, University of Pittsburgh
- 10:15– 10:30 AM Break
- 10:30– 11:00 AM Transcription-Coupled DNA Repair in Human
Cells: Mechanisms and Interactions
*Priscilla Cooper, Lawrence Berkeley Labora-
tory*
- 11:00– 11:30 AM DNA Repair in Chromatin: An Overview
*Michael J. Smerdon, Washington State Univer-
sity*

WEDNESDAY, MAY 14, 2003

9:15 AM – 11:30 AM

Computational/Predictive Toxicology Symposium

Brittany/Champagne

Chairpersons

R. Daniel Benz, U.S. FDA

and

Nigel Greene, Pfizer

Sponsored by Novartis

- 9:15 – 9:45 AM Computational Toxicology Advances: Emerging Capabilities for Data, Exploration and SAR Model Development
Ann M. Richard, U.S. EPA
- 9:45 – 10:15 AM Using Computational Biology Techniques to Bridge the Experimental Divide
Felice Lightstone, Lawrence Livermore National Laboratory
- 10:15 – 10:30 AM Break
- 10:30 – 11:00 AM The Application of *In Silico* Tools for Toxicity Prediction in Drug Discovery and Development
Nigel Greene, Pfizer
- 11:00 – 11:30 AM Are *In vitro*, Animal, and Clinical Testing Still Necessary?
R. Daniel Benz, U.S. FDA

WEDNESDAY, MAY 14, 2003

9:15 AM – 11:30 AM

Platform Session 2

Environmental Agents and Mutation

Le Mans/Bordeaux/Burgundy

Chairpersons

*Toby G. Rossman, New York University
and
Ofelia A. Olivero, National Cancer Institute*

Abstract

- 9:15–9:35 AM 164 Arsenite Induces Delayed Mutagenesis, Gene Amplification, and Transformation in Human Osteosarcoma (HOS) Cells at Extremely Low Concentrations
Rossman TG, Mure K, Uddin AN, Styblo M, Lopez LC
- 9:35–9:55 AM 155 Role of Mismatch Repair in Chromium(VI) Toxicity and Potential Implications for Chromium Carcinogenesis and Risk Assessment
Peterson E, Reynolds M, Messer J, Zhitkovich A
- 9:55–10:15 AM 195 Effect of Low Dose Radiation on Somatic Intrachromosomal Recombination in vivo and in vitro
Sykes PJ, Bhat M, Cormack J, Morley AA, Hooker AM
- 10:15–10:30 AM Break
- 10:30–10:50 AM 206 Assessment of Depleted Uranium (DU) Mutagenicity at the *hprt* Locus in F344 Rats
Walker DM, Hahn FF, Lewis J, Barr EB, Walker VE
- 10:50–11:10 AM 232 Sentinel Mice Detect Heritable DNA Mutations Induced by Air Pollution
Somers CM, Quinn JS
- 11:10–11:30 AM 240 Chromosomal Aberrations Induced by Ambient and Indoor Air Pollution
Bocskay K, Orjuela M, Warburton D, Perera F

WEDNESDAY, MAY 14, 2003

11:35 AM – 12:20 PM

Keynote Lecture

Fontaine Room

Richard Kolodner

University of California, San Diego, CA

**Identification of Pathways
That Maintain Genome Stability**

WEDNESDAY, MAY 14, 2003

1:30 PM – 6:30 PM

Colon Cancer Satellite Meeting

Fontainebleau A

1:40 PM – 2:25 PM

Plenary Lecture

Fontaine Room

Paul Gilman

Science Advisor, U.S. EPA, Washington, DC

**Role of New Technologies
in the Regulatory Process**

WEDNESDAY, MAY 14, 2003

2:30 PM – 4:45 PM

Platform Session 3

DNA Repair and Mutagenesis

Le Mans/Bordeaux/Burgundy

Chairpersons

Gerald M. Adair, University of Texas

and

Kathleen A. Hill, City of Hope

Abstract

- 2:30 – 2:50 PM 3 Effects of *MSH3* Gene Deletion on Targeted Homologous Recombination in *ERCC1* Wild-type or *ERCC1* Knock-out Cell Lines
Adair GM, Robison T, Bolt A, Della-Coletta L, Nairn RS
- 2:50 – 3:10 PM 26 siRNA Depletion of BRCA1 and BRCA2 in Fanconi Anemia Cells
Bruun D, Folias AE, Akkari YM, Cox YT, Olson SB, Moses RE
- 3:10 – 3:30 PM 213 Recruitment of the DNA Binding Protein RAD18 to Sites of Stalled Replication Forks is Required for DNA Damage Tolerance in Human Cells
Watson NB, Burke T, Stefan M, Zacharias W, McGregor WG
- 3:30 – 3:50 PM Break
- 3:50 – 4:10 PM 103 The K289M DNA Polymerase Beta Cancer-Associated Mutant Misincorporates Nucleotides
Lang T, Sweasy JB

WEDNESDAY, MAY 14, 2003

Abstract

- 4:10–4:30 PM 9 DNA Repair and Mutagenesis in Young Mice Heterozygous for Various BER Genes
Allen D, Huamani J, MacInnes MA, Chen DJ, Sobol RW, Wilson SH, Tebbs R, Walter CA
- 4:30–4:50 PM 75 Spacing Between Spontaneous Multiple Mutations Suggests a Coordinate Event and Multiple Mutations are Elevated in p53-Deficient Mice, Especially in the Liver and Spleen
Hill KA, Wang J, Farwell KD, Sommer SS
-

WEDNESDAY, MAY 14, 2003

2:30 PM – 4:50 PM

Environmental Mutagens and Carcinogens:

An Update Symposium

Fontaine Room

Chairpersons

*Patricia Ostrosky, National Autonomous University of Mexico,
Mexico City*

and

George R. Douglas, Health Canada

- 2:30 – 3:00 PM Aflatoxin Mutations and Liver Cancer
*John M. Essigmann, Massachusetts Institute
of Technology*
- 3:00– 3:30 PM Arsenic and Cancer: Are Humans Really That
Sensitive?
*Allan H. Smith, University of California,
Berkeley*
- 3:30 – 3:50 PM Break
- 3:50– 4:20 PM The Role of Infectious Diseases in Carcinogenesis
*Patricia Ostrosky, National Autonomous
University of Mexico, Mexico City*
- 4:20 – 4:50 PM Mutations Induced by Urban Air and Drinking
Water: Do They Leave a Mutational Signature in
Human Tumors?
David M. DeMarini, U.S. EPA

WEDNESDAY, MAY 14, 2003

5:15 PM – 6:45 PM
EMS Council Meeting
Imperial Boardroom

EMSEXHIBITORS

Exhibit Hours:

Sunday, May 11, 2003 1:30 PM – 7:00 PM
Monday, May 12, 2003 1:30 PM – 7:00 PM
Tuesday, May 13, 2003 10:50 AM – 1:15 PM

BioReliance

Booth # 15

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Web Site: www.Bioreliance.com

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E-Mail: tamara.brown@covance.com
Web Site: www.covance.com

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The Environmental Mutagen Society (EMS) is the primary scientific society fostering research on the basic mechanisms of mutagenesis as well as on the application of this knowledge in the field of genetic toxicology. EMS has seven core scientific content areas; these are (1) exposure, detection and metabolism of DNA damaging agents, (2) responses to DNA damage (DNA repair and recombination, changes in gene expression, cell cycle effects), (3) mutational mechanisms (spontaneous and exposure related), (4) DNA technologies, (5) molecular epidemiology, (6) human health effects (developmental, cancer, aging, genetic disease), and (7) applications: testing, regulatory issues and risk assessment.

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Booth #9

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Meeting Room Locations

Our meeting and function rooms are located on different levels of the hotel. The following list shows the locations of the rooms.

Room	Location
Brittany Champagne Monaco Le Mans Bordeaux Burgundy Lorraine	Level I
Fontanebleau Gallerie Fontainebleau Ballroom Fontainebleau A, B, C, D	Level II
Imperial I, II, III, IV Imperial Ballroom Pasteur Lafayette Voltaire	Level IV
Fontaine Room	Chateau Building (Near Lobby)

ON-SITE REGISTRATION FEES

EMS Meeting	
Member	\$525
Non-Member	\$700
Post-Doctoral	\$425
Graduate or Undergraduate Student	\$325
Guest (includes cruise)	\$175