The Teratology Society

40th Annual Meeting

The Breakers Palm Beach, Florida

June 24–29, 2000

24th Annual Meeting of The Neurobehavioral Teratology Society (NBTS)
June 24–29, 2000

the 19th Annual Meeting of the Behavioral Toxicology Society (BTS)
June 24–29, 2000

and the 12th International Conference of the Organization of Teratology Information Services (OTIS)
June 24–27, 2000

Program And Abstracts

Program Agenda

11:00 am–5:00 pm Registration — South Loggia
12:00 pm–6:00 pm Council IA Meeting — Flagler Board Room
1:00 pm–5:15 pm Education Course — Mediterranean Ballroom
Signal Transduction: Pathways to Growth, Differentiation, and Morphogenesis

1:00 pm–1:05 pm Welcome
Speaker: G.P. Daston, President, Teratology Society

1:05 pm–1:15 pm Introduction
Speaker: J. Jones, Bristol-Myers Squibb

1:15 pm–2:00 pm Cell Adhesion Molecules and Signal Transduction
Speaker: G. Grunwald, Thomas Jefferson University

2:00 pm–2:45 pm Transforming Growth Factors-b: Important Mediators of Mammalian Development
Speaker: K. Flanders, National Cancer Institute

2:45 pm–3:30 pm G Proteins: Master Switches in Cellular Signal Transduction
Speaker: C. Ward, University of Pennsylvania

3:30 pm–3:45 pm Coffee Break

3:45 pm–4:30 pm Protein Kinase C
Speaker: E.S. Hunter, USEPA

4:30 pm–5:15 pm Retinoid Receptors
Speaker: D. Kochhar, Thomas Jefferson University

7:30 am–5:00 pm Registration — Ponce De Leon IV Foyer

7:00 am–2:00 pm Council IB Meeting — Flagler Board Room

7:30 am–12:00 pm Education Course — Mediterranean Ballroom
(Continued from Saturday)

7:30 am–8:15 am Continental Breakfast

8:15 am–9:00 am Signal Transduction Pathways Regulating Cell Death (Apoptosis) or Cell Survival
Speaker: P.E. Mirkes, University of Washington

9:00 am–9:45 am Vasculogenesis and Angiogenesis: A Critical Gene Pathway for Embryonic Development
Speaker: B. Abbott, USEPA

9:45 am–10:15 am Coffee Break

10:15 am–11:00 am Endothelin
Speaker: D. Srivastava, University of Texas Southwestern Medical Center

11:00 am–11:45 am Roles of The Peroxisome Proliferator-Activated Receptors (PPARs) in Development
Speaker: J.M. Peters, Pennsylvania State University

11:45 am–12:00 pm Discussion/Adjournment

1:30 pm–5:00 pm March of Dimes Symposium — Ponce De Leon V

Genetic Susceptibility to Teratogenesis

1:30 pm–1:40 pm INTRODUCTION
M.D. Collins, UCLA, Los Angeles, California and
M. Katz, March of Dimes, White Plains, New York

1:40 pm–2:20 pm S1 GENE-ENVIRONMENT INTERACTIONS IN BIRTH DEFECTS
Speaker: J.C. Murray, The University of Iowa, Department of Pediatrics, Iowa City, Iowa

2:20 pm–2:50 pm S2 WHOLE GENOME SCAN TO IDENTIFY CHROMOSOMAL LOCI ASSOCIATED
WITH A STRAIN DIFFERENCE IN SUSCEPTIBILITY TO CADMIUM-INDUCED FORELIMB
DEFECTS
Speaker: M.D. Collins, UCLA, Los Angeles, California

2:50 pm–3:05 pm BREAK

3:05 pm–3:35 pm S3 INSIGHTS FROM GENOME SCANS VERSUS CANDIDATE GENE
POLYMORPHISMS FOR UNDERSTANDING THE ETIOLOGY OF TERATOGEN-INDUCED ORAL
CLEFTS IN MOUSE AND MAN
Speaker: S.R. Diehl, Craniofacial Epidemiology and Genetics Branch, NIDCR, NIH, Bethesda, Maryland

3:35 pm–4:05 pm S4 INTERPRETATION OF TERATOGENETICS
Speaker: D.M. Juriloff, Department of Medical Genetics, University of British Columbia, Vancouver, B.C.,
Canada

4:05 pm–5:00 pm S5 HOLOPROSENCEPHALY AS A MODEL TO UNDERSTAND BRAIN
DEVELOPMENT
Speaker: M. Muenke, Medical Genetics Branch, National Human Genome Research Institute, NIH, Bethesda,
Maryland, and The Children’s Hospital of Philadelphia, University of Pennsylvania School of Medicine,
Philadelphia, Pennsylvania

6:00 pm–7:30 pm Exhibits Open — Ponce De Leon IV
6:00 pm–7:30 pm President’s Reception — Ponce De Leon IV

Sponsored by: Elsevier Science, Inc.

7:00 am–7:45 am Continental Breakfast

7:30 am–5:00 pm Registration — Ponce De Leon IV Foyer
7:45 am–8:00 am President’s Welcome and Introduction — Ponce De Leon V
George P. Daston

8:00 am–8:45 am Warkany Lecture — Ponce De Leon V
Alteration of Pattern Formation as a Mechanism of Teratogenesis
William J. Scott, Jr., University of Cincinnati

9:00 am–12:10 pm Wiley-Liss Symposium — Ponce De Leon V

Angiogenesis

Chairpersons: William Slikker, Jr., National Center for Toxicological Research (FDA), Jefferson, Arkansas
and Karen Augustine, Genetic, Reproductive and Developmental Toxicology Group, SmithKline Beecham
Pharmaceuticals, King of Prussia, Pennsylvania
Sponsored by: John Wiley & Sons, Inc.

9:00 am–9:10 am S6 OVERVIEW
Speakers: K.A. Augustine1 and W. Slikker2, 1Genetic, Reproductive and Developmental Toxicology Group, SmithKline Beecham Pharmaceuticals, King of Prussia, Pennsylvania; 2National Center for Toxicological Research (FDA), Jefferson, Arkansas

9:10 am–9:50 am S7 ENDOTHELIAL CELL ORIGINS AND BLOOD VESSEL MORPHOGENESIS
Speaker: T.J. Poole, Department of Cell and Developmental Biology, Upstate Medical University, Syracuse, New York

9:50 am–10:30 am S8 REGULATION OF VASCULOGENESIS AND ANGIOGENESIS
Speaker: B.D. Abbott, Reproductive Toxicology Division, USEPA, Research Triangle Park, North Carolina

10:30 am–10:45 am BREAK

10:45 am–11:25 am S9 MOLECULAR DETERMINANTS OF VASCULOGENIC MIMICRY BY AGGRESSIVE TUMOR CELLS: NEW THERAPEUTIC TARGETS FOR CLINICAL INTERVENTION
Speaker: M.J.C. Hendrix, The University of Iowa Cancer Center, Iowa City, Iowa

11:25 am–12:10 pm S10 ANTI-ANGIOGENIC THERAPIES INCLUDING THALIDOMIDE
Speaker: D.I. Stirling, Celgene Corporation, Warren, New Jersey

12:00 pm–1:00 pm Past Presidents’ Luncheon — Gulfstream F
Sponsored by Proctor & Gamble Company
(By Invitation Only)

1:00 pm–1:45 pm James G. Wilson Publication Award — Ponce De Leon V

1:45 pm–4:30 pm Platform I Session — Ponce De Leon V

1:45 pm–3:15 pm Platform Ia: Student Plenary Session 1
Chairpersons: Kit Keller, Consultant, Washington, District of Columbia and Craig Harris, University of Michigan, Ann Arbor, Michigan

1:45 pm–2:00 pm 1 EFFECTS OF SERA FROM WOMEN WITH SYSTEMIC LUPUS ERYTHEMATOSUS (SLE) AND RECURRENT ABORTIONS ON HUMAN PLACENTAL EXPLANTS IN CULTURE
S. Yacobi1, A. Ornoy1, and R.K. Miller2, 1Hebrew University Hadassah Medical School, Jerusalem, Israel; 2University of Rochester, Rochester, New York

2:00 pm–2:15 pm 2 HIV-1 INFECTION IN EARLY HUMAN PLACENTAE IN VITRO: EFFECTS OF TUMOR NECROSIS FACTOR (TNFa) AND INTERLEUKINS (IL-1 & IL-6)
Y. Ding, T. Laughlin, B.M. Polliotti, and R.K. Miller, University of Rochester, Rochester, New York

2:15 pm–2:30 pm 3 CASPASE-3 ENZYME ACTIVITY AS A MARKER FOR TERATOGEN-INDUCED APOPTOSIS IN DAY 9 MOUSE EMBRYOS AND ASSOCIATED YOLK SACS: EVIDENCE FOR YOLK SAC RESISTANCE TO TERATOGEN-INDUCED APOPTOSIS
D. Soleman and P.E. Mirkes, Department of Pediatrics, University of Washington, Seattle, Washington

2:30 pm–2:45 pm 4 LASER CAPTURE MICRODISSECTION TO EXPLORE A POTENTIAL RELATIONSHIP BETWEEN DIFFERENTIAL GENE EXPRESSION AND ETHANOL-INDUCED APOPTOSIS
W.C. Dunty, Jr.1, P.S. Stockton2, R.C. Barber3, R.H. Finnell3, M. Miles4, S.-Y. Chen1, D.B. Dehart1, and K.K.
2:45 pm–3:00 pm 5 EFFECT OF DEVELOPMENTAL EXPOSURE TO ETHANEDIMETHANE SULPHONATE (EDS), BROMOCHLOROACETIC ACID (BCA) AND MOLINATE ON WHOLE BODY TESTOSTERONE LEVELS IN CD-1 MICE
D.K. Tarka1,2, G.R. Klinefelter2, J. Suarez2, and J.M. Rogers1,2, 1University of North Carolina, School of Medicine, Curriculum in Toxicology, Chapel Hill, North Carolina; 2USEPA, NHEERL, Reproductive Toxicology Division, Research Triangle Park, North Carolina

3:00 pm–3:15 pm 6 DIABETIC EMBRYOPATHY: IMPACT OF THE SPLOTCH ALLELE
A.F. Machado1, E.F. Zimmerman2, D.H. Hovland Jr.1, R. Weiss1, and M.D. Collins1, 1UCLA, Los Angeles, California; 2Children’s Hospital Research Foundation, Cincinnati, Ohio

3:15 pm–4:30 pm Platform Ib: Student Plenary Session 2
Chairpersons: Janet Uriu-Adams, University of California, Davis, Davis California and Jack Bishop, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina

3:15 pm–3:30 pm 7 ENDOTHELIN-A RECEPTOR ANTAGONISM IN EMBRYO CULTURE: WINDOW OF SENSITIVITY AND TIMING OF DEFECT
K.C. Brannen, J.M. Rogers, and E.S. Hunter, Curriculum in Toxicology, University of North Carolina, Chapel Hill, North Carolina, and Reproductive Toxicology Division, NHEERL, USEPA, Research Triangle Park, North Carolina

3:30 pm–3:45 pm 8 DIFFERENTIAL EXPRESSION OF CELL CHECKPOINT REGULATOR/DNA DAMAGE SENSOR GENES DURING RAT EMBRYO ORGANOGENESIS IN VIVO AND IN VITRO
R.K. Vinson and B. F. Hales, McGill University, Montréal, QC, Canada

4:00 pm–4:15 pm 9 PK11195 INFLUENCES BIOGENESIS OF THE MOUSE mTDNA GENOME DURING NEURULATION
R.J. Donahue, R.C. Craig, K.B. Knudsen, and T.B. Knudsen, Department of Pathology, Anatomy and Cell Biology, Jefferson Medical College, Philadelphia, Pennsylvania

4:15 pm–4:30 pm 10 METHYLMERCURY TRANSIENTLY ALTERS MITOCHONDRIAL GENE EXPRESSION IN THE EMBRYO: EVIDENCE FOR DISRUPTION OF THE CELLULAR HEME PATHWAY
M.F. O’Hara and T.B. Knudsen, Department of Pathology, Anatomy and Cell Biology, Jefferson Medical College, Philadelphia, Pennsylvania

4:30 pm–6:00 pm Poster Setup — Ponce De Leon IV
4:00 pm–10:00 pm Exhibits Open — Ponce De Leon IV
4:30 pm–6:00 pm Issues Forum — Ponce De Leon V
6:00 pm–7:30 pm Student Career Event — Ponce De Leon II
Jointly sponsored by Aventis, MARTA, MTA, and Pfizer, Inc.

7:30 pm–10:00 pm Poster Session — Ponce De Leon IV
(BTS 1–10; NBTS 1–10; Teratology Society 1–19)

Sponsored by Covance Laboratories, Quintiles, SNBL USA, Springborn Laboratories, Inc. and TherImmune Research Corporation

7:30 am–8:15 am Continental Breakfast

7:30 am–8:30 am Exhibitors’ Breakfast

7:30 am–5:00 pm Registration — Ponce De Leon IV Foyer

8:30 am–11:45 am NBTS/OTIS/Teratology Society Symposium — Ponce De Leon V

Folate Supplementation and Birth Defects

Chairpersons: Deborah Hansen, National Center for Toxicological Research, Jefferson, Arkansas and Elizabeth Yetley, Center for Food Safety and Applied Nutrition, Food and Drug Administration, Washington, District of Columbia

8:30 am–8:35 am INTRODUCTION
Speaker: D.K Hansen, National Center for Toxicological Research, Jefferson, Arkansas

8:35 am–9:10 am S11 POTENTIAL MECHANISM(S) FOR FOLATE PREVENTION OF NEURAL TUBE DEFECTS
Speaker: D.K Hansen, National Center for Toxicological Research, Jefferson, Arkansas

9:10 am–9:45 am S12 SUPPLEMENTATION WITH METHYL GROUP DONORS, FOLATE OR CHOLINE, DURING LATE PREGNANCY IN RATS IMPROVES VISUOSPATIAL MEMORY PERFORMANCE OF THE OFFSPRING
Speaker: C.L. Williams, Department of Psychology: Experimental, Duke University, Durham, North Carolina

9:45 am–10:00 am BREAK

10:00 am–10:35 am S13 NATIONAL FOLIC ACID FORTIFICATION: HOW WE GOT THERE AND NEXT STEPS
Speaker: E.A. Yetley, Center for Food Safety and Applied Nutrition, FDA, Washington, District of Columbia

10:35 am–11:10 am S14 PRE- AND POST-FORTIFICATION MONITORING OF FOLATE AND VITAMIN B12 STATUS
Speaker: P.F. Jacques, Jean Mayer-USDA Human Nutrition Research Center on Aging at Tufts University, Boston, Massachusetts

11:10 am–11:45 am S15 MONITORING CHANGES IN NEURAL TUBE DEFECT RATES — PRE- AND POST-FORTIFICATION
Speaker: J.D. Erickson, Centers for Disease Control and Prevention, Atlanta, Georgia

8:30 am–12:00 pm Developmental Risks of Disinfectant By-Products Symposium — Ponce De Leon I

Chairperson: E. Sidney Hunter, Reproductive Toxicology Division, NHEERL, USEPA, Research Triangle Park, North Carolina

8:30 am–8:45 am S16 SYMPOSIUM OVERVIEW
8:45 am–9:25 am S17 OCCURRENCE OF DISINFECTION BY-PRODUCTS IN DRINKING WATER: IMPLICATIONS FOR EPIDEMIOLOGY AND TOXICOLOGY STUDIES
Speaker: S.W. Krasner, Metropolitan Water District of Southern California, La Verne, California

9:25 am–10:00 am S18 REPRODUCTIVE AND DEVELOPMENTAL EFFECTS OF DISINFECTION BY-PRODUCTS IN DRINKING WATER
Speaker: J.S. Reif, Department of Environmental Health, Colorado State University, Ft. Collins, Colorado

10:00 am–10:15 am BREAK

10:15 am–10:45 am S19 TRIHALOMETHANE-INDUCED PREGNANCY LOSS IN RATS
Speaker: M. Narotsky, Reproductive Toxicology Division, NHEERL, USEPA, Research Triangle Park, North Carolina

10:45 am–11:25 am S20 BIOMARKERS OF TRICHLOROETHYLENE EXPOSURE
Speaker: O. Selmin, Pediatric Cardiology, College of Medicine, University of Arizona Health Sciences Center, Tucson, Arizona

11:25 am–12:00 pm S21 IN VITRO AND IN VIVO REPRODUCTIVE AND DEVELOPMENTAL TOXICITY OF DRINKING WATER DISINFECTION BY-PRODUCTS
Speaker: R. Tyl, Center for Life Sciences and Toxicology, Research Triangle Institute, Research Triangle Park, North Carolina

1:00 pm–4:00 pm Platform II Session — Ponce De Leon V

1:00 pm–2:30 pm Platform IIa: Teratology Society/OTIS Joint Session 1

Chairpersons: Karen Filkins, UCLA School of Medicine, Los Angeles, California and Ashner Ornoy, Hebrew University Hadassah Medical School and Israeli Ministry of Health, Jerusalem, Israel

1:00 pm–1:15 pm 12 DO ANTIEPILEPTIC DRUGS COMBINED WITH CAFFEINE INCREASE THE RISK OF BIRTH DEFECTS?
E.B. Samrén1,2, C.M. van Duijn2, G.C.M.L. Christiaens4, A. Hofman2, and D. Lindhout1,3, 1Department of Clinical Genetics, University Hospital Rotterdam, Rotterdam, The Netherlands; 2Department of Epidemiology & Biostatistics, Erasmus University Medical School, Rotterdam, The Netherlands; 3MGC-Department of Clinical Genetics, Erasmus University Rotterdam, Rotterdam, The Netherlands; 4Department of Gynaecology and Obstetrics, University Medical Centre Utrecht, Utrecht, The Netherlands

1:15 pm–1:30 pm 13 IS CARBAMAZEPINE ADMINISTRATION DURING PREGNANCY TERATOGENIC? A PROSPECTIVE CONTROLLED STUDY ON PREGNANCY OUTCOMES IN 229 EXPOSED WOMEN
A. Ornoy1,2,3, S. Shechtman1,3, J. Arnon1,3 and O. Diav-Citrin1,3, The 1Israeli Teratogen Information Service; the 2Hebrew University Hadassah Medical School and 3Israel Ministry of Health, Jerusalem, Israel

1:30 pm–1:45 pm 14 PREGNANCY OUTCOME FOLLOWING GESTATIONAL EXPOSURE TO METRONIDAZOLE: A PROSPECTIVE CONTROLLED COHORT STUDY
O. Diav-Citrin1,3, T. Gotteiner1,2, S. Shechtman1,3, J. Arnon1,3, and A. Ornoy1,2,3, The 1Israeli Teratogen Information Service, the 2Hebrew University Hadassah Medical School and 3Israel Ministry of Health, Jerusalem, Israel

1:45 pm–2:00 pm 15 FETAL ABNORMALITIES ASSOCIATED WITH HIGH-DOSE
TRANYLCYPROMINE IN TWO CONSECUTIVE PREGNANCIES
D.S. Kennedy1, N. Evans1, I. Wang1, and W.S. Webster2, 1Royal Prince Alfred Hospital and 2The University of
Sydney, Sydney, Australia

1:00 pm–2:15 pm 16 MATERNAL ALCOHOL CONSUMPTION AND INTRAUTERINE GROWTH
RETARDATION: A POPULATION-BASED CASE-CONTROL STUDY
Q.H. Yang1, B.B. Witkiewicz2, R.S. Olney1, Y.C. Liu1, M. Davis1, M.J. Khoury1, A. Correa1, and J.D.
Erickson1, 1Centers for Disease Control and Prevention (CDC), Atlanta, Georgia; 2Monroe County Department
of Health, Rochester, New York

1:00 pm–2:30 pm Platform IIIa: Hazard/Risk Assessment Session 1
Chairpersons: James Schardein, WIL Research Laboratories, Ashland, Ohio and Patricia Bittner, Consumer
Product Safety Commission, Washington, District of Columbia

2:00 pm–2:15 pm 16 MATERNAL ALCOHOL CONSUMPTION AND INTRAUTERINE GROWTH
RETARDATION: A POPULATION-BASED CASE-CONTROL STUDY
Q.H. Yang1, B.B. Witkiewicz2, R.S. Olney1, Y.C. Liu1, M. Davis1, M.J. Khoury1, A. Correa1, and J.D.
Erickson1, 1Centers for Disease Control and Prevention (CDC), Atlanta, Georgia; 2Monroe County Department
of Health, Rochester, New York

2:15 pm–2:30 pm 17 PROSPECTIVE PREGNANCY OUTCOME IN WOMEN EXPOSED TO
AMPHETAMINES
R.J. Felix, C.D. Chambers, L.M. Dick, K.A. Johnson, and K.L. Jones, Department of Pediatrics, Division of
Dysmorphology and Teratology, University of California San Diego, La Jolla, California

2:30 pm–4:00 pm Platform IIb: Teratology Society/OTIS Joint Session 2
Chairpersons: Kathie Johnson, California Teratogen Information Service, Department of Pediatrics, UCSD,
San Diego, California and Jan Freidman, University of British Columbia, Vancouver, Canada

2:30 pm–2:45 pm 18 DESIGN OF A DATABASE OF HUMAN PRENATAL DRUG EXPOSURES
ASSOCIATED WITH ADVERSE DEVELOPMENTAL OUTCOMES REPORTED TO FDA
A. Vega1 and S. Tabacova2, 1CDER/FDA and 2NCTR/ FDA, Rockville, Maryland

2:45 pm–3:00 pm 19 ACCUTANE® - EXPOSED PREGNANCIES
M.A. Honein and L. J. Paulozzi, Centers for Disease Control and Prevention, Atlanta, Georgia

3:00 pm–3:15 pm 20 CONFIDENTIALITY AND DISCLOSURE ISSUES IN COUNSELING PREGNANT
PATIENTS WHO REVEAL SUBSTANCE ABUSE: A CASE REPORT
K. Filkins1, S. Beverly1, E. Chen1, D Johnstone2, J. Gordon2, and N. Catalano3, 1UCLA School of Medicine,
Department of Obstetrics and Gynecology, Los Angeles, California; 2UCLA School of Medicine, Department of
Clinical Social Work, Los Angeles, California; 3California Teratogen Information Service, University of
California, San Diego Medical Center

3:15 pm–3:30 pm 21 DOES DRUG LABELING INFLUENCE RISK PERCEPTIONS OF
TERATOGENICITY? A SURVEY OF PREGNANT WOMEN AND THEIR HEALTH PROFESSIONALS
A. Einarson1, M.Pole1, T.R. Einarson2, N. Pairadeau3, and G. Koren1, 1The Motherisk Program, The Hospital
for Sick Children, 2Faculty of Pharmacy, University of Toronto, and 3Obstetrics Dept, North York General
Hospital, Toronto, Canada

3:30 pm–4:00 pm 22 SELF-SELECTION BIAS IN TERATOLOGY INFORMATION SERVICE
PREGNANCY OUTCOME STUDIES
K.A. Johnson1, P.A. Weber2, C.D. Chambers1, and K.L. Jones1, 1Department of Pediatrics, Division of
Dysmorphology and Teratology, University of California San Diego, La Jolla, California and 2Kaiser
Permanente of Southern California, San Diego, California

1:00 pm–2:30 pm Platform IIIa: Hazard/Risk Assessment Session 1
Chairpersons: James Schardein, WIL Research Laboratories, Ashland, Ohio and Patricia Bittner, Consumer
Product Safety Commission, Washington, District of Columbia

1:00 pm–1:15 pm 23 DEVELOPMENTAL TOXICITY INTERACTIONS OF METHANOL AND
RADIOFREQUENCY (RF) RADIATION OR 2-METHOXYETHANOL (2ME) IN RATS
B.K. Nelson, D.L. Snyder, and P.B. Shaw, Division of Biomedical and Behavioral Science, NIOSH, Cincinnati, Ohio

1:15 pm–1:30 pm 24 ADDITIVITY OF CARBON MONOXIDE AND PROTEIN DEFICIENCY ON NEONATAL MORTALITY IN MICE
J. Singh, Stillman College, Tuscaloosa, Alabama

1:30 pm –1:45 pm 25 THE PREDOMINANT ROLE OF MATERNAL TOXICITY IN LOVASTATIN-INDUCED DEVELOPMENTAL TOXICITY
L.D. Wise, M.A. Cukierski, G.R. Lankas, and G.L. Skiles, Merck Research Laboratories, West Point, Pennsylvania

1:45 pm–2:00 pm 26 PREGNANCY ALTERS THE PHARMACOKINETICS OF CYSTEAMINE IN THE PREGNANT RAT AND EFFECTS POSTNATAL DEVELOPMENT
L.B. Fawcett, D.A. Beckman, L.K. Sherrell, J.E Pugarelli, and F.K Assadi, Department of Medical Cell Biology, Alfred I. duPont Hospital for Children, Wilmington, Delaware

2:00 pm–2:15 pm 27 LEFLUNOMIDE AS AN EXAMPLE OF A MODERN APPROACH TO PRODUCT LABELING FOR REPRODUCTIVE EFFECTS: A CATEGORY X DRUG BASED ON PHARMACOKINETIC DATA
R.L. Brent, duPont Hospital for Children, Wilmington, Delaware

2:15 pm–2:30 pm 28 THE EFFECTS OF IN UTERO EXPOSURE TO A LOW DOSE OF BISPHENOL A ON FEMALE SEXUAL MATURATION OF THE RAT
C.E. Talsness and I. Chahound, Institute of Clinical Pharmacology and Toxicology, Benjamin Franklin Medical Center, Freie Universitaet, Berlin, Germany

2:30 pm–4:00 pm Platform IIIb: Hazard/Risk Assessment Session 2
Chairpersons: Ed Carney, Dow Chemical Company, Midland, Michigan and Steve Harris, The Steve Harris Group, San Diego, California

2:30 pm–2:45 pm 29 A THREE-DIMENSIONAL CULTURE SYSTEM SUPPORTS DEVELOPMENT OF INCISORS AND MOLARS IN MAXILLA AND MANDIBLE OF CULTURED MURINE FIRST ARCHES
P. Williams, D. Montufar-Solis, and J. Duke, Dept. of Orthodontics, Dental Branch, UT Houston Health Science Center, Houston, Texas

2:45 pm–3:00 pm 30 THE MECHANISM OF CLEFT PALATE FORMATION IN THE CHONDRODYSPLASIA MOUSE
W. McLean1,4, I.G. Lavrin2, R.E. Seegmiller3, C.W. Archer4, E.D. Hay1, and B.R. Olsen1, 1Harvard Medical School and 2Harvard School of Dental Medicine, Boston, Massachusetts; 3Brigham Young University, Provo, Utah; 4Cardiff University, Cardiff, UK

3:00 pm–3:15 pm 31 DEVELOPMENTAL TOXICITY STUDIES WITH GLYPHOSATE AND SELECTED SURFACTANTS IN RATS
D.R. Farmer, T.A Kaempfe, W.F. Heydens, and W.R. Kelce, Monsanto Company, St. Louis, Missouri

3:15 pm–3:30 pm 32 RIO GRANDE RIVER WATER AND SEDIMENT EXTRACTS INDUCE NEURAL TUBE DEFECTS (NTD) IN XENOPUS
D.J. Fort1, E.L. Stover1, J.A. Bantle2, and J.G. Burkhart3, 1The Stover Group, Stillwater, Oklahoma; 2Oklahoma State University Department of Zoology, Stillwater, Oklahoma; 3NIEHS, Research Triangle Park, North Carolina
3:30 pm–3:45 pm 33 MECHANISMS FOR DEVELOPMENTAL TOXICITY OF TOMUDEX
C. Lau, R.G. Hanson, D. Lui, M. L. Mole, M.G. Narotsky, J.M. Rogers and R.M. Zucker, Reproductive Toxicology Division, NHEERL, USEPA, Research Triangle Park, North Carolina

3:45 pm–4:00 pm 34 MESOTRIONE: IS MOUSE THE RELEVANT MODEL FOR HUMANS OF THE DEVELOPMENTAL AND REPRODUCTIVE EFFECTS OF TYROSINE?
W.M. Provan and R.W. Lewis, Zeneca Central Toxicology Laboratory, Macclesfield, Cheshire, UK

4:00 pm–6:00 pm Poster Setup — Ponce De Leon IV

7:30 am–8:15 am Continental Breakfast
7:30 am–5:00 pm Registration — Ponce De Leon IV Foyer
8:30 am–12:00 pm Public Affairs Symposium — Ponce De Leon V

What Do We Know About the Reproductive & Developmental Risks of Herbal and Alternate Remedies?

Chairpersons: Kenneth Jones, Department of Pediatrics, Division of Dysmorphology and Teratology, University of California, San Diego, La Jolla, California and Harpal Buttar, Bureau of Pharmaceutical Assessment, Health Protection Branch, Ottawa, Canada

8:30 am–8:45 am INTRODUCTION
H.S. Buttar, Bureau of Pharmaceutical Assessment, Health Protection Branch, Ottawa, Canada

8:45 am–9:15 am S22 POTENTIAL TOXICITIES OF HERBAL THERAPIES IN THE DEVELOPING FETUS
Speaker: T.M. Jurgens, College of Pharmacy, Dalhousie University, Halifax, Nova Scotia, Canada

9:15 am–9:45 am S23 HERBAL REMEDIES IN PREGNANCY - METHODOLOGICAL AND PRACTICAL ISSUE
Speaker: G. Koren, The Motherisk Program, Toronto, Ontario, Canada

9:45 am–10:15 am S24 INTERACTIONS OF HERBAL AND ALTERNATE REMEDIES WITH CONVENTIONAL MEDICINES
Speaker: B.A. Buehler, University of Nebraska Medical Center, Omaha, Nebraska

10:15 am - 10:45 am WARKANY TEA

10:45 am–11:15 am S25 PREGNANCY OUTCOME IN WOMEN USING HERBAL AND ALTERNATE THERAPIES
Speaker: T. Johns, School of Dietetics and Human Nutrition, McGill University, Ste. Anne de Bellevue, Quebec, Canada

11:15 am–11:45 am S26 REGULATORY ISSUES CONCERNING THE SAFETY AND EFFICACY OF
HERBAL AND ALTERNATIVE REMEDIES
Speaker: C.G. Rousseaux, Department of Cellular and Molecular Medicine, Faculty of Medicine, University of Ottawa, Ontario, Canada

11:45 am–12:00 pm DISCUSSION
K. Jones, Department of Pediatrics, Division of Dysmorphology and Teratology, University of California, San Diego, La Jolla, California

1:00 pm–4:45 pm Workshop I — Ponce De Leon V
Interpretation of Data on Developmental Neurotoxicity
Chairpersons: Carole Kimmel, USEPA, NCEA, Washington, District of Columbia and Deborah Rice, National Center for Environmental Assessment, USEPA, Washington, District of Columbia

1:00 pm–1:10 pm WORKSHOP OVERVIEW
C.A. Kimmel, USEPA, NCEA, Washington, District of Columbia

1:10 pm–2:00 pm W1 NEUROBEHAVIORAL DATA INTERPRETATION IN NEUROTOXICITY STUDIES: FOB, MOTOR ACTIVITY AND FUNCTION
Speaker: V.C. Moser, USEPA, Research Triangle Park, North Carolina

2:00 pm–2:50 pm W2 SENSORY SYSTEM TESTING
Speaker: L.D. Fechter, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma

2:50 pm–3:40 pm W3 INTERPRETATION OF TESTS OF COGNITIVE FUNCTION IN ANIMAL MODELS OF DEVELOPMENTAL NEUROTOXICOLOGY
Speaker: D.C. Rice, NCEA, USEPA, Washington, District of Columbia

3:40 pm–4:30 pm W4 ASSESSMENT OF DEVELOPMENTAL NEUROTOXICITY IN HUMANS
Speaker: D.C. Bellinger, Children’s Hospital, Boston, Massachusetts

4:30 pm–4:45 pm GENERAL DISCUSSION

1:00 pm–4:00 pm Workshop II — Ponce De Leon I
Developmental Toxicokinetics: Lessons for Product Development
Chairpersons: Rakesh Dixit and L. David Wise, Merck Research Laboratories, West Point, Pennsylvania

1:00 pm–1:10 pm INTRODUCTION
R. Dixit and L.D. Wise, Merck Research Laboratories, West Point, Pennsylvania

1:10 pm–1:50 pm W5 ANATOMICAL AND DEVELOPMENTAL ASPECTS OF MATERNAL-EMBRYONIC-FETAL INTERFACE
Speaker: J. DeSesso, Biomedical Research Institute, Mitretek Systems, McLean, Virginia

1:50 pm –2:10 pm W6 COMPARTMENTAL AND PHYSIOLOGICALLY-BASED TOXICOKINETICS IN RISK ASSESSMENT
Speaker: D. Clarke, Lilly Research Laboratories, A Division of Eli Lilly & Company, Greenfield, Indiana

2:10 pm–2:30 pm W7 APPLICATIONS AND LIMITATION OF DEVELOPMENTAL TOXICOKINETIC STUDIES: MECHANISTIC VS. RISK ASSESSMENT
Speaker: R. Dixit, Department of Safety Assessment, Merck Research Laboratories (MRL), Merck and Company, Inc., West Point, Pennsylvania
2:30 pm–4:00 pm W8 CLINICAL AND REGULATORY CONSIDERATIONS IN DEVELOPMENTAL TOXICOKINETICS
Speaker: P.J. Wier, Safety Assessment, SmithKline Beecham Pharmaceuticals, King of Prussia, Pennsylvania

1:00 pm–4:00 pm Workshop III — Ponce De Leon II
Teratology Society’s Ethics Code, Certification, Disclaimer Guidelines and Expertise Recognition
Chairpersons: Robert L. Brent, du Pont Hospital for Children, Wilmington, Delaware Narsingh Agnish, Hoffman-LaRoche Inc., Nutley, New Jersey and Anthony R. Scialli, Georgetown University, Washington, District of Columbia

1:00 pm–4:00 pm W9 OVERVIEW
Speaker: R.L. Brent1, N. Agnish2, and A.R. Sciali3, 1du Pont Hospital for Children, Wilmington, Delaware, 2Hoffman-LaRoche Inc., Nutley, New Jersey, and 3Georgetown University, Washington, District of Columbia

4:00 pm–5:00 pm Historical Control Database Demonstration — Ponce De Leon II

4:00 pm–6:00 pm Council II Meeting — Flagler Board Room

6:30 pm–7:30 pm Banquet Reception — Circle Dining Room
6:30 pm–7:30 pm President’s Circle Reception — Gold Room
(By Invitation Only)

7:30 pm–10:30 pm Banquet — Venetian Ballroom

7:30 am–8:15 am Continental Breakfast

7:30 am–5:00 pm Registration — Ponce De Leon IV Foyer

8:30 am–11:45 am Platform IV Session — Ponce De Leon I

8:30 am–10:00 am Platform IVa: Clinical Teratology
Chairpersons: Jeanne Manson, University of Pennsylvania, Philadelphia, Pennsylvania and Lewis Holmes, Harvard University, Boston, Massachusetts

8:30 am–8:45 am 35 IDENTIFYING CRITICAL WINDOWS OF EXPOSURE FOR CHILDREN’S HEALTH
S.G. Selevan1, C.A. Kimmel1, and P. Mendola2, USEPA, INCEA, Washington, DC, and 2NHEERL, Research Triangle Park, North Carolina

8:45 am–9:00 am 36 CONGENITAL LATERAL RECTUS DEFICITS AND ASSOCIATED MALFORMATIONS AND SYNDROMES
M.T. Miller1 and K. Strömland2, 1University of Illinois at Chicago, Department of Ophthalmology, Chicago, Illinois; 2The Queen Silvia Children’s Hospital, Department of Pediatric Ophthalmology, Göteborg, Sweden

9:00 am–9:15 am 37 CHANGES IN CRANIOFACIAL FEATURES IN CHILDREN EXPOSED TO ANTIEPILEPTIC DRUGS IN UTERO
H.I. Orup, Jr.1, B.A. Coull2, J. Adams3, L.M. Ryan2 and L.B. Holmes1. 1Genetics and Teratology Unit, Pediatric Service, Massachusetts General Hospital; 2Department of Biostatistics, Harvard School of Public Health; and 3Department of Psychology, University of Massachusetts, Boston, Massachusetts

9:15 am–9:30 am 38 THE CHILDREN OF THE SWEDES WITH THALIDOMIDE EMBRYOPATHY
K. Strömland, M. Andersson Grönlund, and E. Philipsson, The Queen Silvia Children’s Hospital, Department of
9:00 am–11:30 am Platform V Session — Ponce De Leon V

Chairpersons: Dana Shuey, DuPont Pharmaceuticals Company, Newark, Delaware and Neil Chernoff, USEPA, Research Triangle Park, North Carolina
9:00 am–9:15 am 48 EFFECTS OF VLA-4 ANTAGONISTS IN RAT WHOLE EMBRYO CULTURE
S. Spence1, C. Vetter1, W. Hagmann2, R. Mumford3, G. Van Riper3, H. Williams3, and J. Schmidt3,
1Developmental & Reproductive Toxicology, 2Medicinal Chemistry, 3Pharmacology & Inflammation Research,
Merck Research Labs, West Point, Pennsylvania

9:15 am–9:30 am 49 ACTIVATION OF CASPASE-9 IN DAY 9 MOUSE EMBRYOS EXPOSED IN VITRO
TO HYPERTHERMIA, 4-HYDROPEROXYCYCLO- PHOSPHAMIDE, AND STAuroSPORINE
S.A. Little and P.E. Mirkes, Department of Pediatrics, University of Washington, Seattle, Washington

9:30 am–9:45 am 50 ANTIOXIDANT AMELIORATION OF ARSENICAL-INDUCED EFFECTS IN VIVO
E.S. Hunter and E.H. Rogers, Reproductive Toxicology Division, NHEERL, USEPA, Research Triangle Park, North Carolina

9:45 am–10:00 am 51 EFFECTS OF TROGLITAZONE AND AMINOGLUTETHIMIDE ON RAT
PLACENTAL AND FETAL WEIGHTS
P.J. Wier, E.A. Zahalka, S. Rehm, R. Kuk, A. Nix, and S. Murzyn, Safety Assessment, SmithKline Beecham
Pharmaceuticals, King of Prussia, Pennsylvania

10:00 am–10:15 am 52 HOMOCYSTEINE THIOLACTONE DOES NOT PRODUCE NEURAL TUBE
DEFECTS IN MOUSE EMBRYOS IN VITRO
D.K. Hansen, T.F. Grafton, S. Melnyk and S.J. James, National Center for Toxicological Research, Jefferson,
Arkansas

10:15 am–11:30 am Platform Vb: Modes of Action Session 2
Chairpersons: Stan Spence, Merck Research Laboratories, West Point, Pennsylvania and Cathy Price,
Research Triangle Institute, Research Triangle Park, North Carolina

10:15 am–10:30 AM 53 COMPARATIVE DEVELOPMENTAL TOXICITY OF THE GLYCOL ETHER
METABOLITES, METHOXYACETIC ACID AND METHOXYPROPIONIC ACID
E.W. Carney and K.A. Johnson, The Dow Chemical Company, Midland, Michigan

10:30 am– 10:45 AM 54 INHIBITION OF NEURAL CREST CELL MIGRATION BY THE WATER
DISINFECTION BYPRODUCT BROMOCHLORO ACETIC ACID
J.E. Andrews1, H. Nichols1, J. Schmid2, G. Klinefelter1 and E.S. Hunter1, 1Reproductive Toxicology Division
and 2Research Support Division, NHEERL, USEPA, Research Triangle Park, North Carolina

10:45 am–11:00 AM 55 Cu DEFICIENCY ALTERS CARDIOVASCULAR STRUCTURE AND
EXTRACELLULAR MATRIX (ECM) PROTEIN EXPRESSION DURING MURINE DEVELOPMENT
University of California at Davis, Davis, California

11:00 am–11:15 AM 56 THE TOXIC MECHANISM OF ALLANTOIC AGENESIS IN DCF TREATED
EARLY POSTIMPLANTATION MOUSE EMBRYOS
M.J. Airhart, T.E. Kwastigroch, and R.G. Skalko, Department of Anatomy and Cell Biology, East Tennessee State
University, Johnson City, Tennessee

11:15 am–11:30 AM 57 MICROARRAY ANALYSIS OF ALTERED GENE EXPRESSION IN THE
TESTES OF FETAL RATS EXPOSED TO DBP
V.D. Shultz, S.L. Phillips, P.M.D. Foster, and K.W. Gaido, CIIT, Research Triangle Park, North Carolina

12:00 pm–1:00 pm James G. Wilson and F. Clarke Fraser Awards Luncheon — Ponce De Leon IV