

CURRICULUM VITAE

Frederick Peter Guengerich

*Born:* January 1, 1949; Pekin, Illinois

*Family:* Wife - Cheryl; Children - Phillip, Laura, Anna

*Citizenship:* U.S.A.

*Address:* 619 Georgetown Drive  
Nashville, Tennessee 37205

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e-mail: f.guengerich@vanderbilt.edu

*Education:* B.S., University of Illinois, Urbana, Illinois (Agricultural Science) 1970  
Ph.D., Vanderbilt University, Nashville, Tennessee (Biochemistry) 1973 (with Professor  
H.P. Broquist)  
*Thesis:* "Studies on the Piperidine Alkaloids of *Rhizoctonia leguminicola*"

*Professional Appointments:*

1973-75	Postdoctoral Scholar, Department of Biological Chemistry University of Michigan Medical School, Ann Arbor, Michigan (with Professor M.J. Coon)
1975-79	Assistant Professor of Biochemistry Vanderbilt University School of Medicine, Nashville, Tennessee
1980-83	Associate Professor of Biochemistry Vanderbilt University School of Medicine, Nashville, Tennessee
1983-	Professor of Biochemistry Vanderbilt University School of Medicine, Nashville, Tennessee
1981-2011	Director, Center in Molecular Toxicology Vanderbilt University School of Medicine, Nashville, Tennessee
2007-2012	Harry Pearson Broquist Professor of Biochemistry Vanderbilt University School of Medicine, Nashville, Tennessee
2010-2012	Interim Chair, Department of Biochemistry Vanderbilt University School of Medicine, Nashville, Tennessee
2013	Stanford Moore Professor of Biochemistry Vanderbilt University School of Medicine, Nashville, Tennessee
2013-	Tadashi Inagami Professor of Biochemistry Vanderbilt University School of Medicine, Nashville, Tennessee

*Research Interests:*

Mechanisms of activation and detoxication of chemical carcinogens and toxicants;  
characterization of enzymes involved in these processes

*Honors:*

University of Illinois, B.S. with University Honors (Bronze Tablet) (1970)  
Predoctoral Fellowship, United States Public Health Service (1970-1973)  
Postdoctoral Fellowship, United States Public Health Service (1974-1975)  
Research Career Development Awardee, United States Public Health Service (1978-1983)  
Achievement Award, Society of Toxicology (1982)  
Burroughs Wellcome Scholar in Toxicology (1983-1988)  
John Jacob Abel Award, American Society for Pharmacology and Experimental  
Therapeutics (1984)  
Kenneth Morgareidge Award, International Life Sciences Institute (1985)  
Outstanding Investigator Awards, National Cancer Institute (1987-1994, 1994-2001)  
Founders' Award for Outstanding Research Contributions to Progress in Toxicology,  
Chemical Industry Institute of Toxicology (1991)  
Bernard B. Brodie Award in Drug Metabolism, American Society for Pharmacology and  
Experimental Therapeutics (1992)  
George H. Scott Award, Toxicology Forum (1994)  
Best Paper Award, *Drug Metabolism and Disposition* (1995)  
AAAS Fellow (Chemistry), American Association for the Advancement of Science (1997)  
Ranked 46th among all biomedical scientists in terms of number of literature citations for  
articles published and cited in the 1990s (*Science Watch* 9, 1-2, 1998)  
Recipient of School of Medicine Medal of Merit, the first given for Mentoring  
Postdoctoral Fellows and/or Residents in the Research Setting, Vanderbilt  
University (2000) (subsequently renamed the Guengerich Award in 2006 and  
continues to be awarded every other year)  
Thomson-Reuters Highly Cited Researchers, Biology & Biochemistry, also Pharmacology,  
1981-1999 (ISIHighlyCited.com)  
Earl Sutherland Prize for Achievement in Research, Vanderbilt University (2001)  
Honorary Doctorate/Professorship (Docteur Honoris Causa) (2002), University of Paris  
(Université Rene Descartes, Paris V)  
Fellow, World Innovation Foundation (2003); Honorary Member (2007)  
ISI, 3rd Most-cited Author in Pharmacology & Toxicology, 1993-2003  
(<http://www.in-cites.com/scientists/pha-10-aug2003.html>)  
Distinguished Faculty Award, Vanderbilt University (2003)  
North American Scientific Achievement Award, International Society for the Study of  
Xenobiotics (2003)  
Sidney P. Colowick Faculty Research Award, Vanderbilt University School of Medicine  
(2004) (given annually for "excellence in research that serves as a platform for  
discovery in diverse research areas")  
President's Distinguished Service Award, American College of Toxicology (2004)  
W<sup>m</sup>. C. Rose Award, American Society for Biochemistry and Molecular Biology (2005)  
MERIT Award, NIH grant R37 CA090426 (2006-2016)  
Drug Metabolism Research, ranked first in world in total citation score  
(<http://www.cytochrome.net>) (2006-present)  
Honorary Member (one of the first two foreign recipients), Japanese Society for the Study  
of Xenobiotics (2007)  
Honorary Professor (2008) Chinese Academy of Sciences/Chengdu Institute of Biology  
AACR Award for Outstanding Achievement in Chemistry in Cancer Research, American  
Association for Cancer Research (2009)

ACS Fellow, American Chemical Society (2009) (inaugural class)  
R.T. Williams Distinguished Scientific Achievement Award, International Society for the Study of Xenobiotics (2010)  
Founders' Award, Division of Chemical Toxicology, American Chemical Society (2011)  
Merit Award, Society of Toxicology (2013)  
Mentor of the Year Award (2013), Vanderbilt Postdoctoral Association  
Hirsch Index (*h*-index): **131** (18 June 2015, ISI/Thomson Reuters)

*Distinguished Lectureships:*

Irish Area Section Lecture, The Biochemical Society, 75th Anniversary Meeting, Dublin (1986)  
Distinguished Lecturer, Guelph-Waterloo Centre for Graduate Work in Chemistry (1988)  
Invited Lecturer, National Science Council, Republic of China (1988)  
Friedenwald Memorial Lecture, Medical Grand Rounds, University of Maryland Medical School (1989)  
Hunter Memorial Lecture in Pharmacology and Toxicology, East Carolina University (1989)  
Carmela Louise Riker Memorial Lecture, Oregon Health Sciences University (1993)  
Charles W. Gowdey Distinguished Lecture, University of Western Ontario (1995)  
Sterling Lecture, Tufts University (1996)  
Samuel Kuna Distinguished Lecture in Toxicology, Rutgers University (1997)  
John G. Wagner Lectureship Award in Pharmaceuticals, University of Michigan (1997)  
J. Clarence Karcher Lecture, Department of Chemistry and Biochemistry, University of Oklahoma (2002)  
Keynote Lecture, Gordon Conference on Drug Metabolism (2002)  
Ralph J. Cazort Heritage Lecture, Meharry Medical College (2004)  
Chemistry Graduate Student Association Distinguished Lecturer, Northeastern University (2004)  
Lilly Lecturer, Eli Lilly (2006)  
Distinguished Scientist Keynote Lecture Series, Istituto di Ricerca di Molecolare Biologica/Merck, Pomezia, Italy (2007)  
Jack Omdahl Memorial Lecture, University of New Mexico (2009)  
Bloch Lectures, University of Louisville (2010)  
Distinguished Lecturer, Hoffman-LaRoche (2010)  
Visiting Lecturer (visiting professorship), University of Cagliari, Sardinia, Italy (2011)  
Visiting Scholar (visiting professorship), University of Tokyo (2012)  
2013 Biochemistry Alumni Lecture, School of Chemistry and Molecular Biosciences, University of Queensland, Brisbane (Australia) (2013)  
Guest Professor, Third Military Medical University, Chongqing (People's Republic of China) (2014)  
Visiting Professor, School of Pharmacy, National Defense Medical Center, Taipei (Taiwan, Republic of China) (2015)

*Memberships:*

Alpha Zeta (1968)  
Phi Kappa Phi (1969)  
Gamma Sigma Delta (1970)  
Sigma Xi (1973)  
American Chemical Society (1976- )  
American Society for Biochemistry and Molecular Biology (1978- )  
Society of Toxicology (1978- )

American Society for Pharmacology and Experimental Therapeutics (1979- )  
American Association for Cancer Research (1983- )  
International Society for the Study of Xenobiotics (1993- )  
Environmental Mutagen Society (2010- )

*Service:*

NIH Physical Biochemistry Study Section, Member (1979-1983)  
NIH Environmental Health Sciences Review Committee (Study Section), Member (1987-1991)  
NIH Chemical Pathology Study Section, Member (1994-1998)  
NIH Advisory Council, National Institute of Environmental Health Sciences, Member (2001-2005)  
NIH Study Section (SEP), Systemic Injury by Environmental Exposure, Member and Chair (2008-2009)

Associate Editor, TOXICOLOGY AND APPLIED PHARMACOLOGY (1980-1984)  
Associate Editor, MOLECULAR PHARMACOLOGY (1982-1985)  
**Associate Editor, CHEMICAL RESEARCH IN TOXICOLOGY (1989- )**  
Associate Editor, CANCER RESEARCH (1985-1989, 1993-2003)  
**Associate Editor, THE JOURNAL OF BIOLOGICAL CHEMISTRY (2006- )**  
**Deputy Editor, THE JOURNAL OF BIOLOGICAL CHEMISTRY (2013- )**  
**Interim Editor-in-Chief, THE JOURNAL OF BIOLOGICAL CHEMISTRY (2015- )**

Editorial Board, FUNDAMENTAL AND APPLIED TOXICOLOGY (1981-1986)  
Editorial Board, ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS (1982-2006)  
Editorial Board, THE JOURNAL OF BIOLOGICAL CHEMISTRY (1984-1989, 1991-1996, 1997-2002, 2003-2006)  
Editorial Board, JOURNAL OF THE AMERICAN COLLEGE OF TOXICOLOGY (1984-1996)  
Editorial Board, XENOBIOTICA (1985-2003)  
Editorial Board, TOXICOLOGY AND APPLIED PHARMACOLOGY (1985-2001)  
Editorial Board, CHEMICAL RESEARCH IN TOXICOLOGY (1987-1989)  
Editorial Board, CANCER EPIDEMIOLOGY, BIOMARKERS, AND PREVENTION (1990-1998)  
Editorial Board, MOLECULAR PHARMACOLOGY (1991-2006)  
Editorial Board, APPLIED BIOLOGICAL SCIENCE (1994-2006)  
**Advisory Board, CRITICAL REVIEWS IN TOXICOLOGY (1986- )**  
Editorial Advisory Board, METHODS IN TOXICOLOGY (1989-1991)  
Editorial Advisory Board, PROTEIN EXPRESSION AND PURIFICATION (1990-2003)  
Editorial Advisory Board, DRUG METABOLISM AND DISPOSITION (1994-1999)  
Scientific Advisory Board, DRUG METABOLISM AND DISPOSITION (2000-2006)  
Editorial Board, ANALYTICAL BIOCHEMISTRY (1995-2003)  
Editorial Advisory Board, BIOCHEMICAL PHARMACOLOGY (1996-2003)  
Editorial Advisory Board, INTERNATIONAL JOURNAL OF ONCOLOGY (1996-2006)  
Editorial Board, ENVIRONMENTAL HEALTH PERSPECTIVES (1997-2004)  
Editorial Board, DRUG METABOLISM REVIEWS (1997-2006)  
Editorial Board, INSCRIPT, Academic Press (1998-2006)  
Editorial Board, INSCIGHT, Academic Press (1999-2006)  
Editorial Board, MUTATION RESEARCH-FUNDAMENTAL AND MOLECULAR MECHANISMS OF MUTAGENESIS (2000-2002)  
Editorial Board, DRUG METABOLISM AND PHARMACOKINETICS (2002-2006)



Honorary Editorial Board, AMERICAN JOURNAL OF PHARMACOGENOMICS (2001-2005)

Honorary Editorial Board, APPLIED GENOMICS AND PROTEOMICS (2001-2003)

**Advisory Panel, NATURE REVIEWS, DRUG DISCOVERY (2001- )**

**Editorial Advisory Board, CHEMISTRY & BIODIVERSITY (2004- )**

Editorial Board, PREVENTIVE MEDICINE AND CANCER PREVENTION (2003-2006)

Editorial Advisory Board, CURRENT DRUG METABOLISM (2005-2006)

Editorial Board, MOLECULAR DIAGNOSIS & THERAPY (2006)

**Editorial Board, TOXICOLOGICAL RESEARCH (2008- )**

Panel on Cytochrome P-450 Nomenclature, Int. Union Biochemistry/Int. Union Pure Appl. Chemistry Joint Commission on Biochemical Nomenclature (1980)

Society of Toxicology, Awards Committee (1980-1981, 1983-1984)

Program Committee, Joint American Society of Pharmacology and Experimental Therapeutics/Society of Toxicology Meeting (1981-1982)

Gordon Research Conference on Food and Nutrition, Discussion Leader, Session on Effects of Nutritive Factors on Functions of Hydroxylases and Conjugating Enzymes in Bioactivation and Detoxication (1982)

Society of Toxicology, Program Committee (1982-1985)

Society of Toxicology, Liaison to American Society for Pharmacology and Experimental Therapeutics (1982-1984)

Society of Toxicology, Membership Committee (1985-1987)

American Society for Pharmacology and Experimental Therapeutics, Drug Metabolism Division, Executive Committee (1985-1987)

American Society for Pharmacology and Experimental Therapeutics, Drug Metabolism Division, Committee for selection of best paper appearing in DRUG METABOLISM AND DISPOSITION (1985-1986; 1986-1987)

Gordon Research Conference on Drug Metabolism, Discussion Leader, Session on Suicide Inactivators of Oxidative Enzymes (1986)

American Chemical Society, task force for consideration of a new journal in toxicology, representative for Division of Biological Chemistry (1986)

International Advisory Committee, Seventh International Symposium on Microsomes and Drug Oxidations, Adelaide (1987)

Gordon Research Conference on Drug Metabolism, Vice-Chairman (1987)

Gordon Research Conference on Drug Metabolism, Chairman (1988)

International Scientific Advisory Committee, International Symposium on Biological Oxidation Systems, Bangalore (1989)

International Advisory Committee, Eighth International Symposium on Microsomes and Drug Oxidations, Stockholm (1990)

Society of Toxicology, Molecular Biology Section, Nominating Committee (1988, 1989)

Society of Toxicology, Board of Publications (1989-1993, Chairman 1991-1993)

Biological Abstracts (Biosciences Information Services), Consultant

Organizing Committee, Symposium in Honor of Professor Minor J. Coon, University of Michigan (1990)

International Union of Biochemistry and Molecular Biology, Biocenergetics and Redox Systems Interest Group (1991- )

National Cancer Institute, Working Group on Head and Neck Cancer (1991)

American Association for Cancer Research, Exhibits Committee (1992-1994)

International Union of Biochemistry and Molecular Biology, 16th International Congress (New Delhi), Symposium on Drug Metabolism and Cytochrome P450 Convenor (1994)

International Advisory Committee, Fifth Biological Reactive Intermediates Meeting, Munich (1995)

Fourteenth International Symposium on Cancer, Sapporo Cancer Seminar on Genetic Polymorphism and Cancer Susceptibility, Sapporo Organizing Committee (1994)

American Chemical Society, Division of Chemical Toxicology, Organizing Committee (1994)

International Congress of Toxicology-VII, Chairman, Continuing Education Course, Recent Advances in Xenobiotic Metabolism, Seattle (1995)

American Society for Pharmacology and Experimental Therapeutics, John J. Abel Award Committee (1995)

American Association for Cancer Research, Board of Publications (1995-1997), (2009-2012)

International Advisory Committee, European ISSX Workshop 1996, Sitges (Spain)

Councilor, International Society for the Study of Xenobiotics (1996-1999)

International Scientific Committee, 11th International Conference on Cytochrome P450 Biochemistry, Biophysics, and Molecular Biology, Sendai (1999)

American Chemical Society, Division of Chemical Toxicology, Program Committee (1997-2000, 2003- 2006)

Chairman, International Scientific Committee, International Conferences on Cytochrome P450: Biochemistry, Biophysics, and Molecular Biology (1998- )

Chairman, Meeting Organizing Committee and Scientific Advisory Committee, North American International Society for the Study of Xenobiotics/ American Chemical Society Division of Chemical Toxicology Combined Meeting, Nashville (1999)

Program Committee, Amer. Assoc. Cancer Res. Annual Meeting, Molecular Carcinogenesis: Metabolism, DNA Lesions, Mutagenesis and Repair Section (1999)

Councilor, American Chemical Society/Division of Chemical Toxicology (1999-2001)

Scientific Advisory Committee, 10th North American Meeting, International Society for the Study of Xenobiotics, Nashville (1999)

Organizing Committee, 48th Symposium of the Alfred Benzon Foundation, Drug Metabolism: Regulation and Importance (Copenhagen, September 2001)

Scientific Advisory Committee, International Meeting, International Society for the Study of Xenobiotics (Indianapolis, 2000)

Nominating Committee, International Society for the Study of Xenobiotics (2000-2003)

Joint Board-Council Committee on Publications, American Chemical Society (2000)

Public Affairs Committee, American Society for Biochemistry and Molecular Biology (2000-2003)

International Advisory Committee, 14th International Symposium on Microsomes and Drug Oxidations, Sapporo (2002)

Scientific Advisory Committee, European Meeting, International Society for the Study of Xenobiotics (Dijon, 2003)

International Advisory Board, 15th International Conference on Microsomes and Drug Oxidations, Mainz (2004)

Program Planning Committee, 7th International Meeting, International Society for the Study of Xenobiotics (Vancouver, 2004)

Gordon Research Conference on Drug Metabolism, Discussion Leader, Session on Biochemistry of Drug-Induced Cellular Damage (2004)

Scientific Advisory Committee, International Society for the Study of Xenobiotics (2005)

Scientific Planning Committee, Joint North American-Japan Meeting, International Society for the Study of Xenobiotics (2005)

Council, American Society for Biochemistry and Molecular Biology (2003-2006)

International Scientific Advisory Board, 16th International Conference on Microsomes and Drug Oxidations, Budapest (2006)  
 Chair-Elect, Division of Chemical Toxicology, American Chemical Society (2005-2006)  
 Chair, Division of Chemical Toxicology, American Chemical Society (2007-2008)  
 B. B. Brodie Award Committee, Division of Drug Metabolism, American Society for Pharmacology and Experimental Therapeutics (2005-2009, 2009-2013)  
 Nominating Committee, International Society for the Study of Xenobiotics (2006-2009)  
 International Advisory Committee, 18th International Conference on Microsomes and Drug Oxidations, Beijing (2010)  
 Steering Committee, Chemistry in Cancer Research Working Group, American Association for Cancer Research (2009-2011)  
 AACR Laboratory Research Awards Selection Committee, Member, American Association for Cancer Research (2009-2011)  
 Publications Committee, American Association for Cancer Research (2010- )  
 Division Income Subcommittee, Finance and Development Committee, Division of Chemical Toxicology, American Chemical Society (2010- )  
 Nominating Committee, Division of Chemical Toxicology, American Chemical Society (2011-2013)  
 International Advisory Committee, 19th International Conference on Microsomes and Drug Oxidations/12th Europ. Int. Soc. Study Xenobiotics Joint Meeting, Noordwijk aan Zee, Netherlands (2012)  
 Selection Committee, AACR Award for Outstanding Achievement in Chemistry, Amer. Assoc. Cancer Res. (2012)  
 Awards Committee, International Society for the Study of Xenobiotics (ISSX) (2014- )

*University Teaching and Vanderbilt University Service:*

Biochemistry 322, Biochemistry Laboratory for Graduate Students (1976-1984, 1986-1988, Chair, 1978-1983)  
 Biochemistry 327, Seminar in Biochemical Literature (1976-1978, Chair, 1977-1978)  
 Biochemistry 336, Biochemical Toxicology and Carcinogenesis (1981-1984, 1986- , Chair, 1981-1984, 1986-2011)  
 Biochemistry 334, Chemical Mechanisms of Enzymatic Catalysis (1977-1992)  
 Biochemistry 5012, Molecular Mechanisms of Disease (Biochemistry Lectures for Advanced First Year Medical Students) (1981-1984, 1986-2007)  
 Biochemistry 330, Scientific Communication (1993-2004)  
 Biochemistry 301, Molecular Structure and Function (1994- , Chair, 1997-2004)  
 Chemistry 305, Inorganic Chemistry (1988)  
 Molecular Biology 312, Bioenergetics (1978-1982)  
 Pharmacology 324-3, Drug Metabolism (1981-1993)  
 Pharmacology 501 (1991)  
 Drug and Device Development, Master of Science in Clinical Investigation Program 524-5000 (2001- )  
 Meharry Medical College, Occupational Toxicology (1991, 1993, 1995)  
 Cancer Biology 344 (2008)  
 Pathology 337, Molecular and Cellular Basis of Vascular Diseases (2014)

Departmental Graduate Education Committee (1977-1982, 1987-2000, Director of Graduate Recruitment, 1979-1982, 1994-1997)  
 Departmental Safety Committee (1979-1984)  
 University Graduate Faculty Council (1980-1983), Executive Committee (1982-1983)

Departmental Medical Education Committee (1983-1985)  
 American Cancer Society Grant Review Group (1979-1980)  
 Acting Director, Center in Environmental Toxicology (1980-1981)  
 Committee on Basic Research for Vanderbilt Cancer Center (1982-1985)  
 University Advisory Committee on Toxic Hazards (1982-1986, Chairman, 1982-1986)  
 Advisory Committee for Peptide Analysis and Sequencing Facility (1983-2002), Chairman  
 (1996-2002)  
 Graduate School Review Committee of the Graduate Program in Environmental and  
 Water Resources Engineering, Chairman (1984-1985)  
 Search Committee for Chairman of the Department of Microbiology (1984-1985)  
 Search Committee for Stahlman Chair in Cancer Research, Co-Chairman (1986-1988)  
 Advisory Committee for Tandem Sector Mass Spectrometer (1988-1989), Chairman  
 University Research Council (1988-1991)  
 Advisory Committee for High Resolution Mass Spectrometer (1990), Chairman  
*Ad hoc* Committee on Interdisciplinary Grant Proposals, The Graduate School (1990)  
 Self-Study Task Force for Basic Science Departments, School of Medicine (1990-1991)  
 Selection Committee for New Investigator Award Sponsored by Boehringer-Ingelheim  
 Pharmaceuticals, Chairman (1992)  
 The George Daniel Brooks Lectureship in Oncology Committee (1992-1993)  
 Cancer Center, Program Leader, Cancer Pharmacology (1993-1995)  
 Graduate Education Committee, School of Medicine (1994-1997)  
 Interdisciplinary Graduate Program Committee (1994-1997)  
 Task Force on Basic Science Initiatives, School of Medicine (1996)  
 Task Force on Technology Transfer, School of Medicine (1996)  
 Search Committee, Faculty Position in Mass Spectrometry (1996-1997)  
 Oversight Committee, Mass Spectrometry Resource (1996- )  
 NMR (small molecule) Center Committee (1997- )  
 Search Committee, Faculty Position NMR Spectroscopy (1997-1999)  
 Search Committee, Chair of the Department of Pharmacology (1999-2000)  
 Internal Advisory Committee, Pharmacogenomics U01 grant application (1999)  
 Committee on Postdoctoral Affairs, School of Medicine (1999-2003)  
 Environmental Affairs Committee (2000-2004)  
 Advisory Committee on Proteomics, School of Medicine (2001- )  
 Advisory Board, Conference on Proteomics (2002)  
 Working Group, Trans-institutional Laboratory Security and Accountability (2002)  
 Advisory Committee, High Throughput Biology Core/Molecular Recognition Shared  
 Resource (2002-2006)  
 Discovery Grant Review Committee, School of Medicine (2003)  
 Internal Advisory Board, Center for Structural Biology (2004-2006)  
 Chemical Safety Committee (2004-2016), Chair (2008-2016)  
 Chair, search committee for head of Drug Toxicity Program (2007-2011)  
 Basic Science Planning Committee, Enhancing the Reputation of Vanderbilt Research  
 (2007)  
 Institutional Shared Resources Oversight Committee (2010-2013)  
 Chemical & Physical Biology Training Program, Executive Committee (2011-2012)  
 Member, Executive Committee of the Executive Faculty, School of Medicine (2011-2012)  
 Member, School of Medicine Faculty Appointments & Promotions Committee (2012-  
 2014)  
 Member, Medical Center Tenure Review Committee (2014-2017)

*Ad hoc reviewer for articles submitted to:*

ACCOUNTS OF CHEMICAL RESEARCH  
ACTA CHIMICA SLOVENICA  
ACTA OBSTETRICA ET GYNECOLOGIA SCANDANAVIA  
AMB EXPRESS  
AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY  
AMB EXPRESS  
AMERICAN JOURNAL OF PHARMACOGENETICS  
AMERICAN JOURNAL OF PHARMACOGENOMICS  
AMERICAN JOURNAL OF PHYSIOLOGY  
AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY  
ANALYTICAL BIOCHEMISTRY  
ANALYTICAL CHEMISTRY  
ANESTHESIOLOGY  
ANGEWENDTE CHEMIE  
APPLIED AND ENVIRONMENTAL MICROBIOLOGY  
AQUATIC TOXICOLOGY  
ARCHIVES OF BIOCHEMISTRY AND BIOPHYSICS  
ARCHIVES OF ENVIRONMENTAL CONTAMINATION AND TOXICOLOGY  
ARCHIVES OF TOXICOLOGY  
ASIA PACIFIC JOURNAL OF MOLECULAR BIOLOGY AND BIOTECHNOLOGY  
AUSTRALIAN JOURNAL OF CHEMISTRY  
BIOCHEMICAL JOURNAL  
BIOCHEMICAL PHARMACOLOGY  
BIOCHEMISTRY  
BIOCHIMICA BIOPHYSICA ACTA  
BIOLOGICAL CHEMISTRY HOPPE-SEYLER  
BIOMEDICAL AND ENVIRONMENTAL SCIENCES  
BIOORGANIC AND MEDICINAL CHEMISTRY LETTERS  
BIOORGANIC CHEMISTRY  
BIOPHARMACEUTICS AND DRUG DISPOSITION  
BIOTECHNIQUES  
BIOTECHNOLOGY AND BIOENGINEERING  
BRITISH JOURNAL OF CANCER  
BRITISH JOURNAL OF CLINICAL PHARMACOLOGY  
CANADIAN JOURNAL OF CHEMISTRY  
CANADIAN JOURNAL OF MICROBIOLOGY  
CANCER CHEMOTHERAPY AND PHARMACOLOGY  
CANCER INVESTIGATION  
CANCER LETTERS  
CANCER RESEARCH  
CARCINOGENESIS  
CHEMCATCHEM  
CHEMICAL RESEARCH IN TOXICOLOGY  
CHEMICAL REVIEWS  
CHEMICAL SCIENCE  
CHEMICO-BIOLOGICAL INTERACTIONS  
CHEMISTRY & BIOLOGY  
CHEMTRACTS  
CLINICAL CANCER RESEARCH

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS  
COMPARATIVE BIOCHEMISTRY AND PHYSIOLOGY  
CURRENT DRUG METABOLISM  
CURRENT PHARMACOGENOMICS  
DNA AND CELL BIOLOGY  
DNA REPAIR  
DEVELOPMENTAL PHARMACOLOGY AND THERAPEUTICS  
DIABETES  
DRUG DISCOVERY TODAY  
DRUG METABOLISM AND DISPOSITION  
DRUG METABOLISM REVIEWS  
DRUGS  
ENVIRONMENTAL HEALTH PERSPECTIVES  
ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY  
EUROPEAN JOURNAL OF BIOCHEMISTRY  
EUROPEAN JOURNAL OF ORGANIC CHEMISTRY  
EUROPEAN JOURNAL OF PHARMACOLOGY  
FASEB JOURNAL  
FEBS JOURNAL  
FEBS LETTERS  
FOOD AND CHEMICAL TOXICOLOGY  
FREE RADICAL BIOLOGY AND MEDICINE  
FREE RADICAL RESEARCH COMMUNICATIONS  
FUNDAMENTAL AND APPLIED TOXICOLOGY  
GASTROENTEROLOGY  
GENE  
GENOMICS  
HEPATOLOGY  
IMMUNOPHARMACOLOGY  
INORGANIC CHEMISTRY  
INTERNATIONAL JOURNAL OF BIOCHEMISTRY AND CELL BIOLOGY  
IN VITRO MOLECULAR TOXICOLOGY  
IUBMB LIFE  
JOURNAL OF THE AMERICAN CHEMICAL SOCIETY  
JOURNAL OF BIOLOGICAL CHEMISTRY  
JOURNAL OF BIOCHEMICAL TOXICOLOGY  
JOURNAL OF BIOMOLECULAR SCREENING  
JOURNAL OF CELLULAR BIOCHEMISTRY  
JOURNAL OF CHROMATOGRAPHY  
JOURNAL OF INORGANIC BIOCHEMISTRY  
JOURNAL OF LABELLED COMPOUNDS & RADIOPHARMACEUTICALS  
JOURNAL OF LIPID RESEARCH  
JOURNAL OF MASS SPECTROMETRY  
JOURNAL OF MEDICINAL CHEMISTRY  
JOURNAL OF MOLECULAR BIOLOGY  
JOURNAL OF MOLECULAR RECOGNITION  
JOURNAL OF NEUROCHEMISTRY  
JOURNAL OF ORGANIC CHEMISTRY  
JOURNAL OF EXPERIMENTAL BIOLOGY AND THERAPEUTICS  
JOURNAL OF PHARMACEUTICAL SCIENCES  
JOURNAL OF PHARMACY AND PHARMACOLOGY  
JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS

JOURNAL OF STEROID BIOCHEMISTRY AND MOLECULAR BIOLOGY  
JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION  
JOURNAL OF THE NATIONAL CANCER INSTITUTE  
LIFE SCIENCES  
LIPIDS  
LIVER  
METABOLISM  
MOLECULAR BRAIN RESEARCH  
MOLECULAR CARCINOGENESIS  
MOLECULAR AND CELLULAR PROTEOMICS  
MOLECULAR INTERVENTIONS  
MOLECULAR PHARMACEUTICS  
MOLECULAR PHARMACOLGY  
MOLECULAR TOXICOLOGY  
MUTAGENESIS  
MUTATION RESEARCH  
NATURE  
NATURE BIOTECHNOLOGY  
NATURE CHEMICAL BIOLOGY  
NATURE COMMUNICATIONS  
NATURE MEDICINE  
NATURE STRUCTURAL BIOLOGY  
NEW ENGLAND JOURNAL OF MEDICINE  
NUCLEIC ACIDS RESEARCH  
NUCLEOSIDES AND NUCLEOTIDES  
NUTRITION AND CANCER  
ONCOLOGY RESEARCH  
PEPTIDE AND PROTEIN LETTERS  
PESTICIDE BIOCHEMISTRY AND PHYSIOLOGY  
PHARMACOGENETICS  
PHARMACOLOGICAL REVIEWS  
PHARMACOLOGY AND THERAPEUTICS  
PHARMACOLOGY AND TOXICOLOGY  
PHYSIOLOGICAL REVIEWS  
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES U.S.A.  
PSYCHOPHARMACOLOGY  
RESEARCH COMMUNICATIONS IN CHEMICAL PATHOLOGY AND PHARMACOLOGY  
RISK ASSESSMENT  
SCIENCE  
TOXICOLOGICAL SCIENCES  
TOXICOLOGY AND APPLIED PHARMACOLOGY  
TOXICOLOGY IN VITRO  
TOXICOLOGY LETTERS  
TRENDS IN GENETICS  
TRENDS IN MOLECULAR MEDICINE  
TRENDS IN PHARMACOLOGICAL SCIENCES  
XENOBIOTICA

## Other Consultant and Special Review Group Participation

1. January, 1981 Program Project, North Carolina State University, Raleigh (NIH)
2. February, 1981 Program Project, American Health Foundation, Valhalla, N.Y. (NIH)
3. April, 1981 Program Project, New York University (NIH)
4. September, 1981 Program Project, University of Vermont (NIH)
5. April, 1982 Environmental Health Sciences Center, Oregon State University, Corvallis (Chairman, Center-initiated review)
6. June, 1982 Basic Sciences Review Board, Veterans Administration Special Agent Orange and Agent Blue Research Program
7. May, 1983 Environmental Health Sciences Center, Oregon State University, Corvallis (Chairman, Center-initiated review)
8. December, 1983 Toxicology Training Program, University of Cincinnati (University-initiated review)
9. February, 1984 Environmental Health Sciences Center, Oregon State University, Corvallis (Chairman, Center-initiated review)
10. April, 1984 Program Project, Baylor College of Medicine (NIH)
11. June, 1984 Center Grant, University of California, San Francisco (NIH)
12. September, 1984 (Three Grants) Eppley Institute, Omaha (NIH) (Chairman)
13. April, 1985 Toxicology Training Program, University of Cincinnati (Chairman, University-initiated review)
14. May, 1985 NIH Special Study Section, NCI RFP "Innovative Approaches to Development of Cancer Chemopreventive Agents"
15. February, 1986 Environmental Health Sciences Center, Oregon State University, Corvallis (Chairman, Center-initiated review)
16. 1986, 2007 Training Program in Toxicology, University of Wisconsin, Madison (Chairman, University-initiated review)
17. March, 1986 NIH Special Study Section, NCI, RFA 85-CA-06, Development, Validation, and Application of Biochemical Markers of Human Exposure for Use in Epidemiological Studies
18. June, 1986 Advisory Committee, Chemical Industry Institute for Toxicology
19. June, 1986 NIH Physical Biochemistry Study Section, *ad hoc* reviewer
20. 1986-1991 Safety Assessment Advisory Committee, Merck, Sharp, and Dohme Research Laboratories
21. November, 1986 Program Project, Albert Einstein School of Medicine (NIH)
22. December, 1986 Special Review Committee (NIH) (Chairman, Individual grant)



23. 1986, 1990 Technical Advisory Panel on Acrylonitrile, Chemical Industry Institute for Toxicology
24. June, 1987 Program Project, McArdle Laboratory, University of Wisconsin, Madison (NIH)
25. October, 1987 Program Project, Oregon State University (NIH)
26. November, 1987 Technical Advisory Panel, Chemical Industry Institute for Toxicology
27. November, 1987 Clinical Pharmacology Branch, National Cancer Institute (Intramural)
28. 1987-1990 Outstanding Investigator Award Applications, National Cancer Institute
29. April, 1988 Program Project, Illinois Institute of Technology (NIH) (Chairman)
30. April, 1988 Ohio Board of Regents, Eminent Scholar Program
31. June, 1988 Advisory Committee, Chemical Industry Institute for Toxicology
32. June, 1988 Center and Training Grants, Oregon State University (NIH)
33. November, 1988 Program Project, University of Texas, Galveston (NIH) (Chairman)
34. February, 1989 Program Project, Rutgers University (NIH)
35. June, 1989 Program Project, State University of New York, Stony Brook (NIH) (Chairman)
36. 1989 External Oversight Group, Training Program in Environmental Health Sciences, Harvard School of Public Health
37. November, 1989 Clinical Lung Cancer Research Project, National Cancer Institute (Intramural)
38. March, 1990 Program Project, Johns Hopkins University (NIH) (Chairman)
39. September, 1990 Training Program in Toxicology, University of Wisconsin, Madison (Chairman, University-initiated review)
40. October, 1990 Program Project, Harvard School of Public Health (NIH)
41. February, 1991 Program Project, Duke University Marine Center (NIH)
42. June, 1991 Program Project, University of Colorado (NIH)
43. March, 1992 Program Project, McArdle Laboratory, University of Wisconsin (NIH)
44. March, 1993 NIH Special Study Section, NIH RFA CA/ES 92-23 "Biotechnology Transfer to Epidemiologic Studies in Cancer"
45. April, 1993 Program Project Review, Marine/Freshwater Biomedical Sciences Center, Oregon State University (University-initiated review)
46. May, 1993 Scientific Advisory Panel, Department of Drug Metabolism, Sandoz
47. 1993 -1996 Scientific Advisory Board, Butadiene Research Panel, Chemical Manufacturers' Association

48. July, 1993 NIH Special Study Section, NIH RFA CA/ES-93-24 "Environmental Factors and Breast Cancer in High Risk Areas"
49. 1993 Advisory Board, NIEHS Center Developmental Grant, University of Louisville
50. 1993 Advisory Board, Application for NIEHS Center Developmental Grant, University of North Carolina
51. November, 1993 NIH Special Study Section, NIEHS Center Developmental Grant applications
52. November, 1993 NIH Special Study Section, NCI Outstanding Investigator Award applications
53. January, 1994 Study Section, American Cancer Society (Advisory Committee on Personnel for Research, C)
54. February, 1994 U.S. Army Breast Cancer Research Program (handled by BioReview, Inc.)
55. 1994-2000, 2002-2004 Board of Scientific Advisors, Schering-Plough Drug Safety and Metabolism
56. 1994 Consultant, Scientific Advisory Group, Dow-Corning
57. 1994- Consultant, Oxford Biomedical Research Inc.
58. 1994-1995 Consultant, Otsuka Pharmaceuticals, U.S.A.
59. 1994-1995 Consultant, Kaye Scholer, LLP
60. 1994-1995 Consultant, Pennic and Edmonds, LLP
61. 1995-2001 Environmental Health Sciences Center, Oregon State University, Corvallis (Center-initiated review)
62. August, 1995 External Advisory Committee, Oral Cancer Center, University of Cincinnati Medical Center
63. February, 1996 Review Committee, Department of Drug Metabolism, Merck Research Laboratories
64. 1996-1997 Scientific Committee for Methylene Chloride, Environmental Protection Agency
65. 1996-2001, 2002 Advisory Committee, for NIEHS Core Center, University of Wisconsin
66. 1997 Working Group, Environmental Genome Project, National Institute of Environmental Health Sciences
67. October, 1997 Review of Training Grant Applications, U.S. Environmental Protection Agency
68. December, 1997 Reviewer/Consultant, DNA Damage and Cellular Defense Program Comprehensive Cancer Center, Wake Forest University
69. 1998-2002 Technical Advisory Board, Orchid Biosciences Inc.
70. June, 1998 Working Group, Understanding Individual Variability in Drug Responses, National Institute of General Medical Sciences

71. 1998 Expert, Methylene Chloride, McLaren-Hart/ChemRisk Elicitation Workshop
72. 1999-2000 External Review Committee, Division of Extramural Research, NIEHS
73. 1998-1999, 2000- Advisory Group, Training Program, Comprehensive Cancer Center, Wake Forest University
74. 1999- Advisory Group, NIEHS Core Center, University of North Carolina/Chapel Hill
75. 1999 Panel on Safety of Plastic Products, American Council on Science and Health
76. 1999 Consultant, MetaXen
77. 1999-2009 Advisory Group, Superfund Hazardous Substances Basic Research Program, University of California, San Diego
78. June, 1999 & February, 2000 Program Project, City of Hope Medical Center (NIH)
79. 1999 External Review Committee, Extramural Training Program, NIEHS
80. 1999, 2003-Present Consultant, Targacept
81. 1999- Board of Scientific and Policy Advisors, American Council on Science and Health
82. 2000-2004 External Scientific Advisory Board, Cancer Center, American Health Foundation
83. 2000-2001 Search Committee for Intramural Scientific Director, NIEHS
84. 2000 Comprehensive Cancer Center, Wake Forest University (NIH)
85. 2001 NIH Special Study Section, Pharmacogenomics Partnerships Cooperative Agreements
86. 2001 Advisory Group, NIEHS Core Center Grant application, State University of New York/Stony Brook
87. 2001 Panel, Non-Lethal Weapons Directorate, Edgewood Chemical and Biological Center, Department of the Army
88. 2001 Review Panel, Indiana 21st Century Research and Technology Fund
89. 2001-2002 Consultant, Aventis Pharmaceuticals
90. 2001 Advisory Group, National Institute of Environmental Health Sciences, Environmental Genome Project, Resequencing Effort
91. 2002 Scientific Advisory Board, NIH Training Grant, Pennsylvania State College of Medicine
92. 2002-2004 Reviewer (of several proposals), Institute for Science & Health
93. 2002-2004 Reviewer (of several proposals), Research Management Group
94. 2003 Pediatric Pharmacology Research Unit Network Review (NIH)

95. 2003-2004 Search Committee for Director of NIEHS (NIH)
96. 2004 Consultant, Pfizer: Pharmacokinetics, Dynamics, and Metabolism
97. 2004-2006 Consultant, Kay Scholer LLP
98. 2004-2008 Consultant, Michael Marcus & Associates Science Partners LLC
99. 2004 Advisory Group, Toxicology Training Program, University of Kansas
100. 2005 Consultant, Drug Safety and Metabolism, Schering-Plough Research Institute
101. 2005 Consultant, OSI Pharmaceuticals
102. 2005 Consultant, Novartis Pharmaceuticals
103. 2005 Panel member, Dichloromethane Scientific Peer Review Session Panel, Kodak
104. 2005 Consultant, Johnson & Johnson Pharmaceuticals
105. 2006-2008 Consultant, Teva Pharmaceuticals Ltd.
106. 2005-2015 Consultant, Salix Pharmaceuticals
107. 2006 Consultant, Vertex Pharmaceuticals
108. 2006 Reviews, Helmholtz Gemeinschaft applications for junior faculty
109. 2006 Reviewer (ad hoc), NIH XNDA Study Section, October meeting
110. 2006 Consultant, Biogen Idec
111. 2007 Consultant, Otsuka Pharmaceutical
112. 2006-2010 Consultant, Barbeau Pharma/ProCor
113. 2007 Consultant, BioPure
114. 2007 Consultant, ThermoFisher
115. 2007-2008 Advisory Group, Environmental Toxicology Training Grant, University of Wisconsin
116. 2007-2011 Consultant, Sidley Austin LLP
117. 2007 Consultant, Connelly, Bove, Lodge, & Hutz LLP
118. 2007 Consultant, Resverologix
119. 2008-2009 Consultant, Smart & Biggar
120. March, 2008 Reviewer, NIGMS Program Project
121. 2008 Consultant, Medivation Inc.
122. 2008 Consultant, GeminX
123. 2008-2010, 2014- Consultant, Cravath, Swaine, & Moore LLP

124. 2008- Consultant, Angion Biomedica
125. September, 2008 Advisory Committee, Department of Chemistry and Biochemistry, University of South Carolina
126. 2008-2010 Consultant, Fitzpatrick, Cella, Harper, and Scinto
127. 2009- External Advisory Board, University of California Riverside NIEHS T32 Application "Research Training in Environmental Toxicology"
127. 2010 Consultant, Cooley, Godward, and Kronish, LLP
128. 2010 Consultant, Jones Day
129. May 2011 (Review of) Laboratory of Metabolism, National Cancer Institute
128. 2011-2012 Consultant, WilmerHale
129. 2011-2012 Consultant, Ogilvy Renault LLP/Norton Rose OR LLP
130. 2011-2012 Consultant, Cadwalader, Wickersham & Taft, LLP
131. October, 2011 Reviewer, NIEHS P42 Superfund grant applications
132. January, 2012 Working Group, review of environmental health, toxicology, and related applications, NIH, Center for Scientific Review
133. June, 2012 Reviewer, Shared Instrumentation Grant Program, Interdisciplinary Molecular Sciences and Training (NIH)
134. 2012, 2013 Reviewer, Swiss National Science Foundation
135. 2013 Consultant, Quinn, Emanuel, Urquhart, & Sullivan, LLP
136. May, 2013 Review Panel, National Sciences Foundation/Environmental Protection Agency (NSF 13-523), Networks for Sustainable Design and Synthesis
137. 2013 Member, External Advisory Committee, Training Grant in Environmental Toxicology Grant in Environmental Toxicology and Imaging Science, Purdue University
138. 2013- Consultant, Transcept Pharmaceuticals, Inc.
139. 2013-2014 Consultant, Norton Rose Fulbright Canada LLP
140. 2013 Consultant, Purdue Pharma LP
141. 2014 Reviewer, NIH special study section, ZRG1 BCMD-D
142. September, 2014 Consultant, Astra-Zeneca
143. 2014 Consultant, Womble Carlyle Sandridge & Rice, LLP
144. 2015- Expert Panel Member, Flavor and Extracts Manufacturers' Association
145. 2015- Consultant, Morgan, Lewis, & Bockius, LLP
146. 2015- Consultant, Paul, Weiss, Rifkind, Wharton, & Garrison, LLP

### Legal Testimony (last four years only)

Since 2011, I have provided testimony in the following matters:

1. On behalf of Schering:

United States District Court, District of New Jersey, Schering Corp. v. Mylan Pharmaceuticals Inc., Case Nos. 2:09-cv-06383, 2:10-cv-03085; Schering Corp. v. Teva Pharmaceuticals USA, Inc., Case Nos. 2:10-cv-01058, 2:10-cv-04473; October 18, 2011 (deposition, not trial)

2. On behalf of GlaxoSmithKline:

United States District Court, District of Delaware, GlaxoSmithKline LLC v. Anchen Pharmaceuticals, Inc., et al., Case No. 1:11-cv-00046; August 16, 2012 (deposition, not trial)

3. On behalf of GlaxoSmithKline:

Canada, Federal Court of Canada, GlaxoSmithKline Inc. et al. v. Teva Canada Ltd. et al., Case No. T-362-11; January 18, 2012 (affidavit, equivalent to US deposition, not trial)

4. On behalf of NCR:

United States District Court, Western District of Michigan, Southern Division, Georgia-Pacific Consumer Products LP, Fort James Corporation, and Georgia-Pacific LLC, v. NCR Corporation, International Paper Co., and Weyerhaeuser Company, No. 11-cv-00483; March 13, 2015 (deposition)

### Financial Support

1. Predoctoral Scholar (individual fellowship), NIH F01 GM47480, 9-1-70 to 7-31-73, total direct costs \$7,800
2. Postdoctoral Scholar (individual fellowship) NIH F22 GM03149, 7-1-74 to 9-1-75, total direct costs \$11,667
3. Co-Investigator and Principal Investigator (Director), NIH P30 ES00267, Center in Environmental Toxicology, 1-1-77 to 12-31-81 (extension to 6-30-82), total direct costs \$1,442,663
4. Principal Investigator, NIH R01 ES01590, Enzymic Activation of Environmental Toxins, 7-1-77 to 6-30-80, total direct costs \$147,477
5. Principal Investigator, NIH K32 ES00041, Enzymic Activation of Environmental Toxins (Research Career Development Award), 9-1-78 to 8-31-83, total direct costs \$150,000

6. Principal Investigator, NIH R01 ES02205, Bioactivation and Covalent Binding of Toxic Haloalkenes, 7-1-79 to 5-31-82, total direct costs \$137,607
7. Principal Investigator, NIH NCI Contract N01 CP 85672, Purification of Human Polycyclic Hydrocarbon Metabolizing Enzymes and Production of Antibodies, 12-1-78 to 8-31-81, total direct costs \$144,728
8. Principal Investigator, NIH R01 ES01590, Enzymic Activation of Environmental Toxins, 7-1-80 to 6-30-85, total direct costs \$428,964
9. Co-Investigator and Principal Investigator, NIH T32 ES07028, Training Program in Environmental Toxicology, 7-1-80 to 6-30-85, total direct costs \$417,240
10. Principal Investigator, NIH R01 CA30907, Purified Human Enzymes and Carcinogen Metabolism, 9-1-81 to 6-30-86, total direct costs \$486,014
11. Principal Investigator, NIH R01 ES02205, Bioactivation and Covalent Binding of Toxic Haloalkenes, 6-1-82 to 5-31-87, total direct costs \$402,238
12. Principal Investigator (Director), NIH P30 ES00267, Environmental Health Sciences Center/Center in Environmental Toxicology, 7-1-82 to 6-30-84, total direct costs \$997,531
13. Burroughs Wellcome Toxicology Scholar Award, 9-1-83 to 8-31-88, total direct costs \$250,000
14. Principal Investigator (Director), NIH P30 ES00267, Environmental Health Sciences Center/Center in Environmental Toxicology, 7-1-84 to 6-30-89, total direct costs \$3,193,945
15. Principal Investigator, NIH R01 ES01590, Enzymic Activation of Environmental Toxins, 7-1-85 to 6-30-90, total direct costs \$484,000
16. Principal Investigator (Director), NIH T32 ES07028, Training Program in Environmental Toxicology, 7-1-85 to 6-30-90, total direct costs \$759,320
17. Principal Investigator, NIH R01 CA30907, Purified Human Enzymes and Carcinogen Metabolism, 7-1-86 to 6-30-91, total direct costs \$747,426
18. Principal Investigator, NIH R01 ES02205, Bioactivation and Covalent Binding of Toxic Haloalkenes, 6-1-87 to 5-31-92, total direct costs \$604,895
19. Principal Investigator, NIH R35 CA44353, Enzymic Activation of Chemical Carcinogens (Outstanding Investigator Award), 9-30-87 to 6-30-94, total direct costs \$2,986,430
20. Principal Investigator (Director), NIH P30 ES00267, Environmental Health Sciences Center/Center in Molecular Toxicology, 7-1-89 to 6-30-94, total direct costs \$4,527,408
21. Principal Investigator (Director), NIH T32 ES07028, Training Program in Environmental Toxicology, 7-1-90 to 6-30-95, total direct costs \$1,346,036
22. Principal Investigator (Director), NIH T32 ES07028, Training Program in Environmental Toxicology (Supplement), 5-1-91 to 4-30-95, total direct costs \$35,200
23. Principal Investigator, NIH R35 CA44353, Enzymic Activation of Chemical Carcinogens (Outstanding Investigator Award) 7-1-94 to 4-30-01, total direct costs \$3,670,989
24. Principal Investigator (Director), NIH P30 ES00267, Environmental Health Sciences Center/Center in Molecular Toxicology, 7-1-94 to 3-31-99, total direct costs \$4,824,901
25. Principal Investigator (Director) NIH T32 ES07028, Training Program in Environmental Toxicology, 7-1-95 to 6-30-99, total direct costs \$949,720
26. Principal Investigator, NIH RR 11949-01 (BRS Shared Instrumentation Grant), Perkin Elmer ABI 492 Procise Protein Sequencer, 2-15-97 to 2-14-98, total direct costs \$125,000

27. Principal Investigator, NIH P30 ES00267, Instrumentation Supplement, MALDI/TOF Mass Spectrometer, 1-9-97 to 4-30-98, \$100,000
28. Principal Investigator (Director), NIH P30 ES00267, Environmental Health Sciences Center/Center in Molecular Toxicology, 4-1-99 to 3-31-04, total direct costs \$4,642,730
29. Principal Investigator (Director) NIH T32 ES07028, Training Program in Environmental Toxicology, 7-1-99 to 6-30-04, total direct costs \$2,176,660
30. Principal Investigator, NIH R01 ES/CA10375, Polymerase Interactions with Carcinogen-modified DNA, 08-01-00 to 07-31-05, total direct costs \$1,071,602
31. Principal Investigator, NIH R01 ES/CA10546, Bioactivation of Halogenated Hydrocarbons, 5-01-01 to 4-30-06, total direct costs \$1,250,646
32. Principal Investigator, NIH R01 CA90426, Metabolism of Carcinogens and Drugs by Human P450s, 05-01-01 to 04-30-06, total direct costs \$1,113,582
33. Principal Investigator (Director), NIH P30 ES000267, Environmental Health Sciences Center/Center in Molecular Toxicology, 4-1-04 to 3-31-09, total direct costs \$5,500,000
34. Principal Investigator (Director), NIH T32 ES007028, Training Program in Environmental Toxicology, 7-1-04 to 6-30-09, total direct costs \$3,056,609
35. Co-Investigator, NIH R01 GM069970, *S. coelicolor* P450s: Structure, Function, Engineering, 7-1-04 to 6-30-08, total direct costs \$1,125,296
36. Principal Investigator, NIH R01 ES010375, Polymerase Interactions with Carcinogen-modified DNA, 08-05-05 to 06-30-10, total direct costs \$1,373,500
37. Principal Investigator, NIH R01 ES010546, Bioactivation of Halogenated Hydrocarbons, 05/01/06-04/30/11, total direct costs \$1,669,204
38. Principal Investigator, NIH R37 CA090426, Metabolism of Carcinogens and Drugs by Human P450s, 05-01-06 to 04-30-11, total direct costs \$1,201,501, MERIT award; renewed 05-01-11 to 04-30-16, total direct costs \$1,380,365
39. Principal Investigator, NIH T35 ES016534, Summer Research and Training Program in Environmental Health Sciences, 07-01-08 to 06-30-13, total direct costs \$287,100
40. Co-Investigator, NH R01 GM69970, *S. coelicolor* P450s: Structure, Function, Engineering, 9-1-08 to 6-30-12, total direct costs \$1,620,77
41. Principal Investigator, (Director) NIH T32 ES007028, Training Program in Environmental Toxicology, 7-01-09 to 6-30-14, total direct costs \$3,063,960
42. Principal Investigator (Director) NIH P30 ES000267, Environmental Health Sciences Center/Center in Molecular Toxicology, 4-1-10 to 3-31-15, total approved direct costs \$5,000,000
43. Principal Investigator, NIH R01 ES010375, Polymerase Interactions with Carcinogen-modified DNA, 07/01/10 - 06/30/15, total direct costs \$1,731,348
44. Principal Investigator, NIH R01 ES010546, Bioactivation of Halogenated Hydrocarbons, 05-01-11 to 04-30-16, total approved direct costs \$1,375,000
45. Co-Investigator, NIH R01 GM103937, Structure and Function of P450 Enzymes in Steroid Hormone Synthesis, 07-01-13 to 06-30-17, total (requested) direct costs \$1,048,000
46. Principal Investigator, NIH R01 GM118122, Metabolism of Carcinogens and Drugs by Human P450s, 05-01-2016 to 04-30-2020, total direct costs (requested) \$1,432,327



47. Principal Investigator, NIH R01 ES010546, Bioactivation of Halogenated Hydrocarbons, 04-01-2016 to 03-31-2021, total direct costs (requested) \$1,553,459

## Graduate Students

1. Randall E. Miller (1978-1982) (Ph.D.)
2. Daniel C. Liebler (1980-1984) (Ph.D.)
3. William H. Schaefer (1980-1985) (Ph.D.)
4. Lora L. Hogy (1979-1985) (Ph.D.)
5. Richard W. Bork (1983-1988) (Ph.D.)
6. Joan L. Cmarik (Nelson) (1985-1991) (Ph.D.)
7. Randolph J. Willard (1988-1990) (M.S.)
8. Mi-Sook Kim (1991-1997) (Ph.D.)
9. Laura L. Furge (1993-1998) (Ph.D.)
10. Asit Parikh (1993-1998) (Ph.D., M.D.)
11. L. Chastine Bell-Parikh (1993-1998) (Ph.D.)
12. Adrienne M. Woodside (1996-2001) (Ph.D.)
13. Donghak Kim (1999-2004) (Ph.D.)
14. Elisabeth M. Loecken (2004-2010) (Ph.D.)
15. Christal D. Sohl (2005-2010) (Ph.D.)
16. Louisa Morrison (2006-2009) (M.S.)
17. Yi Xiao (2008-2014) (Ph.D.)
18. Eric Gonzalez (2011- )
19. Carl A. Sedgeman (2012- )
20. Matthew E. Albertolle (2013- )

## Postdoctoral Associates and Visiting Scientists

1. R. Bruce Banks, Ph.D. (1976-1978)
2. Philip P. Wang, Ph.D. (1978-1983)
3. Lee E. Geiger, Ph.D. (1979-1981)
4. Johan Meijer, Ph.D. (1981)
5. Ghazi A. Dannan, Ph.D. (1981-1984, 1985-1988)
6. Naoki Ozawa, Ph.D. (1982-1983)
7. Philippe H. Beaune, Ph.D. (1982, 1985-1986, 1989)
8. Dominique Larrey, M.D. (1982-1983)
9. Linda M. Distlerath, Ph.D. (1983-1984)
10. Philip B. Inskeep, Ph.D. (1983-1984)

11. James P. Shea, Ph.D. (1983-1985)
12. Dieter Müller-Enoch, Ph.D. (1983, 1985, 1989, 1993)
13. Paul E.B. Reilly, D.V.M. (1983-1984)
14. Hiroshi Shiraki, Ph.D. (1983-1984)
15. Tsutomu Shimada, Ph.D. (1984-1985, 1988, 1989, 1990-1991, 1993, 1995, 1997-1998, 2003-2006)
16. Thomas Wolff, Ph.D. (1984)
17. Xia Shijun, M.D. (1984-1985)
18. Nobuyuki Koga, Ph.D. (1984-1985)
19. Diane R. Umbenhauer, Ph.D. (1984-1987)
20. Ronald H. Böcker, Ph.D. (1985, 1987)
21. Robert G. Knodell, M.D. (1985-1986, 1989)
22. Lisa A. Peterson, Ph.D. (1985-1988)
23. Perry F. Churchill, Ph.D. (1985-1986)
24. Toshiki Muto, Ph.D. (1986-1987)
25. Cecile Ged, M.D. (1986-1987)
26. Nariko Shinriki, Ph.D. (1986)
27. Laurence Berman, M.D. (1986-1987)
28. Arnaud Bondon, Ph.D. (1987-1988)
29. Pramod K. Srivastava, Ph.D. (1987-1990)
30. William R. Brian, Ph.D. (1987-1990)
31. P. Giovanni Gervasi, Ph.D. (1987)
32. Masahiko Iwasaki, Ph.D. (1988-1990)
33. Dong-Hyun Kim, Ph.D. (1988-1990)
34. Tetsuya Oida, Ph.D. (1988-1990)
35. W. Griffith Humphreys, Ph.D. (1988-1992)
36. Marie-Agnes Sari, Ph.D. (1989-1990)
37. Dawn M. Boothe, D.V.M. (1989)
38. Shigeru Ohmori, Ph.D. (1990-1991, 1991-1992)
39. Gun Il Kang, Ph.D. (1990-1991)
40. Chul-Ho Yun, Ph.D. (1990-1992, 1995, 1998-2000)
41. Kui Lea Park, Ph.D. (1990-1991)
42. Punam Sandhu, Ph.D. (1991-1994)
43. Elizabeth M.J. Gillam, Ph.D. (1991-1993)
44. Kyong-Son Min, Ph.D. (1991-1993)

45. Osamu Okazaki, Ph.D. (1991-1992)
46. Jin Kyu Park, Ph.D. (1991-1992)
47. Ricarda Thier, Ph.D. (1991-1993)
48. Yasuo Seto, Ph.D. (1991-1992)
49. Magnus Persmark, Ph.D. (1991-1994)
50. David T-W. Lau, Ph.D. (1992)
51. Takahiko Baba, Ph.D. (1992-1993)
52. Bok-Ryang Kim, Ph.D. (1992-1993)
53. Robert P. Casillas, Ph.D. (1992-1993)
54. Zuyu Guo, Ph.D. (1992-1994)
55. Toshiro Niwa, Ph.D. (1992-1993)
56. Pavel Anzenbacher, Ph.D. (1993, 1994, 1995)
57. Hitoshi Ueno, Ph.D. (1993-1994)
58. Mi-Sook Dong, Ph.D. (1993-1996)
59. Pavel Souček, RNDr. (1993-1994)
60. Michael Müller, Ph.D. (1994-1996)
61. Yune-Fang Ueng, Ph.D. (1994-1996)
62. Hiroshi Yamazaki, Ph.D. (1994)
63. Eckhart Bauer, Ph.D. (1994)
64. William W. Johnson, Ph.D. (1994-1997)
65. Young-Jin Chun, Ph.D. (1994-1995, 2006-2007)
66. Olivier Boutaud, Ph.D. (1994-1996)
67. Sophie Langouët, Ph.D. (1996-1997)
68. Heidi J. Einolf, Ph.D. (1996-1999)
69. Takashi Kuwabara, Ph.D. (1996-1997)
70. Susumu Akasaka, Ph.D. (1996-1997)
71. Natalie A. Hosea, Ph.D. (1996-1999)
72. Hideo Shimamura, Ph.D. (1997-1999)
73. Imad H. Hanna, Ph.D. (1997-2000)
74. G. Paul Miller, Ph.D. (1998-2001)
75. Hongliang Cai, Ph.D. (1998-2000)
76. James B. Wheeler, Ph.D. (1998-2001)
77. Shin'ichi Yoshihara, Ph.D. (1998)
78. Ralf Mundkowski, Ph.D. (1998-1999)

79. Katsunori Nakamura, Ph.D. (1999-2001)
80. Hideaki Sato, Ph.D. (1999-2001)
81. Dara E. Keller, Ph.D. (1999-2002)
82. Carmello J. Rizzo, Ph.D. (1999)
83. Glenn A. Marsch, Ph.D. (1999, 2000, 2001, 2002, 2003, 2005, 2013)
84. Yuki Nishimura (1999-2000)
85. Kevin M. Williams, Ph.D. (2000-2002)
86. Juan Gerardo Valadez Sanchez, Ph.D. (2000-2003)
87. Joel A. Krauser, Ph.D. (2001-2004)
88. Tadao Yoshioka, Ph.D. (2001-2002)
89. Pramod Aryal, Ph.D. (2001-2003)
90. M. Wade Calcutt, Ph.D. (2001-2005)
91. Hong Zang, Ph.D. (2001-2006)
92. Jeong-Yun Choi, M.D., Ph.D. (2002-2006, 2009-2010, 2014-2015)
93. Zhong-Liu Wu, Ph.D. (2003-2007)
94. Zhijun Guo, Ph.D. (2004-2006)
95. Cheryl J. Bartleson, Ph.D. (2004-2006)
96. Emre L. Isin, Ph.D. (2004- 2006)
97. Takumi Ishida, Ph.D. (2004-2005)
98. Richard B. Scott, Ph.D. (2004-2005)
99. Robert L. Eoff, Ph.D. (2005- 2010)
100. Mary E. Kushman, Ph.D. (2005-2007)
101. Raymundo Sánchez-Poncc, Ph.D. (2005-2007)
102. Kengo Watanabe (2005-2006)
103. Goutam Chowdhury, Ph.D. (2006- 2013)
104. Anna Katarina Stark, Ph.D. (2006-2008)
105. Miroslav Dostalek, Ph.D. (2006- 2008)
106. Huidong Zhang, Ph.D. (2006-2009)
107. Jeffrey W. Beckman, Ph.D. (2007-2008)
108. Zhongmei Tang, Ph.D. (2007-2010)
109. Qian Cheng, Ph.D. (2007-2012)
110. Sandra Giovanna Salamanca-Pinzón, Ph.D. (2008-2011)
111. Zhenhua Tian, Ph.D. (2009-2010)
112. Matthew G. Pence, Ph.D. (2009-2012)

113. Raku Shinkyo, Ph.D. (2009-2011)
114. Sung-Hee Cho, Ph.D. (2010-2013)
115. Jian Wang, Ph.D. (2010-2012)
116. Stephen C. Chmely, Ph.D. (2010-2011)
117. Linlin Zhao, Ph.D. (2010-2013)
118. Kai Wang, Ph.D. (2011-2013)
119. Francis K. Yoshimoto, Ph.D. (2012- )
120. Tatsuyaki Kanamori, Ph.D. (2012-2013)
121. Michal Siller, Ph.D. (2012-2013, 2014)
122. Donghak Kim, Ph.D. (2012-2013)
123. Valerie M. Kramlinger, Ph.D. (2013- )
124. Sandeep Goyal, Ph.D. (2013-2015)
125. Mirza Bojic', Ph.D. (2013-2014, 2015)
126. Qianqian Zhang, Ph.D. (2013-2015)
127. Charles A. Johnson, Ph.D. (2014-2015)
128. Chunxue Wang, Ph.D. (2014- )
129. Yan Su, Ph.D. (2013- )
130. Kevin M. Johnson, Ph.D. (2014- )

## Refereed Publications

1. Guengerich, F.P., Snyder, J.J. and Broquist, H.P. (1973) *Biochemistry* 12, 4264-4269. "Biosynthesis of Slaframine, (1S,6S,8aS)-1-Acetoxy-6-aminooctahydroindolizine, a Parasympathomimetic Alkaloid of Fungal Origin. I. Pipecolic Acid and Slaframine Biogenesis."
2. Guengerich, F.P. and Broquist, H.P. (1973) *Biochemistry* 12, 4270-4274. "Biosynthesis of Slaframine, (1S,6S,8aS)-1-Acetoxy-6-aminooctahydroindolizine, a Parasympathomimetic Alkaloid of Fungal Origin. II. The Origin of Pipecolic Acid."
3. Guengerich, F.P., DiMari, S.J. and Broquist, H.P. (1973) *J. Am. Chem. Soc.* 95, 2055-2056. "Isolation and Characterization of a 1-Pyrindine Fungal Alkaloid."
4. Guengerich, F.P., Ballou, D.P. and Coon, M.J. (1975) *J. Biol. Chem.* 250, 7405-7414. "Purified Liver Microsomal Cytochrome P-450. Electron-accepting Properties and Oxidation-reduction Potential."
5. Guengerich, F.P. and Broquist, H.P. (1976) *J. Bacteriol.* 126, 338-347. "Lysine Catabolism in *Rhizoctonia leguminicola* and Related Fungi."
6. Guengerich, F.P., Ballou, D.P., and Coon, M.J. (1976) *Biochem. Biophys. Res. Commun.* 70, 951-956. "Spectral Intermediates in the Reaction of Oxygen with Purified Liver Microsomal Cytochrome P-450."
7. Guengerich, F.P., and Aust, S.D. (1977) *Mol. Pharmacol.* 13, 185-195. "Activation of the Parasympathomimetic Alkaloid Slaframine by Microsomal and Photochemical Oxidation."
8. Guengerich, F.P. (1977) *J. Biol. Chem.* 252, 3970-3979. "Separation and Purification of Multiple Forms of Microsomal Cytochrome P-450. Activities of Different Forms of Cytochrome P-450 Towards Several Compounds of Environmental Interest."
9. Guengerich, F.P. (1977) *Biochem. Pharmacol.* 26, 1909-1915. "Studies on the Activation of a Model Furan Compound – Toxicity and Covalent Binding of 2-(N-Ethylcarbamoylhydroxymethyl)furan."
10. Guengerich, F.P. (1977) *Mol. Pharmacol.* 13, 911-923. "Preparation and Properties of Highly-purified Cytochrome P-450 and NADPH-Cytochrome P-450 Reductase from Pulmonary Microsomes of Untreated Rabbits."
11. Guengerich, F.P., and Strickland, T.W. (1977) *Mol. Pharmacol.* 13, 993-1004. "Metabolism of Vinyl Chloride: Destruction of the Heme of Highly Purified Liver Microsomal Cytochrome P-450 by a Metabolite."
12. Guengerich, F.P. (1978) *J. Biol. Chem.* 253, 7931-7939. "Separation and Purification of Multiple Forms of Microsomal Cytochrome P-450. Partial Characterization of Three Apparently Homogeneous Cytochromes P-450 Prepared from Livers of Phenobarbital- and 3-Methylcholanthrene-treated Rats."
13. Guengerich, F.P. (1978) *Biochem. Biophys. Res. Commun.* 82, 820-827. "Comparison of Highly-purified Microsomal Cytochromes P-450 and NADPH-Cytochrome P-450 Reductases by Peptide Mapping."
14. Guengerich, F.P. (1978) *Biochemistry* 17, 3633-3639. "Destruction of Heme and Hemoproteins Mediated by Liver Microsomal Reduced Nicotinamide Adenine Dinucleotide Phosphate-Cytochrome P-450 Reductase."
15. Baron, J., Redick, J.A., and Guengerich, F.P. (1978) *Life Sci.* 23, 2627-2632. "Immunohistochemical Localization of Cytochrome P-450 in Rat Liver."
16. Guengerich, F.P., and Watanabe, P.G. (1979) *Biochem. Pharmacol.* 28, 589-596. "Metabolism of [<sup>14</sup>C]- and [<sup>36</sup>Cl]-Labeled Vinyl Chloride *In Vivo* and *In Vitro*."
17. Guengerich, F.P., and Mason, P.S. (1979) *Mol. Pharmacol.* 15, 154-164. "Immunological Comparison of Hepatic and Extrahepatic Cytochromes P-450."

18. Guengerich, F.P. (1979) *Biochim. Biophys. Acta* 577, 132-141. "Artifacts in Isoelectric Focusing of the Microsomal Enzymes Cytochrome P-450 and NADPH-Cytochrome P-450 Reductase."
19. Guengerich, F.P. (1979) *Biochem. Pharmacol.* 28, 2883-2890. "Similarity of Nuclear and Microsomal Cytochromes P-450 in the *In Vitro* Activation of Aflatoxin B<sub>1</sub>."
20. Kaminsky, L.S., Fasco, M.J., and Guengerich, F.P. (1979) *J. Biol. Chem.* 254, 9657-9662. "Comparison of Different Forms of Liver, Kidney, and Lung Microsomal Cytochrome P-450 by Immunological Inhibition of Regio- and Stereoselective Metabolism of Warfarin."
21. Guengerich, F.P., Wang, P., Mitchell, M.B., and Mason, P.S. (1979) *J. Biol. Chem.* 254, 12248-12254. "Rat and Human Liver Microsomal Epoxide Hydratase. Purification and Evidence for the Existence of Multiple Forms."
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23. Guengerich, F.P., Crawford, W.M., Jr., and Watanabe, P.G. (1979) *Biochemistry* 18, 5177-5182. "Activation of Vinyl Chloride to Covalently-bound Metabolites: Roles of 2-Chloroethylene Oxide and 2-Chloroacetaldehyde."
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25. Wang, P., Mason, P.S., and Guengerich, F.P. (1980) *Arch. Biochem. Biophys.* 199, 206-219. "Purification of Human Liver Cytochrome P-450 and Comparison to the Enzyme Isolated from Rat Liver."
26. Kaminsky, L.S., Fasco, M.J., and Guengerich, F.P. (1980) *J. Biol. Chem.* 255, 85-91. "Comparison of Different Forms of Purified Cytochrome P-450 from Rat Liver by Immunological Inhibition of Regio- and Stereoselective Metabolism of Warfarin."
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28. Baron, J., Redick, J.A., and Guengerich, F.P. (1980) *Life Sci.* 26, 489-493. "Immunohistochemical Localization of Epoxide Hydratase in Rat Liver."
29. Guengerich, F.P., and Mason, P.S. (1980) *Anal. Biochem.* 104, 445-451. "Alcohol Dehydrogenase-coupled Spectrophotometric Assay of Epoxide Hydratase Activity."
30. Robic-Suh, K., Robinson, R.C., Gelboin, H.V., and Guengerich, F.P. (1980) *Science* 208, 1031-1033. "Aryl Hydrocarbon Hydroxylase is Inhibited by Antibody to Cytochrome P-450 Hydroxylase."
31. French, J.S., Guengerich, F.P., and Coon, M.J. (1980) *J. Biol. Chem.* 255, 4112-4119. "Interactions of Cytochrome P-450, NADPH-Cytochrome P-450 Reductase, Phospholipid, and Substrate in the Reconstituted Liver Microsomal Enzyme System."
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40. Marinello, A.J., Berrigan, M.J., Struck, R.F., Guengerich, F.P., and Gurtoo, H.L. (1981) *Biochem. Biophys. Res. Commun.* 99, 399-406. "Inhibition of NADPH-Cytochrome P450 Reductase by Cyclophosphamide and Its Metabolite."
41. Ohlsson, R.I., Lane, C.D., and Guengerich, F.P. (1981) *Eur. J. Biochem.* 115, 367-373. "Synthesis and Insertion, *In Vivo* and *In Vitro*, of Rat Liver Cytochrome P-450 and Epoxide Hydratase into *Xenopus laevis* Membranes."
42. Baron, J., Redick, J.A., and Guengerich, F.P. (1981) *J. Biol. Chem.* 256, 5931-5937. "An Immunohistochemical Study on the Localizations and Distributions of Phenobarbital- and 3-Methylcholanthrene-inducible Cytochromes P-450 within the Livers of Untreated Rats."
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44. Guengerich, F.P., Mason, P.S., Stott, W.T., Fox, T.R., and Watanabe, P.G. (1981) *Cancer Res.* 41, 4391-4398. "Roles of 2-Haloethylene Oxides and 2-Haloacetaldehydes Derived from Vinyl Bromide and Vinyl Chloride in Irreversible Binding to Protein and DNA."
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47. Guengerich, F.P., Geiger, L.E., Hogy, L.L., and Wright, P.L. (1981) *Cancer Res.* 41, 4925-4933. "*In Vitro* Metabolism of Acrylonitrile to 2-Cyanoethylene Oxide, Reaction with Glutathione, and Irreversible Binding to Proteins and Nucleic Acids."
48. Kaminsky, L.S., Kennedy, M.W., Adams, S.M., and Guengerich, F.P. (1981) *Biochemistry* 20, 7379-7384. "Metabolism of Dichlorobiphenyls by Highly Purified Isozymes of Rat Liver Cytochrome P-450."
49. Gozukara, E.M., Guengerich, F.P., Miller, H., and Gelboin, H.V. (1982) *Carcinogenesis* 3, 129-134. "Different Patterns of Benzo(a)pyrene Metabolism by Purified Cytochrome P-450s from 3-Methylcholanthrene, Phenobarbital, and  $\beta$ -Naphthoflavone Treated Rats: Identification of the 4- and 5-Phenols as New Metabolites."

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51. Miller, R.E., and Guengerich, F.P. (1982) *Biochemistry* 21, 1090-1097. "Oxidation of Trichloroethylene by Liver Microsomal Cytochrome P-450: Evidence for Chlorine Migration in a Transition State Not Involving Trichloroethylene Oxide."
52. Guengerich, F.P., Wang, P., and Davidson, N.K. (1982) *Biochemistry* 21, 1698-1706. "Estimation of Isozymes of Microsomal Cytochrome P-450 in Rats, Rabbits, and Humans Using Immunochemical Staining Coupled with Sodium Dodecyl Sulfate-Polyacrylamide Gel Electrophoresis."
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54. Macdonald, T.L., Zirvi, K., Burka, L.T., Peyman, P., and Guengerich, F.P. (1982) *J. Am. Chem. Soc.* 104, 2050-2052. "Mechanism of Cytochrome P-450 Inhibition by Cyclopropylamines."
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56. Guengerich, F.P., and Davidson, N.K. (1982) *Arch. Biochem. Biophys.* 215, 462-477. "Interaction of Epoxide Hydrolase with Itself and Other Microsomal Proteins."
57. Park, S.S., Fujino, T., West, D., Guengerich, F.P., and Gelboin, H.V. (1982) *Cancer Res.* 42, 1798-1808. "Monoclonal Antibodies that Inhibit Enzyme Activity of 3-Methylcholanthrene-induced Cytochrome P-450."
58. Frederick, C.B., Mays, J.B., Ziegler, D.M., Guengerich, F.P., and Kadlubar, F.F. (1982) *Cancer Res.* 42, 2671-2677. "Cytochrome P-450 and Flavin-containing Monooxygenase-catalyzed Formation of the Carcinogen N-Hydroxy-2-aminofluorene, and Its Covalent Binding to Nuclear DNA."
59. Cummings, S.W., Guengerich, F.P., and Prough, R.A. (1982) *Drug Metab. Dispos.* 10, 459-464. "The Characterization of N-Isopropyl-p-hydroxymethylbenzamide Formed During the Oxidative Metabolism of Azo-Procarbazine."
60. Dannan, G.A., and Guengerich, F.P. (1982) *Mol. Pharmacol.* 22, 787-794. "Immunochemical Comparison and Quantitation of Microsomal Flavin-containing Monooxygenases in Various Hog, Mouse, Rat, Rabbit, Dog, and Human Tissues."
61. Wang, P., Meijer, J., and Guengerich, F.P. (1982) *Biochemistry* 21, 5769-5776. "Purification of Human Liver Cytosolic Epoxide Hydrolase and Comparison to the Microsomal Enzyme."
62. Guengerich, F.P., Dannan, G.A., Wright, S.T., Martin, M.V., and Kaminsky, L.S. (1982) *Biochemistry* 21, 6019-6030. "Purification and Characterization of Liver Microsomal Cytochromes P-450: Electrophoretic, Spectral, Catalytic, and Immunochemical Properties and Inducibility of Eight Isozymes Isolated from Rats Treated with Phenobarbital or  $\beta$ -Naphthoflavone."
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66. Miller, R.E., and Guengerich, F.P. (1983) *Cancer Res.* 43, 1145-1152. "Metabolism of Trichloroethylene in Isolated Hepatocytes, Microsomes, and Reconstituted Enzyme Systems Containing Cytochrome P-450."
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71. Kawabata, T.T., Guengerich, F.P., and Baron, J. (1983) *J. Biol. Chem.* 258, 7767-7773. "Effects of Phenobarbital, *trans*-Stilbene Oxide, and 3-Methylcholanthrene on Epoxide Hydrolase within Centrilobular, Midzonal, and Periportal Regions of Rat Liver."
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## Abstracts

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471. Guengerich, F.P., Furge, L.L., Einolf, H.J., Mican, A.N., Kim, M-S., Langouët, S., and Müller, M. (1998) *Abstracts, 5th Int. Meetg., Int. Soc. Study Xenobiotics* (25-29 October, Cairns, Australia) "DNA Adducts and Mechanisms of Mutagenesis." (Invited plenary lecturer)
472. Yamazaki, H., Johnson, W.W., Ueng, Y-F., Guengerich, F.P., and Shimada, T. (1998) *Abstracts, 25th Ann. Meetg. Jpn. Soc. Toxicol.* (17-19 May, Nagoya) "Roles of Rat and Human Epoxide Hydrolase in Hydrolysis of Aflatoxin B<sub>1</sub> 8,9-Epoxyde."
473. Guengerich, F.P. (1998) *Workshop on Alcohol, Inflammation, and Artherosclerosis, Natl. Inst. Alcohol Abuse and Alcoholism* (24-25 August, Bethesda, MD) "Cytochrome P450 2E1 and Oxidant Stress."
474. Turesky, R.J., Constable, A., Fay, L.B., and Guengerich, F.P. (1998) *Abstracts, 7th Int. Conf. Carcinogenic/Mutagenic N-Substituted Aryl Compounds* (4-6 November, Nagoya) "Interspecies Metabolism of Heterocyclic Aromatic Amines."
475. Hanna, I.H., and Guengerich, F.P. (1998) *Abstracts, 1998 Midwest Cytochromes P450 Symposium* (11 September, West Lafayette, IN) "Analysis of Cytochrome P450 2D6: Substrate Interactions by Site-Directed Mutagenesis."
476. Shimada, T., Wunsch, R.M., Hanna, I.H., Sutter, T.R., Guengerich, F.P., and Gillam, E.M.J. (1998) *Abstracts, 1998 Midwest Cytochromes P450 Symposium* (11 September, West Lafayette, IN) "Recombinant Human Cytochrome P450 1B1 Expression in *Escherichia coli*."
477. Yamazaki, H., Guengerich, F.P., and Shimada, T. (1998) *Abstracts, 71st Annu. Meetg. Jpn. Biochem. Soc.* (13-17 October, Nagoya) "Effects of Endobiotic Chemicals (Steroids, Prostaglandins, Arachidonic Acid, and Vitamins) on Cytochrome P450 Enzymes in Human Liver Microsomes."
478. Shimada, T., Wunsch, R.M., Sutter, T.R., Hanna, I.H., Guengerich, F.P., and Gillam, E.M.J. (1998) *Abstracts, 71st Annu. Meetg. Jpn. Biochem. Soc.* (13-17 October, Nagoya) "Purification and Properties of Human CYP1B1 Expressed in *Escherichia coli*."
479. Shimada, T., Yamazaki, H., Alworth, W.L., and Guengerich, F.P. (1998) *13th Annu. Meetg. Jpn. Soc. Study Xenobiotics* (11-13 November, Sendai) "Inhibition by Polycyclic Aromatic Hydrocarbons of 7-Ethoxyresorufin O-Deethylation by Human CYP 1A1, 1A2, and 1B1."
480. Bell-Parikh, L.C., and Guengerich, F.P. (1999) *Abstracts, Winter Enzyme Mechanisms Conference* (6-10 January, Napa, California) "Kinetics of Cytochrome P450 2E1-Catalyzed Oxidation of Ethanol to Acetic Acid via Acetaldehyde."
481. Kim, J.H., Sherman, M.E., Strickland, P.T., Guengerich, F.P., and Sutter, T.R. (1999) *Toxicol. Sci.* 48, 96. "Differential Expression of Cytochrome P450 1A1 and 1B1 in Human Lung from Smokers, Non-Smokers, and Ex-Smokers."
482. Guengerich, F.P., and Voehler, M.W. (1999) *Proc. Am. Assoc. Cancer Res.* 40, 47. "Formation and Reactions of N<sup>7</sup>-Aminoguanosine."
483. Mican, A.N., and Guengerich, F.P. (1999) *Proc. Am. Assoc. Cancer Res.* 40, 741. "Polymerase Stalling and Misincorporation at O<sup>6</sup>-Methylguanine and O<sup>6</sup>-Benzylguanine."
484. Hanna, I.H., Roodi, N., Guengerich, F.P., and Parl, F.F. (1999) *Proc. Am. Assoc. Cancer Res.* 40, 50-51. "Pharmacogenetics of Human Cytochrome P450 1B1."
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486. Plastaras, J.P., Guengerich, F.P., and Marnett, L.J. (1999) *Proc. Am. Assoc. Cancer Res.* 40, 648. "Detoxifying Cytochromes P450 Convert Prostaglandin Endoperoxide H<sub>2</sub> to Hydroxyheptadecanoic Acid and the Mutagen Malondialdehyde."
487. Wheeler, J.B., and Guengerich, F.P. (1999) *Abst., Annu. Meetg. Environ. Mutagen Soc.* (Washington, D.C.) "Comparison of Glutathione Mediated Mutagenicity of *Salmonella typhimurium* TA1535 Expressing *Methanobacterium* DM 11 or Rat GST 5-5."
488. Yoshihara, S., Parikh, A., and Guengerich, F.P. (1999) *Abstracts, 119th Annu. Meetg. Pharmaceut. Soc. Japan* (March 29-31, Tokushima). "Screening of Human P450 Libraries Coexpressed with NADPH-P450 Reductase in *Escherichia coli* Based on Metabolic Activation of Mutagenic Heterocyclic Amines."
489. Guengerich, F.P., Parikh, A., and Hosea, N.A. (1999) *Abstracts, 11th Int. Conf. Cytochrome P450 Biochemistry, Biophysics, Molec. Biol.* (29 August-2 September, Sendai) "How Malleable are P450 Active Sites? Interactions of Substitutions and Ligands." (Invited symposium speaker)
490. Wandel, C., Kim, R.B., Guengerich, F.P., and Wood, A.J.J. (1999) *Abst., Am. Soc. Clin. Pharmacol. Ther.* "Mibefradil is a Potent Inhibitor of Both CYP3A and P-Glycoprotein (P-GP)."
491. Guengerich, F.P., and Bell-Parikh, L.C. (1999) *FASEB J.* 13, A1458. "Oxidation of Ethanol to Acetaldehyde and Acetic Acid by Cytochrome P450 2E1."
492. Hosea, N.A., and Guengerich, F.P. (1999) *FASEB J.* 13, A1347. "Interactions of Opiate Peptides with P450 3A4."
493. Miller, G.P., and Guengerich, F.P. (1999) *FASEB J.* 13, A1346. "Anisole Demethylation by P450 1A2: Binding and Steady-State Studies."
494. Hanna, I.H., Cai, H., and Guengerich, F.P. (1999) *FASEB J.* 13, A1347. "Design and Synthesis of Fluorescent Probes for Human Cytochrome P450 2D6."
495. Yamazaki, H., Nakamura, M., Nakajima, M., Yokoi, T., Shimada, N., Gillam, E.M.J., Guengerich, F.P., and Shimada, T. (1999) *Abstracts, 119th Annu. Meetg. Japanese Pharmaceut. Soc.* (29-31 March, Tokushima) "Testosterone Hydroxylation by Bacterial Bicistronic CYP3A4 Systems Coexpressed with NADPH-P450 Reductase."
496. Gautier, J-C., Richoz, J., Markovic, J., Gremaud, E., Guengerich, F.P., and Turesky, R.J. (1999) *Abstracts, 7th European Int. Soc. Study Xenobiotics Meeting* (21-24 August, Budapest), p. 82 "Metabolism and Mechanisms of Ochratoxin A Toxicity."
497. Kirman, C.R., Hays, S.M., Gargas, M.L., Andersen, M.E., Reitz, R.H., Guengerich, F.P., Green, T., McConnell, E.E., Buckpit, A., Voytek, P., and Dugard, P.H. (1999) *Toxicologist* 48, 83. "Using Physiologically Based Pharmacokinetic Modeling to Assess Non-linearity in the Dose-Response Relationship for Methylene Chloride Carcinogenesis."
498. Rish, W., Kirman, C.R., Hays, S.M., Gargas, M.L., Andersen, M.E., Reitz, R.H., Guengerich, F.P., Green, T., McConnell, E.E., Buckpit, A., Voytek, P., and Dugard, P.H. (1999) *Toxicologist* 48, 143. "Developing a Physiologically Based Pharmacokinetic Model to Describe Methylene Chloride Kinetics at the Subcellular Level."
499. Guengerich, F.P., Hosea, N.A., Bell-Parikh, L.C., Miller, G.P., Yun, C-H., and Parikh, A. (1999) *Abstracts, 11th Int. Conf. Cytochrome P450* (29 August-2 September, Sendai), p. 77. "How Malleable are P450 Active Sites? Interactions of Substitutions and Ligands." (Invited symposium speaker)
500. Yamazaki, H., Nakajima, M., Asaki, S., Shimada, N., Gillam, E.M.J., Guengerich, F.P., Shimada, T., and Yokoi T. (1999) *Abstracts, 11th Int. Conf. Cytochrome P450* (29 August-2 September, Sendai) "Testosterone Oxidation Activities of Cytochrome P450 Reductase plus Cytochrome b<sub>5</sub>."

501. Guengerich, F.P., Miller, G.P., Yun, C-H., Parikh, A., Kim, D., Nakamura, K., and Bell-Parikh, L.C. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 12 "What Makes P450s Work? Searches for Answers with Known and New P450s." (Invited symposium speaker).
502. Kim, D., and Guengerich, F.P. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 208 "Analysis of Random Mutations within Substrate Recognition Site 2 of Human Cytochrome P450 1A2."
503. Einolf, H.J., and Guengerich, F.P.. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 188 "Fidelity of Nucleotide Insertion Opposite 8-Oxo-7,8-dihydroguanosine by Mammalian DNA Polymerase  $\delta$ "
504. Mican, A.N., and Guengerich, R.P. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 187 "Polymerase Stalling and Misincorporation at O<sup>6</sup>-Methylguanine and O<sup>6</sup>-Benzylguanine."
505. Yun, C-H., and Guengerich, F.P. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 57 "Characterization of Purified Human P450 1A2 Mutated Enzymes from SRS Regions."
506. Yun, C-H., Ahn, T., Guengerich, F.P., Yamazaki, H. and Shimada, T., (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 57 "Phospholipase Activity of P450 in Human Liver Endoplasmic Reticulum."
507. Miller, G.P., and Guengerich, F.P. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 63 "Demethylation of *p*-Nitroanisole by Rabbit Liver P450 1A2 Reveals Two Sets of Michaelis-Menten Parameters."
508. Cai, H., and Guengerich, F.P. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 186 "Aqueous Decomposition Chemistry of Trichloroethylene Oxide."
509. Nakamura, K., Yoshihara, S., Shimada, T., and Guengerich, F.P. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 62 "Selection and Characterization of Human Cytochrome P450 1B1 Mutants by Random Mutagenesis."
510. Wheeler, J.B., and Guengerich, F.P. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 50 "Kinetic Studies of Various Dihalomethanes Metabolized by Theta Class Rat and Human Glutathione S-Transferases and Methylophilus DM11."
511. Hosea, N.A., and Guengerich, F.P. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 64 "Characterization of Ligand Binding Sites in P450 3A4 with YPPF-NH<sub>2</sub>."
512. Hanna, I.H., Kim, M-S., and Guengerich, F.P. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 202 "Catalytic Properties of Recombinant Cytochrome P450 2D6 Proteins."
513. Yamaguchi, Y., Kirita, S., Dohl, K., Takemoto, H., Guengerich, F.P., and Baba, T. (1999) *Abstracts, 9th North Amer. Meetg. Int. Soc. Study Xenobiotics/Amer. Chem. Soc.-Div. Chem. Toxicol.* (24-28 October, Nashville), p. 95 "Application of Bacterial Expressed CYP Enzymes for HTS of CYP Inhibition."
514. Guengerich, F.P. (1999) *Abstracts, Annu. Meetg. Amer. Assoc. Pharmaceut. Sci.* (14-18 November, New Orleans) "Genetic Variability of Drug Metabolism and Toxicity." (Invited symposium speaker)
515. Guengerich, F.P. (1999) *Abstracts, 32nd Annu. Sympos, Soc. of Toxicology. of Canada* (2-3 December, Montreal). "The Environmental Genome Project." (Invited symposium speaker)



516. Oda, Y., Gillam, E.M.J., Guengerich, F.P., and Shimada, T. (1999) *Abstracts, Jpn. Environ. Mutagen. Soc.* (Gifu, Japan, 2 December) "Establishment of Seven Kinds of *umu* Tester Strains Expressing Human P450 and O-Acetyltransferase."
517. Guengerich, F.P., Miller, G.P., and Bell-Parikh, L.C. (2000) *Abstracts, Int. Workshop "From Sequence to Function: Experimental and Bioinformatic Studies of the Cytochrome P450 Superfamily"* (6-9 July, Moscow). "What Limits Rates of P450 Oxidations?" (Invited symposium speaker)
518. Guengerich, F.P. (2000) *Abstracts, Annu. Meetg., Inst. Life Sci. Inst.* (23-27 January, St. Petersburg, FL) "Role of Genetic Polymorphisms and Metabolism."
519. Chun, Y.-J., Kim, M.-Y., and Guengerich, F.P. (2000) *Proc. Am. Assoc. Cancer. Res.* 41, 845. "Selective Inhibition of Human Cytochrome P450 1A1 by Resveratrol and Its Analogues."
520. Cai, H., and Guengerich, F.P. (2000) *Abstracts, 220th Am. Chem. Soc. Natl. Meetg.* (26-31 March, San Francisco) No. TOXI 60. "Protein Adducts Formed from Trichloroethylene Oxide."
521. Guengerich, F.P. (2000) *Abstracts, Int. Conf. Glutathione Transferases* (19-23 May, Uppsala) "Randomized Mutation/Selection Approaches for P450s and GSH Transferases." (Invited symposium speaker)
522. Guengerich, F.P., Einolf, H.J., and Mican, A.N. (2000) *Abstracts, Gordon Conference on Mutagenesis and Carcinogenesis* (27 February - 2 March, Ventura, CA) "Fast Kinetic Methods to Study Polymerase Bypass of Carcinogen-DNA Adducts." (Invited symposium speaker)
523. Turesky, R.J., Parisod, V., Markovic, J., Langouët, S., and Guengerich, F.P. (2000) *Abstracts, 220th Am. Chem. Soc. Natl. Meetg.* (26-31 March, San Francisco) No. TOXI 110. "Microsomal Metabolism of 2-Amino-3,8-dimethylimidazo[4,5-f]quinoxaline with Human Liver Microsomes: Identification of Novel Cytochrome P450 Metabolites."
524. Langouët, S., Welti, D.H., Kerriguy, N., Fay, L.B., Markovic, J., Guengerich, F.P., Guillouzo, A., and Turesky, R.J. (2000) *Proc. Am. Assoc. Cancer Res.* 41, 836. "Metabolism of 2-Amino-3,8-dimethylimidazo[4,5-f]quinoxaline in Human Hepatocytes."
525. Mican, A.N., and Guengerich, F. P. (2000) *Proc. Am. Assoc. Cancer Res.* 41 261. "Polymerase Stalling and Misincorporation of O<sup>6</sup>-Methylguanine and O<sup>6</sup>-Benzylguanine."
526. Langouët, S., Furge, L.L., Kerriguy, N., Nakamura, K., Guillouzo, A., and Guengerich, F.P. (2000) *Proc. Am. Assoc. Cancer Res.* 41, 662. "Inhibition of Human Cytochrome P450 Enzymes by Oltipraz."
527. Einolf, H.J., and Guengerich, F.P. (2000) *Proc. Am. Assoc. Cancer Res.* 41, 715-716. "Role of Proliferating Cell Nuclear Antigen on the Kinetics of Nucleotide Insertion Opposite 8-Oxo-7,8-dihydroguanosine by Mammalian DNA Polymerase  $\delta$ ."
528. Langouët, S., Furge, L.L., Kerriguy, N., Nakamura, K., Guillouzo, A., and Guengerich, F.P., (2000) *Abstracts, 220th Am. Chem. Soc. Natl. Meetg.* (26-31 March, San Francisco) No. TOXI 86. "Mechanism-based Inactivation of Human Cytochrome P450 1A2 by Oltipraz."
529. Upadhyaya, P., Carmella, S.G., Guengerich, F.P., and Hecht, S.S. (2000) *Proc. Am. Assoc. Cancer Res.* 41, 839. "Formation and Metabolism of 4-(Methylnitrosamino)-1-(3-pyridyl)-1-butanol Evantioners *in vitro* in Mouse, Rat, and Human Tissues."
530. Marsch, G.A., Mundkowski, R. Hartman, M., and Guengerich, F.P. (2000) *Proc. Am. Assoc. Cancer Res.* 41, 95. "Identification of DNA Adducts formed by S-(1-Acetoxyethyl)glutathione, a Compound Modeling Dihaloalkanes Activated by Glutathione Conjugation."
531. Miller, G.P., and Guengerich, F.P. (2000) *Biochemistry* 39, 1547-1548, *Abstracts, 220th Am. Chem. Soc. Natl. Meetg.* (26-31 March, San Francisco), No. BIOL 27. "Demethylation of *p*-Nitroanisole by Rabbit Liver P450 1A2 Involves Multiple Substrate Binding Sites."

532. Oda, Y., Aryal, P., Gillam, E. M. J., Guengerich, F. P., and Shimada, T. (2000) *Abstracts, Annu. Meetg. Environmental Mutagen Soc.* "Involvement of Human P450s in the Metabolic Activation of Heterocyclic Amines Using Umu Tester Strains."
533. Guengerich, F. P. (2000) *Abstracts, Millennial World Congress of Pharmaceut. Sci.* (16-20 April, San Francisco), pp. 23-24. "Construction of Drug-Metabolizing Systems Mimicking the Human Liver." (Invited symposium speaker)
534. Shimada, T., Aryal, P., Gillam, E. M. J., Guengerich, F. P., and Oda, Y. (2000) *Abstracts, Millennial World Congress of Pharmaceut. Sci.* (16-20 April, San Francisco) "Use of Recombinant Human P450 Enzymes in the Studies of Drug Metabolism and Chemical Carcinogenesis."
535. Miller, G.P., and Guengerich, F. P. (2000) *FASEB J.* 14, A1435. "A Simple Michaelis-Menten Scheme Fails to Describe the Demethylation of *p*-Nitroanisole by Rabbit Liver P450 1A2."
536. Nakamura, K., Rizzo, C. J., Hanna, I. H., and Guengerich, F. P. (2000) *FASEB J.* 14, A1336. "Oxidations of Coumarins and Naphthalene by Cytochrome P450 2A6."
537. Sato, H., and Guengerich, F. P. (2000) *FASEB J.* 14, A1435. "Oxidation of 1,2,4,5-Tetramethoxybenzene to a Radical Cation by Cytochrome P450."
538. Wheeler, J. B., and Guengerich, F. P. (2000) *FASEB J.* 14, A1523. "Kinetic Analysis of Dihaloothane Metabolism by Purified Dihalomethane Dehalogenase."
539. Hanna, I. H., Nishimura, Y., Miller, G. P., Rizzo, C. J., and Guengerich, F. P. (2000) *FASEB J.* 14, A1335. "Oxidation of Methoxytyramines by Recombinant Cytochrome P450 2D6."
540. Kim, D., Gillam, E. M. J., Aguinaldo, A. M. A., Notley, L. M., Mundkowski, R. G., Volkov, A. A., Arnold, F. H., Soucek, P., DeVoss, J. J., and Guengerich, F. P. (2000) *FASEB J.* 14, A1435. "Formation of Indigo by Recombinant Mammalian Cytochrome P450."
541. Yun, C-H., and Guengerich, F. P. (2000) *FASEB J.* 14, A1434. "Rate-determining Steps in Phenacetin Oxidation by Human Cytochrome P450 1A2 and Selected Mutants."
542. Guengerich, F. P., Cai, H., Notley, L. M., DeVoss, J. J., and Gillam, E. M. J. (2000) *FASEB J.* 14, A1436. "Oxidation of Indole by Human Cytochrome P450 Enzymes."
543. Guengerich, F. P. (2000) *Abstracts, 6th Int. Sympos. Biol. Reactive Intermediates* (16-20 July, Paris), p. 224 "Reactive Intermediates in Biological Systems: Exactly What Have We Learned and Where Are We Going in This Century?" (Invited symposium speaker)
544. Langouët, S., Welte, D.H., Kerriguy, N., Fay, L.B., Markovic, J., Guengerich, F.P., Guillouzo, A., and Turesky, R.J. (2000) *Abstracts, 6th Int. Sympos. Reactive Intermediates* (16-20 July, Paris) P-29. "Metabolism of 2-Amino-3,8-dimethylimidazo[4,5-f]quinoxaline in Human Hepatocytes: 2-Amino-3,8-Dimethylimidazo[4,5-f]quinoxaline-8-carboxylic Acid is a Major Detoxication Pathway Catalyzed by Cytochrome P450 1A2."
545. Furge, L. L., Langouët, S., Kerriguy, N., Nakamura, K., Guillouzo, A., and Guengerich, F. P. (2000) *Abstracts, 7th Int. Conf. Mechanisms of Antimutagenesis and Anticarcinogenesis* (23-27 September, Grand Rapids, MI) "Inhibition of Human Cytochrome P450 1A2 Enzyme by Oltipraz."
546. Yueh, M-F., Nguyen, N., Geske, D., Guengerich, F. P., Oda, Y., and Tukey, R. H. (2000) *Proc. Am. Assoc. Cancer Res.* 41, 444-445. "Inhibition of Aromatic Amine Mutagenicity by Human UDP-Glucuronosyltransferases."
547. Guengerich, F. P., Hanna, I. H., and Nishimura, Y. (2000) *Abstracts, Microsomes and Drug Oxidations 2000 Symposium* (10-14 July, Stresa, Italy) "Oxidation of Methoxytyramines by Recombinant Cytochrome P450 2D6."

548. Guengerich, F. P. (2000) *Abstracts, Int. Conf. on Arctic Development, Pollution, and Biomarkers of Human Health* (1-3 May, Anchorage) "Basics of Pharmacogenomics and Toxicogenomics." (Invited symposium speaker)
549. Guengerich, F. P. (2000) *Abstracts, Satellite Workshop to Int. Conf. on Arctic Development, Pollution, and Biomarkers of Human Health. Cellular Mechanisms and DNA Lesions and Misrepair in Response to Genotoxic Stress* (30 April, Anchorage). "Interactions of Carcinogen-modified Oligonucleotides with Polymerases." (Invited symposium speaker)
550. Guengerich, F. P., Wheeler, J. B., Parikh, A., and Josephy, P. D. (2000) *Abstracts, GST 2000 Int. Conf. Glutathione Transferases* (19-23 May, Uppsala) pp. 51-52. "Approaches to Random Mutagenesis with Cytochrome P450 and Glutathione Transferase Enzymes." (Invited symposium speaker)
551. Guengerich, F. P., Miller, G. P., Yun, C-H., Sato, H., Kim, D., and Parikh, A. (2000) *Abstracts, Pacific Rim Chemical Societies Meetg.* (14-19 December, Honolulu) "Rate-limiting Steps in Cytochrome P450 Oxidations." (Invited symposium speaker)
552. Guengerich, F. P., Einolf, H. J., Mican, A. N., Keller, D. E., Williams, K. M., and Furge, L. L. (2000) *Abstracts, Pacific Rim Chemical Societies Meetg.* (14-19 December, Honolulu) "Interactions of Carcinogen-modified DNA with Polymerases." (Invited symposium speaker)
553. Gillam, E. M., J., Notley, L. M., Crewe, K. H., Guengerich, F. P., Shimada, T., and Lennard, M. S. (2000) *Abstracts, Pacific Rim Chemical Societies Meetg.* (14-19 December, Honolulu) "Examining Tissue-specific Bioactivation *In Vitro*: Cytochrome P450 1B1 and Other Extrahepatic Forms in the Metabolism of Carcinogens."
554. Guengerich, F.P. (2000) *Abstracts, Workshop on New Directions in Drug-Induced Liver Injury: Mechanisms and Test Systems*, Natl. Inst. Health (17-18 October, Bethesda, MD) "P450 and Liver Injury."
555. Guengerich, F.P. (2000) *Abstracts, 21st Annu. Meetg. Soc. Environ. Toxicol. Chem.* (12-16 November, Nashville). "Variability in Metabolism and the Application of Genomics."
556. Guengerich, F.P., Sato, H., Miller, G.P., and Yun, C-H. (2000) *Abstracts, Southeast-Southwest Regional Amer. Chem. Soc. Meetg.* (7-8 December, New Orleans), p. 194. "Some Unusual Reactions Catalyzed by P450s – Can We Get Them To Do More?"
557. Guengerich, F.P., Wheeler, J.B., Stourman, N.V., Armstrong, R.N., Thier, R., Vuilleumier, S., Morris, R.J., Mundkowsky, R.G., and Marsch, G.A. (2001) *Drug Metabolism Rev.* 33, 5; *Abst., 6th Int. Meetg., Int. Soc. Study Xenobiotics* (7-11 October, Munich). "Why GSH Transferases Can Be Bad for You: Activation of Haloalkanes and Bifunctional Electrophiles."
558. Wheeler, J.B., and Guengerich, F.P. (2001) *Toxicologist*. "Activation of Halogenated Hydrocarbons to Mutagens by Rat and Human Theta Class and Bacterial DM11 Glutathione S-Transferases."
559. Mican, A.N., and Guengerich, F.P. (2001) *Proc. Am. Assoc. Cancer Res.* 42, 473. "Evidence for Inactive Polymerase Complexes During Stalling and Misincorporation at O<sup>6</sup>-Methylguanine and O<sup>6</sup>-Benzylguanine."
560. Guengerich, F.P., Marsch, G.A., and Morris, B.J. (2001) *Abstracts, 221st Am. Chem. Soc. Natl. Meetg.* (1-5 April, San Diego), No. CHED (429941). "Identification of Nucleoside and DNA Adducts Formed by S-(1-Acetoxyethyl)glutathione, a Compound Modeling Dihaloalkane-glutathione Conjugates."
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563. Miller, G.P., and Guengerich, F.P. (2001) *FASEB J.* 15, A186. "The Oxidation of *p*-Nitroanisole by Rabbit Liver P450 1A2 Involves Multiple Substrate-Binding Sites."
564. Yamazaki, H., Hatanaka, N., Kizu, R., Hayakawa, K., Guengerich, F.P., Nakajima, and Yokoi, T. (2001) *Mutation Res.* 483 (Suppl. 1) S131 (*Abstracts, 8th Int. Conf. Env. Mutagens*, 21-26 October, Shizuoka). "Bioactivation of Diesel Exhaust Particle Extracts and Their Major Nitrated Component, 1-Nitropyrene, by Human Cytochrome P450 1B1."
565. Guengerich, F.P. (2001) *Abstracts, Benzon Symposium No. 48, Drug Metabolism: Regulation and Importance* (16-20 September, Copenhagen) "Enzymatic Activation of Carcinogens."
566. Guengerich, F.P. (2001) *Abstracts, Benzon Symposium No. 48, Drug Metabolism: Regulation and Importance* (16-20 September, Copenhagen) "Examination and Improvement of Cytochrome P450 Active Sites: 2D6, 1A2, 2A6."
567. Guengerich, F.P., and Kim, D. (2001) *Abst., 5th Int. Sympos. Biological Oxidation of Nitrogen in Organic Molecules* (4-6 October, Munich) "N-Hydroxylamines" (Invited symposium speaker)
568. Woodside, A.M., and Guengerich, F.P. (2001) *Abstracts, 222nd Am. Chem. Soc. Natl. Meetg.* (26-31 August, Chicago) TOXI 40 "Misincorporation and Stalling at *O*<sup>6</sup>-Methylguanine and *O*<sup>6</sup>-Benzylguanine: Evidence for Inactive Polymerase Complexes."
569. Yoshioka, T., Cai, H., and Guengerich, F.P. (2001) *Abstracts, 222nd Am. Chem. Soc. Natl. Meetg.* (26-31 August, Chicago) TOXI 76. "Reaction of Trichloroethylene and Trichloroethylene Oxide with Cytochrome P450 Enzymes: Inactivation and Sites of Modification."
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572. Miller, G.P., Hanna, I.H., Nishimura, Y., Rizzo, C.J., and Guengerich, F.P. (2001) *Biochemistry* 40, 8663. (*Abstracts, 222nd Am. Chem. Soc. Natl. Meetg.*, 26-31 August, Chicago). "Oxidation of Phenylethylamine Derivatives by Cytochrome P450 2D6 Reveals Complex Steady-State Kinetics."
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574. Sato, H., and Guengerich, F.P. (2001) *Abstracts, 74th Annu. Meetg. Japan. Biochem. Soc.* (25-28 October, Kyoto) "One Electron Oxidation of 1,2,4,5-Tetramethoxybenzene by Cytochrome P450."
575. Yamazaki, H., Nakamura, M., Komatsu, T., Shimada, N., Guengerich, F.P., Nakajima, M., and Yokoi, T. (2001) *Abstracts, Japanese Biochemical Soc., Symposium on Cytochrome P450* (26-27 May, Kanazawa). "Roles of Cytochrome *b*<sub>5</sub> in Catalytic Activities of Human Cytochrome P450 Enzymes in Reconstituted Systems and Bacterial Membranes Expressing P450 Reductase."
576. Shimada, T., Satarug, S., Gillam, E.M.J., Guengerich, F.P., and Inoue, K. (2001) *Abstracts, 28th Annu. Meetg. Jpn. Soc. Toxicol.* (10-12 June, Tokyo). "Cytochrome P450 1B1 Genetic Polymorphisms in Relation to Cancer Susceptibilities in Humans."

577. Turesky, R.J., Guengerich, F.P., Guillouzo, A., and Langouët, S. (2001) *Abstracts, 8th Int. Conf. Carcinogenic/Mutagenic N-Substituted Aryl Compounds* (November, Washington, D.C.). "Metabolism of Heterocyclic Aromatic Amines by Human Hepatocytes and CYP1A2."
578. Guengerich, F.P., Miller, G.P., Yun, C-H., Nakamura, K., Martin, M.V., and Kim, D. (2001) *Abstracts, 12th Int. Conf. Cytochrome P450* (11-15 September, La Grande Motte, France). "Can We Make Better P450s and What Will They Tell Us?" (Invited symposium speaker)
579. Furge, L.L., Palamanda, J.R., Casciano, C., Norton, L., Clement, R., Favreau, L. Lin, C-C., Guengerich, F.P., and Nomeir, A.A. (2001) *Abstracts, 12th Int. Conf. Cytochrome P450* (11-15 September, La Grande Motte, France) "Mechanism-Based Inhibition of Human Cytochrome P450 2D6 by Schering 66712."
580. Pegg, A.E., Liu, L., and Guengerich, F.P. (2001) *Drug Metabolism Rev.* 33, 6; *Abstracts, 6th Int. Meetg., Int. Soc. Study Xenobiotics* (7-11 October, Munich). "Role of DNA Repair Alkyltransferases in Protecting and Enhancing Cell Killing and Mutagenesis."
581. Valadez, J.G., and Guengerich, F.P. (2001) *Mutation Res.* 483 (Suppl. 1), S192 (*Abstracts, 8th Int. Conf. Environ. Mutagens, Shizuoka, 21-26 October*). "Differential Mutational Fingerprints of S-(2-Chloroethyl)GSH and N-Ethyl,N-nitrosourea in p53 Gene."
582. Velez-Cruz, R., Cline, S.C., Cai, H., Guengerich, F.P., and Osheroff, N. (2001) *Abstracts, 11th Conf. Topoisomerases in Therapy* (8-11 October, New York). "Different Forms of DNA Damage Act as Position-Specific Poisons of Human Topoisomerase II $\alpha$ ."
583. Guengerich, F.P., Chun, Y-J., Kim, S., Kim, D., Lee, S-K., Dong, M-S., and Ueng, Y-F. (2001) *Abstracts, Int. Sympos. on Dietary and Medicinal Anti-Mutagens and Anti-Carcinogens: Molecular Mechanisms and Chemoprotective Potential* (17-19 October, 2001, Seoul) "New Selective and Potent Inhibitors of Human Cytochrome P450 1 Family Enzymes." (Invited symposium speaker)
584. Guengerich, F.P., and Woodside, A.M. (2002) *Environ. Molec. Mutagenesis* 39 (Suppl. 33), 30. "Why Do Polymerases Pause and Misincorporate at O<sup>6</sup>-AlkylG? Kinetic Analysis with Replicative Polymerases." (Invited symposium speaker)
585. Guengerich, F.P. (2002) *Winter Meeting, Toxicology Forum* (5 February, Washington, D.C.). "The Chemistry of Formation of Toxic Metabolites by P450s." (Invited speaker)
586. Guengerich, F.P. (2002) *Gordon Conference on Drug Metabolism* (14-19 July, Plymouth, N.H.). "The History of Drug Metabolism: A Semi-Personal View." (Invited keynote speaker)
587. Valadez, J.G., and Guengerich, F.P. (2002) *Toxicol. Sci.* 66, 182. "In vivo and In vitro Adduct Formation and Mutational Spectra of S-(2-Chloroethyl)glutathione and N-Ethyl-N-nitrosourea in the p53 Gene."
588. Williams, K.M., Liu, L., Pegg, A.E., and Guengerich, F.P. (2002) *Toxicol. Sci.* 66, 350. "Mass Spectrometry Studies of Oligonucleotides Cross-Linked to Alkylguanine Transferase via Ethylene Dibromide."
589. Yoshioka, T., and Guengerich, F.P. (2002) *Toxicol. Sci.* 66, 350. "Kinetic and Mechanistic Studies on the Hydrolysis of Halogenated Ethylene Oxides."
590. Guengerich, F.P. (2002) *Abstracts, 14th Int. Sympos. Microsomes and Drug Oxidations* (22-26 July, Sapporo) "Interactions of Human P450s with Their Ligands." (Invited plenary speaker)
591. Guengerich, F.P. (2002) *Abstracts, 11th Annu. Conf., Functional Foods for Health* (12-14 May, Urbana, IL) "Functional Genomics and Proteomics Applied to the Study of Phytochemical Metabolism." (Invited symposium speaker)
592. Guengerich, F.P., Arneson, K.O., Williams, K.M., Deng, Z., and Harris, T.M. (2002) *Proc. Am. Assoc. Cancer Res.* 43, 383. "Reaction of Aflatoxin B<sub>1</sub> Oxidation Products with Lysine and Proteins."

593. Kim, D., Chun, Y.-J., Kim, S., Lee, S.-K., and Guengerich, F.P. (2002) *Proc. Am. Assoc. Cancer Res.* 43, 591. "2,4,3',5'-Tetramethoxystilbene, a Selective and Potent Inhibitor of Cytochrome P450 1B1."
594. Liu, L., Pegg, A.E., Williams, K., and Guengerich F.P. (2002) *Environ. Molec. Mutagenesis* 39 (Suppl. 33), 39. "Mechanism of Enhancement of Toxic and Mutagenic Effects of Dibromoethane by O<sup>6</sup>-Alkylguanine-DNA Alkyltransferase."
595. Oda, Y., Guengerich, F.P., and Shimada T. (2002) *Environ. Molec. Mutagenesis* 39 (Suppl. 33), 47. "Genotoxic Activation of Trp-P-1 and Trp-P-2 in *Salmonella typhimurium* Tester Strain OY1001/pOR Expressing Human NADPH-Cytochrome P450 Reductase."
596. Nakamura, K., Martin, M.V., and Guengerich, F.P. (2002) *Abst. 122nd Annu. Meetg., Pharmaceut. Soc. Jpn.* (March, Chiba). "Random Mutagenesis of Human Cytochrome P450 and Screening with Indole Oxidation Products."
597. Turesky, R.J., Langouët, S., Guillouzo, A., Richoz, J., Parisod, V., and Guengerich, F.P. (2002) *Abstracts, 14th Int. Sympos. Microsomes Drug Oxidations* (22-26 July, Sapporo) p. 98 (S12-1). "Metabolic Activation of Heterocyclic Aromatic Amines."
598. Guengerich, F.P., Miller, G.P., Hanna, I.H., Sato, H., Martin, M.V., and Krauser, J.A. (2002) *Abstracts, 14th Int. Sympos. Microsomes Drug Oxidations* (22-26 July, Sapporo) P. 72 (PL-7). "Interactions of Human P450s with Their Ligands." (Invited plenary lecturer)
599. Nakamura, K., Martin, M., and Guengerich, F.P. (2002) *Abstracts, 14th Int. Sympos. Microsomes Drug Oxidations* (22-26 July, Sapporo) p. 149 (P24-C-52). "Screening of Cytochrome P450 2A6 Random Mutants with Indole Oxidation Products."
600. Miller, G.P., Hanna, I.H., Nishimura, Y., and Guengerich, F.P. (2002) *FASEB J.* 16, A147. "Binding of Phenethylamine Derivatives by Cytochrome P450 2D6: The Issue of Substrate Protonation."
601. Williams, K.M., Liu, L., Pegg, A.E., and Guengerich, F.P. (2002) *Abstracts, 224th Am. Chem. Soc. Natl. Meetg.* (18-22 August, Boston). (TOXI 82) "Enhancement of Toxic and Mutagenic Effects of Ethylene Dibromide by Alkylguanine-DNA Alkyltransferase."
602. Guengerich, F.P., Voehler, M., Williams, K.M., Arneson, K.O., Deng, Z., and Harris, T.M. (2002) *Abstracts, 224th Am. Chem. Soc. Natl. Meetg.* (18-22 August, Boston) (TOXI 54). "Reaction of Aflatoxin B<sub>1</sub> Oxidation Products with Lysine."
603. Krauser, J.A., Yoshioka, T., and Guengerich, F.P. (2002) *Abstracts, 224th Am. Chem. Soc. Natl. Meetg.* (18-22 August, Boston) (TOXI 109). "Tetrachloroethylene Oxide: Hydrolytic Products and Reactions with Phosphate and Lysine."
604. Valadez, J.G., and Guengerich, F.P. (2002) *Abstracts, 224th Am. Chem. Soc. Natl. Meetg.* (18-22 August, Boston) (TOXI 91). "Differential Repair of S-(2-Chloroethyl)glutathione-induced Adducts as a Basis of the Mutation Spectrum of the Human p53 Tumor Suppressor Gene."
605. Guengerich, F.P., Voehler, M., Williams, K.M., Arneson, K.O., Deng, Z., and Harris, T.M. (2002) *Abstracts, 224th Am. Chem. Soc. Natl. Meetg.* (18-22 August, Boston) (TOXI 58). "Protein Adduct Formed from the Reaction of a Dialdehyde Derivative of Aflatoxin B<sub>1</sub> with BSA."
606. Yun, C.-H., Lee, H.S., Lee, H.-Y., Yim, S.-K., Kim, K.-H., Kim, J.-S., Ahn, T., Yea, S.-S., and Guengerich, F.P. (2002) *Abstracts, 14th Int. Sympos. Microsomes Drug Oxidations* (22-26 July, Sapporo). "Roles of Human Liver Cytochromes P450 3A4 and 1A2 in the Oxidation of Myristicin."
607. Guengerich, F.P. (2002) *Abstracts, Gemeine Herbsttagung, Gesellschaft für Biochemie u. Molekularbiologie e. v. & Deutschen Gesellschaft für Experimentelle u. Klinische Pharmakologie u. Toxikologie e.v.* (7-10 September, Halle). "Mechanisms of Oxidations of Drugs and Carcinogens Catalyzed by Human P450s." (Invited symposium speaker)

608. Guengerich, F.P. (2002) *Abstracts, Int. Workshop on Molecular Pathogenesis of Human Hepatocellular Carcinoma*, National Cancer Institute (17-18 September, Bethesda). "Alcohol- and Chemical-Induced Liver Cancer."
609. Guengerich, F.P. (2003) *Abstracts, 8th European Meeting, Int. Soc. Study Xenobiotics* (27 April – 1 May, Dijon, France). "Enzymatic Activation of Chemical Carcinogens." (Invited keynote lecturer)
610. Guengerich, F.P. (2003) *Abstracts, 8th European Meeting, Int. Soc. Study Xenobiotics* (27 April – 1 May, Dijon, France). "Principles of Mechanism-Based Enzyme Inactivation."
611. Guengerich, F.P. (2003) *Abstracts, 13th Int. Conf. Cytochrome P450* (29 June-3 July, Prague) "Analysis of Roles of Some Amino Acids and Rate-limiting Steps in Human P450s 2D6 and 1A2." (Invited symposium speaker)
612. Calcutt, M.W. and Guengerich, F.P. (2003) *FASEB J.* 17, A1325. "Kinetic Isotope Effects in DialkylNitrosamine Dealkylations Catalyzed by Human Cytochrome P450s 2A6 and 2E1."
613. Fern, J., Guengerich, F.P., and Marsch, G.A. (2003) *Abst. Am. Physical Soc. Meetg.* (5-8 April, Philadelphia) Abst. D1, 22, p. 73. "Forster Distances of Ligand-Heme Pairs in Cytochrome P450 3A4."
614. Guengerich, F.P. (2003) *Sympos. Honoring Donald J. Reed* (8 March, Salt Lake City). "Dihaloalkanes: Case Histories in Good Thiols Doing Bad Things." (Invited speaker)
615. Guengerich, F.P., Fang, Q., Liu, L., and Pegg, A.E. (2003) *Abstracts, 226th Am. Chem. Soc. Natl. Meetg.* (7-11 September, New York) (TOXI 7). "Low pK<sub>a</sub> and Reactivity of Cys145 of O<sup>6</sup>-Alkylguanine-DNA Alkyltransferase."
616. Zang, H., Harris, T.M., and Guengerich, F.P. (2003) *Abstracts, 226th Am. Chem. Soc. Natl. Meetg.* (7-11 September, New York) (TOXI 65). "Effect of Bound Carcinogens on DNA Misincorporation Kinetics Catalyzed by DNA Polymerases."
617. Marsch, G.A., Botta, S., and Guengerich, F.P. (2003) *Abstracts, 226th Am. Chem. Soc. Natl. Meetg.* (7-11 September, New York) (TOXI 30). "Formation and Mass Spectrometric Analysis of DNA and Nucleoside Adducts by S-(1-Acetoxyethyl)glutathione and by Glutathione-S-Transferase Mediated Activation of Dihaloalkanes."
618. Choi, J-Y., and Guengerich, F.P. (2003) *Abstracts, 226th Am. Chem. Soc. Natl. Meetg.* (7-11 September, New York) (TOXI 66). "Effect of Bulk at Guanine N<sup>2</sup> on DNA Polymerase Blockage, Bypass, and Fidelity."
619. Krauser, J.A., and Guengerich, F.P. (2003) *Abstracts, 226th Am. Chem. Soc. Natl. Meetg.* (7-11 September, New York) (TOXI 80). "Investigation of C-H Bond Cleavage by Cytochrome P450 3A4."
620. Kiyotani, K., Fujieda, M., Yamazaki, H., Shimada, T., Guengerich, F.P., Parkinson, A., Nakagawa, K., Ishizaki, T., and Kamataki, T (2003) *Abstracts, Annu. Meetg. Jpn. Soc. Study Xenobiotics* (8-10 October, Sapparo) "Functional Analysis of Novel CYP2A6 Genetic Variants."
621. Matsumura, K., Saito, T., Kiyotani, K., Fujieda, M., Murai, K., Yamazaki, H., Shimada, T., Guengerich, F.P., Parkinson, A., Nakagawa, K., Ishizaki, T., and Kamataki, T. (2003) *Abstracts, Annu. Meetg. Jpn. Soc. Study Xenobiotics* (8-10 October, Sapparo) "Individual Differences of Expression Levels of CYP3A4 in Human Liver Bank."
622. Kim, D., and Guengerich, F.P. (2003) *Gordon Research Conference, Drug Metabolism* (6-11 July, Plymouth, NH). "Enzymatic Mechanism Analysis of 2-Amino-3,5-Dimethylimidazo[4,5-f]quinoline (MeIQ) N-Hydroxylation by Human P450 1A2 Using Random Mutagenesis."
623. Guengerich, F.P. (2003) *Abstracts, Mid-South Soc. Environ. Toxicol. Chem.* (10-11 July, Nashville) "Human Cytochrome P450 Enzymes and Their Roles in Toxicity of Drugs and Environmental chemicals."

624. Waterman, M.R., Lei, L., Guengerich, F.P., Kelly, S., and Lamb, D. (2003) *Drug Metab. Rev.* **35** (Suppl. 2), 20 (Abstracts, 12th North American Int. Soc. Study Xenobiotics Meetg., Providence, RI, 12-16 October). "A Structural Genomic Approach to Engineering Antibiotic Synthesis in *Streptomyces*."
625. Zhang, Q-Y., Wu, S., Guengerich, F.P., and Kaminsky, L.S. (2003) *Drug Metab. Rev.* **35** (Suppl. 2), 226 (Abstracts, 12th North American Int. Soc. Study Xenobiotics Meetg., Providence, RI, 12-16 October). "The Effects of Metals on PAH Genotoxicity."
626. Guengerich, F.P. (2003) *Abstracts, 24th Annu. Meetg. Amer. Coll. Toxicol.* (2-5 November, Washington, D.C.). "Working from Genome to Protein to Catalytic Function: Strategies for Cytochrome P450 and Other Orphans."
627. Guengerich, F.P. (2004) *Abstracts, 227th Am. Chem. Soc. Natl. Meeting* (28 March-1 April, Anaheim) (MEDI 195). "Avoiding Safety Problems with Drug Candidates: Issues and Approaches."
628. Guengerich, F.P. (2004) *Abstracts, 15th Int. Sympos. Microsomes Drug Oxidations* (4-8 July, Mainz, Germany). "Enzymatic Activation to Chemically Reactive Species." (Invited Symposium speaker)
629. Sun, Y-W., Guengerich, F.P., Sharma, A., Boyiri, T., Amin, S., and El-Bayoumy, K. (2004) *Proc. Am. Assoc. Cancer Res.* **45**. "Comparative Metabolism of the Environmental Pollutants 1-, 2-, and 4-Nitropyrene in Primary Culture of Human Breast Cells, Breast Cell Lines MCF-7 and MCF-10A and Recombinant Human Cytochrome P450 1A1 and 1B1."
630. Guengerich, F.P. (2004) *Gordon Research Conference, Drug Metabolism* (11-16 July, Plymouth, NH). "Bioactivation of Chemicals and Reaction with Macromolecules: Relevance to Toxicity."
631. Kiyotani, K., Yamazaki, H., Fujieda, M., Iwano, S., Shimada, T., Guengerich, F.P., Parkinson, A., Honda, G., Nakagawa, K., Ishizaki, T., and Kamataki, T. (2004) *Abstracts, Pharmaceut. Sci. World Congress* (Kyoto). "Decreased Expression Levels and Catalytic Reaction of CYP2A6 in Human Caused by CYP2A6\*9."
632. Guengerich, F.P. (2004) *Abstracts, Symposium on New Science Related to the Health Effects of Trichloroethylene* (EPA/ERG) (26-27 February, Washington, D.C.). "Metabolism of Trichloroethylene and Covalent Binding of Oxidation Products." (Invited symposium speaker)
633. Guengerich, F.P. (2004) *Volkswagen Foundation Workshop, "3000 and More Cytochromes P450: Where to Go Now?"* (1-3 July, Saarbrücken, Germany). "What Are the Open Questions in P450 Research?" (Invited workshop speaker)
634. Hachey, D.L., Liu, L., Williams, K.M., Pegg, A.E., and Guengerich, F.P. (2004) *Abstracts, Amer. Soc. Mass Spectrometry Annu. Meetg.* "Tandem LC/MS Identification of Protein: DNA Crosslinks Formed Between O6-Alkylguanine-DNA Alkyltransferase (AGT) and DNA by 1,2-Dibromoethane."
635. Kim, D., Wu, Z., and Guengerich, F.P. (2004) *Abstracts, 7th Int. Meetg. on Cytochrome P450 Biodiversity and Biotechnology* (Awaji-Yumebutai, Hyogo, Japan, 1-5 August) Abst. S2-6, p. 24. "Generation and Selection of New Mutants of P450s and Use in Biosynthesis."
636. Shimada, T., Kagawa, N., Krauser, J.A., Mernaugh, R., Lamb, D.C., Kelly, S.L., Waterman, M.R., and Guengerich, F.P. (2004) *Abstracts, 15th Int. Sympos. Microsomes and Drug Oxidations* (4-8 July, Mainz, Germany), No. 135. "Interaction of Six Forms of Ferredoxin with Two Forms of Ferredoxin Reductase and Five Forms of Cytochrome P450 in *Streptomyces coelicolor* A3(2) Using Optical Biosensor Measurements."
637. Choi, J-Y. and Guengerich, F.P. (2004) *Abstracts, Gordon Research Conf. Mutagenesis & Carcinogenesis* (7-11 March, Ventura, CA). "Effect of Bulk at Guanine N<sup>2</sup> on Bypass, Blockage, and Fidelity of DNA Polymerases."
638. Zang, H., Harris, T.M., and Guengerich, F.P. (2004) *Abstracts, Gordon Research Conf. Mutagenesis & Carcinogenesis* ((7-11 March, Ventura, CA). "Kinetics of Nucleotide Incorporation Opposite Carcinogen DNA Adducts by Processive Bacteriophage T7<sup>-</sup> Polymerase."



639. Krauser, J.A. and Guengerich, F.P. (2004) *FASEB J.* 18, C238. "Rate Limiting Steps in Cytochrome P450 3A4 Catalysis."
640. Bartleson, C., Shimada, T., Waterman, M.R., and Guengerich, F.P. (2004) *Abstracts, 228th Natl. Amer. Chem. Soc. Meetg.* (22-26 August, Philadelphia), BIOL 82. "Functional Genomic Analysis of Streptomyces Cytochrome P450s."
641. Wu, Z. and Guengerich, F.P. (2004) *Gordon Research Conf., Drug Metabolism* (11-16 July, Plymouth, NH) "Generation of New Protein Kinase Inhibitors Using Cytochrome P450 2A6 L240C/N297Q and a Tryptophanase<sup>-</sup> *Escherichia coli* Strain for Indigoid Synthesis."
642. Calcutt, M.W. and Guengerich, F.P. (2004) *Gordon Research Conf., Drug Metabolism* (11-16 July, Plymouth, NH). "Kinetic Isotope Effects in Dialkylnitrosamine Dealkylations Catalyzed by Human Cytochrome P450 2A6 and 2E1."
643. Krauser, J.A., Voehler, M., Tseng, L-H., Schefer, A.B., Godejohann, M., and Guengerich, F.P. (2004) *Abstracts, 7th Int. Meetg. Int. Soc. Study Xenobiotics* (29 August-4 September, Vancouver), *Drug Metab. Rev.* 36 (Suppl. 1) 254. "Testosterone 1 $\beta$ -Hydroxylation by Human Cytochrome P450 3A4."
644. Choi, J-Y., and Guengerich, F.P. (2004) *Abstracts, 7th Int. Meetg. Int. Soc. Study Xenobiotics* (29 August-4 September, Vancouver), *Drug Metab. Rev.* 36 (Suppl. 1) 127. "Effect of Bulk at Guanine N<sup>2</sup> on DNA Polymerase Blockage, Bypass, and Fidelity."
645. Waterman, M.R., Podust, L.A., Zhao, B., Lei, L., Shimada, T., and Guengerich, F.P. (2004) *Abst., 7th Int. Meetg. Int. Soc. Study Xenobiotics* (29 August-4 September, Vancouver), *Drug Metab. Rev.* 36 (Suppl. 1) 6. "Lesson from Sets of Bacteria P450s."
646. Richards, K., Rushmore, T., Parikh, M., Guengerich, F.P., Slatter, G., Cagnyong, M., He, Y., Dai, X., and Ulrich, R. (2004) *Abst., 7th Int. Meetg. Int. Soc. Study Xenobiotics* (29 August-4 September, Vancouver), *Drug Metab. Rev.* 36 (Suppl. 1) 318. "Expression Profiling of Drug Metabolism and Transport Genes in Fifty Human Livers Using a Custom Oligonucleotide Array."
647. Kiyotani, K., Fujieda, M., Shimada, T., Guengerich, F.P., Parkinson, A., Honda, G., Nakagawa, K., Yamazaki, H., and Kametaki, T. (2004) *Abstracts, Annu. Meetg., Jpn. Soc. Study Xenobiotics* "Functional Analysis of CYP2A6\*15 and CYP2A6\*16."
648. Kiyotani, K., Fujieda, M., Shimada, T., Guengerich, F.P., Parkinson, A., Honda, G., Nakagawa, K., Yamazaki, H., and Kametaki, T. (2004) *Abst. 27th Annu. Meetg. Molec. Biol. Soc. Jpn.* (8-11 December, Kobe) "Functional Analysis of Novel Single Nucleotide Polymorphisms in Exon 4 of CYP2A6 Gene."
649. Guengerich, F.P. (2005) *Toxicologist* "Metabolism of Vinyl Halides and Reactions of Electrophilic Products." (Invited symposium speaker)
650. Guengerich, F.P. (2005) *FASEB J.* 19, A1708 (991.9). "Cytochrome P450 Enzymes and Their Many Roles: The William C. Rose Award Lecture."
651. Zang, H., Pegg, A.E., and Guengerich, F.P. (2005) *FASEB J.* 19, A854 (523.1). "Kinetics of Alkyl Guanine Transferase."
652. Bodreddigari, S., Sutter, C.H., Guengerich, F.P., Kensler, T.W., and Sutter, T.W. (2005) *Proc. Am. Assoc. Cancer Res.* "Quantitative Analysis of the Human Family 7 Aldo-keto Reductases AKR7A2 and AKR7A3: Expression, Enzyme Kinetics and Detoxication of Acrolein."
653. Guengerich, F.P. (2005) Single Topic Conference on Drug Induced Liver Injury, Amer. Assn. Study Liver Disease (16-18 September, Atlanta). "Bioactivation." (Invited lecture)
654. Guengerich, F.P. (2005) *Abstracts, 14th Int. Conf. Cytochrome P450* (31 May-5 June, Dallas) "Interactions of Human P450s 2A6 and 2E1 with Small Substrates: Can We Understand Simple Systems?" (Invited symposium lecture)

655. Wu, Z., and Guengerich, F.P. (2005) *Abstracts, 14th Int. Conf. Cytochrome P450* (31 May-5 June, Dallas) "Expansion of Substrate Specificity of Cytochrome P450 2A6 by Mutagenesis."
656. Shimada T., Zhao, B., Wu, Z., Isin, E.M., Scott, R.B., Waterman, M.R., and Guengerich, F.P. (2005) *Abstracts, 14th Int. Conf. Cytochrome P450* (31 May-5 June, Dallas) "Metabolism of Flaviolin by *Streptomyces coelicolor* CYP158A2."
657. Kim, D., and Guengerich, F.P. (2005) *Abstracts, 14th Int. Conf. Cytochrome P450* (31 May-5 June, Dallas) "Analysis of Coumarin 7-Hydroxylation Activity of Cytochrome P450 2A6 Using Random Mutagenesis."
658. Isin, E.M., and Guengerich, F.P. (2005) *Abstracts, 14th Int. Conf. Cytochrome P450* (31 May-5 June, Dallas) "Investigation of Kinetics and Thermodynamics of Ligand-P450 3A4 Interactions."
659. Bartleson, C.J., Waterman, M.R., and Guengerich, F.P. (2005) *Abstracts, 14th Int. Conf. Cytochrome P450* (31 May-5 June, Dallas) "Development of a Mass Spectrometry Assay for a P450 154C1 Reaction."
660. Guengerich, F.P. (2005) *Toxicol. Forum* (11-14 July, Aspen CO) "Analysis and Significance of Drug Metabolites."
661. Wu, Z-L., Podust, L.M., and Guengerich, F.P. (2005) *Abstracts, 230th Natl. Amer. Chem. Soc. Meetg.* (28 August-1 September, Washington, D.C., BIOL 225. "Expansion of Substrate Specificity of Cytochrome P450 2A6 by Random and Site-Directed Mutagenesis."
662. Zang, H., Goodenough, A.K., Choi, J-Y., Egli, M., and Guengerich, F.P. (2005) *Abstracts, 230th Natl. Amer. Chem. Soc. Meetg.* (28 August-1 September, Washington, D.C., TOXI 50. "Mass Spectral Analysis of DNA Polymerase Dpo4 Bypass Reaction Products Formed with 1,N<sup>2</sup>-Ethenoguanine."
663. Egli, M., Irimia, A., Loukachevitch, L.V., Zang, H., Goodenough, A.K., Choi, J-Y., Rizzo, C.J., and Guengerich, F.P. (2005) *Abstracts, Gordon Conf. on Genetic Toxicology* "X-Ray Crystallographic and Mass Spectral Analysis of DNA Polymerase Dpo4 Bypass Reaction Products Formed with 1,N<sup>2</sup>-Ethenoguanine."
664. Guengerich, F.P., Isin, E.M., Wu, Z-L., and Calcutt, M.W. (2005) *Abstracts, 13th No. Am. Int. Soc. Study Xenobiotics Meetg./20th Japanese Soc. Study Xenobiotics Meetg.* (23-27 October, Maui, Hawaii). "Interactions of Human Cytochrome P450 Enzymes with Ligands."
665. Kiyotani, K., Fujieda, M., Shimada, T., Guengerich, F.P., Parkinson, A., Honda, G., Nakagawa, K., Yamazaki, H., and Kamataki, T. (2005) *Abstracts, 13th No. Am. Int. Soc. Study Xenobiotics Meetg./20th Japanese Soc. Study Xenobiotics Meetg.* (23-27 October, Maui, Hawaii). "Effects of Arg203 Ser (CYP2A6\*16) on Substrate Binding of CYP2A6."
666. Shimada, T., Foroozesh, M., Alworth, W.L., Gillam, E.M.J., and Guengerich, F.P. (2005) *Abstracts, 13th No. Am. Int. Soc. Study Xenobiotics Meetg./20th Japanese Soc. Study Xenobiotics Meetg.* (23-27 October, Maui, Hawaii). "Inhibition of Xenobiotic Oxidation Activities by Polycyclic Hydrocarbons and Steroids in 16 Polymorphic Human Cytochrome P450 1A1 Variants."
667. Guengerich, F.P. (2005) *Abstracts, Toxicokinetics and Toxicology Workshop* (Satellite Meetg. of Amer. Assoc. Pharmaceut. Scientists, 4-6 November, Nashville). "Cytochrome P450s and Other Enzymes in Drug Metabolism and Toxicity." (Invited keynote address)
668. Rizzo, C.J., Stover, J.S., Elmquist, C.E., Wang, F., Zang, H., Stone, M.P., and Guengerich, F.P. (2005) *Abstracts, 57th Southeast/61st Southwest Joint Reg. Meetg., Amer. Chem. Soc.* (1-4 November, Memphis), NOV04-475. "Synthesis, Conformation, and Bypass of Carcinogen-modified Oligonucleotides."
669. Choi, J-Y, and Guengerich, F.P. (2005) *Gordon Res. Conf. Genetic Toxicology* (31 July-5 August, New London, NH). "Efficiency and Fidelity of Translesion Synthesis Across Bulky N<sup>2</sup>-Guanine DNA Lesions by Human Y-Family DNA Polymerases."

670. Choi, Y-J., and Guengerich, F.P. (2005) *9th Int. Conf. Environ. Mutagens/36th Annu. Meetg. Environ. Mutagen. Soc.* (3-8 September, San Francisco). "Adduct Size Limits Efficient and Error-Free Bypass Across Bulky N<sup>2</sup>-Guanine DNA Lesions by Human DNA Polymerase  $\eta$ ."
671. Guengerich, F.P. (2006) *Abstracts, Retirement Symposium for Prof. T. Kamataki* (11 February, Sapparo) "P450s in Biotechnology and Characterization of the Functions of Orphans."
672. Guengerich, F.P. Wu, Z-L., Aryal, P., and Podust, L.M. (2006) *Abstracts, Int. Conference on Indirubin* (8-13 April, Les Eyzies). "Biosynthesis of Novel Indirubins by Recombinant Cytochrome P450 Systems." (Invited Symposium Speaker)
673. Guengerich, F.P. (2006) *Abstracts, 16th Int. Sympos. Microsomes and Drug Oxidations* (3-7 September, Budapest). "Unusual P450 Reactions." (Invited plenary lecture)
674. Guengerich, F.P. (2006) *Abstracts, 16th Int. Sympos. Microsomes and Drug Oxidations* (3-7 September, Budapest). "Basic Concepts in Bioactivation and Other Aspects of Chemical and Drug Toxicity." (Invited symposium speaker) 675. Zang, H., Irimia, A., Choi, J-Y., Angel, K.C., Loukachevitch, L.V., Egli, M., and Guengerich, F.P. (2006) *FASEB J.* 20, 73.2. "Efficient and High Fidelity Incorporation of dCTP Opposite 7,8-Dihydro-8-oxodeoxyguanosine by *Sulfolobus solfataricus* DNA Polymerase Dpo4."
676. Isin, E.M., and Guengerich, F.P. (2006) *FASEB J.* 20, 320.1. "Kinetics and Thermodynamics of Ligand Binding by Cytochrome P450 3A4 and Relevance to Substrate Cooperativity."
677. Cook, M., Anandatheerthavarda, H.K., Prabu, K., Guengerich, F.P. and Avadhani, N. (2006) *FASEB J.* 20, 177.14. "Bimodal Targeting of Human Cytochrome P450 2D6 to Mitochondria and Microsomes: A Pharmacogenomic Approach for Identifying Genetic Variants Defective in Mitochondrial Targeting."
678. Marsch, G., Guengerich, F.P., and Inks J. (2006) *Abstracts, Amer. Physical Soc. Meetg.* "A Fluorescence Spectroscopic Study of Cytochromes P450 1A2 and 3A4."
679. Kim, K-H., Yun, C-H., Isin, E.M., Kim, D-H., and Guengerich, F.P. (2006) *Abstracts, 16th Int. Sympos. Microsomes Drug Oxidations* (3-7 September, Budapest). "Kinetic Deuterium Isotope Effects for 7-Alkoxy coumarin O-Dealkylation Reactions Catalyzed by Human Cytochrome P450s and in Liver Microsomes."
680. Eoff, R.L., Zang, H., and Guengerich, F.P. (2006) *Abstracts, 232nd Natl. Meetg., Amer. Chem. Soc.* (10-14 September, San Francisco), BIOL. "Characterizing the Mechanism of Dpo4 Polymerase Bypass of O<sup>6</sup>-Alkyl-guanine Adducted DNA."
681. Guengerich, F.P. (2006) *Abstracts, 232nd Natl. Meetg., Amer. Chem. Soc.* (10-14 September, San Francisco), TOXI. "Cytochrome P450 and Chemical Toxicology." (Invited symposium speaker)
682. Guengerich, F.P. (2006) *Abstracts, Europ. Environ. Mutagen. Soc., 36th Annu. Meetg.* (2-6 July, Prague). "Biotransformation of Carcinogens: Enzymes, DNA Adducts, and Relevance." (Invited symposium speaker)
683. Loecken, E.M., Ham, A.J., Liebler, D.C., and Guengerich, F.P. (2006) *Abstracts, 232nd Natl. Meetg., Amer. Chem. Soc.* (10-14 September, San Francisco), TOXI. "DNA-Protein Crosslinks Induced by bis-Functional Electrophiles."
684. Wu, Z-L., Sohl, C.D., Shimada, T., and Guengerich, F.P. (2006) *Abstracts, 232nd Natl. Meetg., Amer. Chem. Soc.* (10-14 September, San Francisco), BIOL. "Recombinant Enzymes Over-expressed in Bacteria Show Broad Catalytic Specificity of Human Cytochrome P450 2W1 and Limited Activity of Human Cytochrome P450 2S1."
685. Chowdhury, G., Zang, H., Angel, K.C., Harris, T.M., and Guengerich, F.P. (2006) *Abstracts, 232nd Natl. Meetg., Amer. Chem. Soc.* (10-14 September, San Francisco), TOXI. "Translesion Synthesis by *Sulfolobus*

*sofataricus* DNA Polymerase Dpo4 Across Polycyclic Aromatic Hydrocarbon Diol Epoxide Adducts of Deoxyadenosine.”

686. Chun, Y-J., Shimada, T., Waterman, M.R. and Guengerich, F.P. (2006) *Abstracts, 8th Int. Sympos. Cytochrome P450 Biodiversity and Biotechnology* (23-27 July, Swansea, UK). “Electron Transport System of *Streptomyces* Cytochrome P450.”
687. Guengerich, F.P., Wu, Z-L., Sanchez-Ponce, R., Bartleson, C.J., Sohl, C.D., Stark, K., and Shimada, T. (2006) *Drug Metab Rev.* 38 (Suppl. 2), 4. (Abst., 14th No. Amer. Meetg., Int. Soc. Study Xenobiotics, 22-26 October, Rio Grande, Puerto Rico). “Approaches to Deorphanization of Human P450s.” (Invited symposium speaker)
688. Sanchez-Ponce, R., Guengerich, F.P., Hachey, D.L., Waterman, M.R., and Lamb, D.C. (2006) *Drug Metab. Rev.* 38 (Suppl. 2), 36-37. (Abst., 14th No. Amer. Meetg., Int. Soc. Study Xenobiotics, 22-26 October, Rio Grande, Puerto Rico). “Bioinformatics Systems for the Analysis of Liquid Chromatography-Mass Spectrometry Data and Discovery of Enzyme Function.”
689. Bartleson, C.J. and Guengerich, F.P. (2006) *Drug Metab. Rev.* 38 (Suppl. 2), 57. (Abst., 14th No. Amer. Meetg., Int. Soc. Study Xenobiotics, 22-26 October, Rio Grande, Puerto Rico). “Localization of Human Cytochrome P450 20A1.”
690. Eoff, R.L., Irimia, A., Egli, M., and Guengerich, F.P. (2007) *FASEB J.* 21, 510.3 “The Role of Arg332 in Dpo4-catalyzed Bypass of 7,8-Dihydro-2'-oxodeoxyguanosine.”
691. Henry, J., Inks, J., Guengerich, F.P., and Marsch, G. (2007) *Abstracts, Amer. Physical Soc.* “A Fluorescence Spectroscopic Analysis of the Binding of Pyrene to Cytochrome P450.”
692. Guengerich, F.P. (2007) *Abstracts, Amer. Assoc. Cancer Res. - Amer. Chem. Soc. Meeting, Chemistry in Cancer Research: A Vital Partnership* (4-7 February, San Diego). “The Chemistry and Biology of Reactive Intermediates and Relevance to Mutation and Cancer.” (Invited symposium speaker)
693. Guengerich, F.P., Isin, E.M., and Sohl, C.D., (2007) *Abstracts, 15th Int. Conf. Cytochrome P450* (17-21 June, Bled, Slovenia), p. 38. “Characterization of Steps in Binding of Substrate to P450s.” (Invited symposium speaker)
694. Bren, U., Guengerich, F.P., and Marvi, J. (2007) *Abstracts, 15th Int. Conf. Cytochrome P450* (17-21 June, Bled, Slovenia), p. 221. “Guanine Alkylation by the Potent Carcinogen Aflatoxin B<sub>1</sub>: Quantum Mechanical Calculations.”
695. Stark, K., Wu, Z-L., Sohl, C.D., and Guengerich, F.P. (2007) *Abstracts, 15th Int. Conf. Cytochrome P450* (17-21 June, Bled, Slovenia), p. 119. “Characterization of the Orphan Human Cytochromes P450.”
696. Dostalek, M., Brooks, J., Milne, G.L., Moore, M.M., Sharma, S., Morrow, J.D., and Guengerich, F.P. (2007) *Abstracts, 15th Int. Conf. Cytochrome P450* (17-21 June, Bled, Slovenia), p. 240. “*In Vivo* Oxidative Damage Associated with Cytochrome P450 Induction in Rats.”
697. Isin, E.M., Sohl, C.D., Marsch, G.A., and Guengerich, F.P. (2007) *Abstracts, 15th Int. Conf. Cytochrome P450* (17-21 June, Bled, Slovenia), p. 189. “Kinetics of Ligand Binding by Rabbit P450 1A2: Evidence for Simultaneous Occupancy of Multiple Binding Sites.”
698. Guengerich, F.P. (2007) *Abstracts, Am. Assoc. Pharmaceut. Sci.* (11-15 November, San Diego) “Understanding Species Metabolism and Toxicity Differences in Terms of Cytochrome P450 Enzymes.” (Invited symposium speaker)
699. Guengerich, F.P. (2007) *Abstracts, Am Assoc. Pharmaceut. Sci.* (11-15 November, San Diego) “What Do the Orphan Cytochrome P450 Do and What Are Their Roles in Drug Discovery and Development?” (Invited symposium speaker)

700. Sohl, C.D., Isin, E.M., Marsch, G.A., and Guengerich, F.P. (2007) *Abstracts, BIOL Division, 234th Natl. Meeting., Amer. Chem. Soc.* (19-23 August, Boston) BIOL 29. "Cooperativity in Rabbit Cytochrome P450 1A2 Pyrene Oxidation: Evidence for a Multiple Binding Site Model."
701. Chowdhury, G., and Guengerich, F.P. (2007) *Abstracts, TOXI Division, 234th Natl. Meeting., Amer. Chem. Soc.* (19-23 August, Boston) TOXI 14. "Direct Mapping of Sites of Modification in DNA by Tandem Mass Spectrometry"
702. Loecken, E.M., Ham, A.J.L., Liebler, D.C., and Guengerich, F.P. (2007) *Abstracts, TOXI Division, 234th Natl. Meeting., Amer. Chem. Soc.* (19-23 August, Boston) TOXI 13. "Bis-Functional Electrophile-Induced DNA-Protein Crosslinks."
703. Egli, M., Pallan, P.S., Li, F., Irimia, A., Eoff, R.L., Guengerich, F.P., Rozners, E., and Manoharan, M. (2007) *Abstracts, COMP Division, 234th Natl. Meeting., Amer. Chem. Soc.* (19-23 August, Boston) COMP 144. "Probing the Structure and Activity of DNA-/RNA-Processing Enzymes with the 2,4-Difluorotoluy/ribo-2,4-Difluorotoluy (dF/rF) Nucleoside, an Apolar Thymidine/Uridine Analogue."
704. Shammugam, G., Kozekov, I.D., Guengerich, F.P., Rizzo, C.J., and Stone, M.P. (2007) *Abstracts, TOXI Division, 234th Natl. Meeting., Amer. Chem. Soc.* (19-23 August, Boston) TOXI 110. "Structural Characterization of 1,N2-ethenodeoxyguanosine in the Dodecamer 5'-CGCATethenoGGAATCC-3'"
705. Stark, K., Wu, Z-L., Martin, M.V., Sohl, C.D., and Guengerich, F.P. (2007) *Abstracts, BIOL Division, 234th Natl. Meetg. Amer. Chem. Soc.* (19-23 August, Boston) BIOL 181. "Characterization of Orphan Human Cytochromes P450."
706. Kalam, M.A., Rizzo, C.J., Guengerich, F.P., and Marnett, L.J. (2007) *Abstracts, TOXI Division, 234th Natl. Meetg. Amer. Chem. Soc.* (19-23 August, Boston) TOXI 117. "Transletion DNA Synthesis Across Pyrimido [1,2- $\alpha$ ] purin-10(3H)-one Adduct by Human DNA Polymerase  $\eta$ ."
707. Murayama, N., Minoshima, M., Shimizu, M., Guengerich, F.P., and Yamazaki, H. (2007) *Abstracts, 8th Int. Meetg., Int. Soc. Study Xenobiotics* (9-12 October, Sendai), p. 106 "Omega- and 4-Hydroxylation of the anesthetic agent propotal catalyzed by human liver microsomal cytochrome p450 2B6."
708. Chun, Y-J., Shimada, T., Sanchez-Ponce, R., Waterman, M.R., and Guengerich, F.P. (2007) *Abstracts, 8th Int. Meetg., Int. Soc. Study Xenobiotics* (9-12 October, Sendai), p. 196 "Election Transport Pathway for a Streptomyces Cytochrome P450: Cytochrome P450 105D5-Catalyzed Fatty Acid Hydroxylation in Streptomyces coelicolor A3(2)."
709. Stark, K., Wu, Z-L., and Guengerich, F.P. (2007) *Abstracts, 8th Int. Meetg., Int. Soc. Study Xenobiotics* (9-12 October, Sendai), p. 307 "Expression and Properties of Cytochrome P450 20A1."
710. Guengerich, F.P., and Shimada, T. (2007) *9th Int. Conf. Mechanisms Antimutagensis Anticarcinogenesis* (1-5 December, Jeju Island, Korea) p. 43. "Different Mechanisims for Inhibition of Human Cytochrome P450 1A1, 1A2, and 1B1 by Polycyclic Aromatic Hydrocarbons." (Invited special speaker)
711. Sohl, C.D., Isin, E.M., Eoff, R.L., Stec, D.F., and Guengerich, F.P. (2008) *FASEB J.* 22, 1033.2 "Positive Cooperativity in Catalysis of Pyrene 1-Hydroxylation by Cytochrome P450 1A2."
712. Eoff, R.L., Sanchez-Ponce, R., and Guengerich, F.P. (2008) *FASEB J.* 22, 990.1 "Dissecting Changes in Dpo4 Polymerase Structure During Catalysis by Hydrogen-Denterium Exchange Mass Spectrometry."
713. Guengerich, F.P. (2008) *Abstracts, 2nd Asian Pacific Meetg. Int. Soc. Study Xenobiotics* (11-13 May, Shanghai) "Fifty Years After the Discovery of Cytochrome P450: What Have We Learned and What Challenges are Left Regarding Oxidative Metabolism?" (Invited Keynote speaker)
714. Guengerich, F.P., Sohl, C.D., Isin, E.M., and Eoff, R.L. (2008) *Abstracts, Sympos. S.G. Sligar 60th Birthday* (3 May, Seattle) "Cooperativity in Cytochrome P450 Reactions: The Case of Cytochrome P450 1A2." (Invited symposium speaker)

715. Guengerich, F.P., and Chowdhury, G. (2008) *Abstracts, 17th Int. Sympos. Microsomes Drug Oxidations* (6-10 July, Sarasota Springs, New York), p. 81 "Direct Mapping of Sites of DNA Modification Using Tandem Mass Spectrometry." (Invited symposium speaker)
716. Stark, K., Tang, Z-M., Salamanca-Pinzón, S.G., Wu, Z-L., Dostalek, M., Sohl, C.D., Sanchez-Ponce, R., and Guengerich, F.P. (2008) *Abstracts, 17th Int. Sympos. Microsomes Drug Oxidations* (6-10 July, Sarasota Springs, New York), p. 134 "Elucidation of Catalytic Activities of Orphan Human Cytochrome P450 Enzymes."
717. Dostalek, M., Hardy, K.D., Milne, G.L., Morrow, J.D., Chen, C., Gonzalez, F.J., Gu, J., Ding, X., Martin, M.V., and Guengerich, F.P. (2008) *Abstracts, 17th Int. Sympos. Microsomes Drug Oxidations* (6-10 July, Sarasota Springs, New York) "Development of Oxidative Stress by Cytochrome P450 Induction in Rodents is Selective for Barbiturates and Related to Loss of Pyridine Nucleotide-Dependant Protective Systems."
718. Chowdhury, G., Dostalek, M., Hsu, E.K., Nguyen, L.P., Bradfield, C.A., and Guengerich, F.P. (2008) *Abstracts, 17th Int. Sympos. Microsomes Drug Oxidations* (6-10 July, Sarasota Springs, New York) "Identification of Highly Potent AhR Inducers Derived from the Degradation of Tryptopham under Physiological Conditions."
719. Guengerich, F.P. (2008) *Abstracts, New Horizons in Toxicity Prediction* (Lhasa Conference, 8-9 December, Cambridge, UK). "Challenges in Predicting Metabolism and Toxicity with Known and Abstract Targets." (Invited conference speaker)
720. Sohl, C.D., Isin, E.M., Eoff, R.L., and Guengerich, F.P. (2008) *Abstracts, 17th Int. Sympos. Microsomes Drug Oxidations* (6-10 July, Sarasota Springs, New York), p. 164. "Cooperative Oxidation of Pyrene by Cytochrome P450 1A2."
721. Marsch, G.A., Mihelc, E., Henry, J., Martin, M.V., and Guengerich, F.P. (2008) *Abstracts, 17th Int. Sympos. Microsomes Drug Oxidations* (6-10 July, Sarasota Springs, New York), p. 160. "Fluorescence Spectroscopic Analysis of Pyrene Binding to Human Cytochrome P450 3A4 and Rabbit Cytochrome P450 1A2."
722. Shanmugam, G., Kozekov, I.D., Guengerich, F.P., Rizzo, C.J., and Stone, M.P. (2008) *Abstracts, TOXI Division, 236th Natl. Meetg., Amer. Chem. Soc. (17-20 August, Philadelphia)* TOXI 14. "1,N<sup>2</sup>-Ethenodeoxyguanosine Adduct Structure-Function Relationships: Comparing Solution Structure with Polymerase Structure."
723. Zhang, H., Eoff, R.L., Angel, K.C., and Guengerich, F.P. (2008) *Abstracts, TOXI Division, 236th Natl. Meetg., Amer. Chem. Soc. (17-20 August, Philadelphia)* TOXI 53. "Effect of N<sup>2</sup>-Alkyguanine Adducts on Replication by Y-Class *Sulfolobus solfataricus* DNA Polymerase Dpo4."
724. Guengerich, F.P., Sohl, C.D., Isin, E.M., and Eoff, R.L. (2008) *Abstracts, TOXI Division, 236th Natl. Meetg., Amer. Chem. Soc. (17-20 August, Philadelphia)* TOXI 35. "Structure and Function of Cytochrome P450 Enzymes: Dynamics of Catalytic Steps in Oxidation of Drugs and Model Substrates." (Invited symposium speaker)
725. Cheng, Q., Waterman, M.R., and Guengerich, F.P. (2008) *Abstracts, BIOL Division, 236th Natl. Meetg., Amer. Chem. Soc. (17-20 August, Philadelphia)*, BIOL 15. "Analysis of Functions of Orphan Cytochrome P450 Enzymes in *Streptomyces coelicolor*."
726. Guengerich, F.P. (2008) *2008 Amer. Chem. Soc. ProSpective Series, Topics and Tactics in Current Drug Design* (19-21 October, Cambridge, MA) "Oxidizing Enzymes-Cytochrome P450 Structure and Function." (Invited symposium speaker)
727. Nakamura, K., Miyazaki, M., Fujita, Y., Guengerich, F.P., Horiuchi, R., and Yamamoto, K. (2008) *Abst., 15th North Amer. Meeting., Int. Soc. Study Xenobiotics* (12-16 October, San Diego). "Defective Activity of Cytochrome CYP3A4\*2 and \*16."

728. Murayama, N., Okada, Y., Yanagida, C., Shimizu, M., and Guengerich, F.P. (2008) *Abst., 15th North Amer. Meetg., Int. Soc. Study Xenobiotics* (12-16 October, San Diego). "Estimation of Possible Drug Interactions Caused by Thalidomide in Human Liver Microsomes."
729. Shanmugam, G., Kozekov, I.D., Guengerich, F.P., Rizzo, C.J., and Stone, M.P. (2008) *Abstracts, 60th Southeast Reg. Am. Chem. Soc. Meetg.* (12-15 November, Nashville), No. 64740. "Structures of 1,N<sup>2</sup>-Ethenodeoxyguanosine Adduct in DNA Duplexes: Comparing Solution Structure with Polymerase Structure."
730. Eoff, R.L., Irmina, A., Egli, M., and Guengerich, F.P. (2009) *FASEB J.* "Structure and Activity of Human DNA Polymerase Kappa Bypass of 8-OxoG."
731. Wu, Z-L., Zhang, Z-G., Guengerich, F.P., Liu, Y., and Pei, X-Q. (2009) *Abst., 3<sup>rd</sup> Asia Pacific Meetg., Int. Soc. Study Xenobiotics* (10-12 May, Bangkok). "Enhancement of Bacterial Expression of Several Mammalian Cytochrome P450s by Codon Optimization and Molecular Chaperones."
732. Guengerich, F.P., Chowdhury, G., Sohl, C.D., and Calcutt, M.W. (2009) *Abstracts, 16th Int. Conf. Cytochrome P450* (21-25 June, Nago, Okinawa, Japan), p. 19. "Kinetics of Sequential Reactions Catalyzed by P450 Enzymes." (Invited symposium speaker)
733. Zhang, H., Bren, U., Kozekov, I.D., Rizzo, C.J., Stec, D.F., and Guengerich, F.P. (2009) *Abstracts, TOXI Division, 238th Natl. Meetg., Amer. Chem. Soc.* (16-19 August, Washington D.C.). "Steric and Electronic Effects at the C2 Atom Substituent Influence Replication and Miscoding of the DNA Denaturation Product Deoxyxanthosine and Analogs by DNA Polymerases.
734. Tang, Z., Martin, M.V., and Guengerich, F.P. (2009) *Abstracts, BIOL Division, 238th Natl. Meetg., Amer. Chem. Soc.* (16-19 August, Washington D.C.). "Elucidation of Functions of Human Cytochrome P450 Enzyme: Identification of Endogenous Substrates in Tissue Extracts Using Metabolomic and Isotopic Labeling Approaches."
735. Loecken, E.M., and Guengerich, F.P. (2009) *Abstracts, TOXI Division, 238th Natl. Meetg., Amer. Chem. Soc.* (16-19 August, Washington D.C.). "DNA-Protein Cross-Links Induced by Diepoxybutane."
736. Chowdhury, G., Pegg, A.E., and Guengerich, F.P. (2009) *Abstracts, TOXI Division, 238th Natl. Meetg., Amer. Chem. Soc.* (16-19 August, Washington D.C.). "Detection of Ethylene Dibromide Mediated DNA Adducts of O<sup>6</sup>-Alkylguanine DNA Alkyltransferase." 737. Maddukuri, L., Eoff, R.L., Rizzo, C.J., Guengerich, F.P., and Marnett, L.J. (2009) *Abstracts, TOXI Division, 238th Natl. Meetg., Amer. Chem. Soc.* (16-19 August, Washington D.C.). "Translesion DNA Synthesis Across the M1dG Lesion Catalyzed by Y-family Human DNA Polymerase Kappa ( $\kappa$ )."
738. Sohl, C.D., and Guengerich, F.P. (2009) *Abstracts, Int. Soc. Study Xenobiotics 17th No. Amer. Meetg.,* (18-22 October, Baltimore). "Kinetic Analysis of Cytochrome P450 19A1."
739. Guengerich, F.P., Tang, Z., Cheng, Q., and Salamanca-Pinzón, G. (2009) *FEBS J.* 276 (Suppl. 1), 25 (Abstracts, 34th FEBS Congress, 4-9 July, Prague), p. 25. "Searches for Cellular Functions of New (and Old) Cytochrome P450 Enzymes."
740. Sohl, C.D., and Guengerich, F.P. (2010) *FASEB J.* Abst. 512.7. "Kinetic Analysis of Steps Involved in Oxidation by Cytochrome P450 19A1."
741. Guengerich, F.P., Eoff, R.L., Choi, J-Y., Pence, M.G., Zhang, H., and Beckman, J.W. (2010) *Abstracts, Gordon Research Conf. DNA Damage, Mutation, and Cancer* (21-25 March, Ventura, CA). "Interactions of Translesion DNA Polymerases with Carcinogen-modified DNA: Structure and Function."
742. Pence, M.G., Egli, M., and Guengerich, F.P. (2010) *Abstracts, Gordon Research Conf. DNA Damage, Mutation, and Cancer* (21-25 March, Ventura, CA). "The Structure of DNA Polymerase  $\iota$  with O<sup>6</sup>-Methylguanine and Incoming dCTP and dTTP."

743. Eoff, R.L., Marquez, V.E., Guengerich, F.P., and Egli, M. (2010) *Abstracts, Gordon Research Conf. DNA Damage, Mutation, and Cancer* (21-25 March, Ventura, CA). "Selective Modulation of DNA Polymerase Activity by Fixed-Conformation Nucleoside Analogues."
744. Maddukuri, L., Eoff, R.L., Rizzo, C.J., Guengerich, F.P., and Marnett, L.J. (2010) *Abstracts, Gordon Research Conf. DNA Damage, Mutation, and Cancer* (21-25 March, Ventura, CA). "Translesion Bypass of the M<sub>1</sub>dG Lesion Catalyzed by Human Y-Family Polymerases Kappa, Iota, and Rev1."
745. Guengerich, F.P., and Chowdhury, G., Loecken, E.M., and Cho, S-H. (2010) *Abst., 18th Int. Sympos. Microsomes Drug Oxidations* (16-20 May, Beijing). "Characterization of DNA Adducts and Crosslinked DNA Products by Mass Spectrometry."
746. Guengerich, F.P. (2010) *Conference on Environmental Transformation of Organic Compounds: Towards a Joint Perspective on the Importance of Transformation Products as Environmental Contaminants*, Swiss Federal Institute of Technology (ETH), (12-17 September, Ascona, Switzerland). "Metabolism of Xenobiotics in Humans and Relevance to Other Issues." (Invited keynote speaker; unable to attend)
747. Guengerich, F.P. (2010) *Abst., TOXI Division, 240th Natl. Meetg., Amer. Chem. Soc.* (22-26 August, Boston). "The Chemistry and Biochemistry of *bis*-Electrophiles, Thiols, and Peptides Related to DNA Blockage and Miscoding" (Invited symposium lecture)
748. Eoff, R.L., Marquez, V. E., Guengerich, F.P., and Egli, M. (2010) *CARB Division, 240th Natl. Meetg., Amer. Chem. Soc.* (22-26 August, Boston). "Selective Modulation of DNA Polymerase Activity by Fixed-Conformation in Nucleoside Analogues."
749. Saito, T., Murase, S., Miyazaki, M., Akiyoshi, T., Nakamura, K., Guengerich, F.P., Nakamura, T., Yamamoto, K., and Ohtani, H. (2010) *Abst., 18th Clin. Pharmacy Sympos.* (10-11 July, Hiroshima). "Comparison and Inhibitory Effect of Several Inhibitors Towards Metabolic Activities of CYP3A4 Mutant Alleles."
750. Mocny, C.S., Arthur, E.J., Butler, B.F., Niffenderfer, L.E., Palamanda, J.R., Guengerich, F.P., Nomeir, A.A., and Furge, L.L. (2010) *FASEB J.*, *Abst.* 512.3. "Mechanism-based Inhibition of Human Cytochrome P450 2D6 by Schering 66712."
751. Shimada, T., Tanaka, K., Takenaka, S., Murayama, N., Martin, M.V., Foroozesh, M.K., Yamazaki, H., Guengerich, F.P., and Komori, M. (2010) *Abst., 25th Annu. Meetg., Japanese Soc. Study Xenobiotics* (7-9 October, Ohmiya City). "Structure-Function Relationships of the Inhibition of Human Cytochromes P450, 1A1, 1A2, 1B1, 2C9, and 3A4 by 33 Flavonoid Derivatives."
752. Wu, Z-L., Stark, K., Tang, Z-M., Salamanca-Pinzón, S.G., and Guengerich, F.P. (2010) *Abst., 25th Annu. Meetg., Japanese Soc. Study Xenobiotics* (7-9 October, Ohmiya City). "Elucidating the Function of "Orphan" Human Cytochromes P450."
753. Guengerich, F.P., Sohl, C.D., and Chowdhury, G. (2010) *Abst., 9th Int. Meetg., Int. Soc. Study Xenobiotics* (4-8 September, Istanbul). "Dynamics of Multi-Step Cytochrome P450 Reactions."
754. Guengerich, F.P. (2011) *Abst., N.Y. Acad. Sci. Sympos. On Global Metabolite Profiling Using Mass Spectrometry to Add the Challenges of Functional Genomics* (11 February, New York). "Elucidation of Endogenous Substrates for Human P450 Enzymes Using Metabolic and Isotope Labeling Approaches." (Invited symposium speaker)
755. Dasari, S., Chambers, M.C., Liebler, D.C., Guengerich, F.P., and Tabb, D.L. (2010) *Abst., Soc. Toxicol. Natl. Meetg.* "Sequence Tagging Reveals Unexpected Modifications in Toxicoproteomics"
756. Cheng, Q., and Guengerich, F.P. (2011) *FASEB J.* "A Novel Non-Oxidative [2+2] Cycloaddition of an Endogenous Substrate Catalyzed by *Streptomyces coelicolor* Cytochrome P450 154A1."



757. Salamanca-Pinzón, S.G., and Guengerich, F.P. (2011) *FASEB J.* "Metabolism of Cholesterol with *Escherichia coli* Whole Cells Co-expressing P450 27A1 with Adrenodoxin and Adrenodoxin Reductase."
758. Ito, M. Akiyoshi, T., Murase, S., Miyazaki, M., Nakamura, T., Guengerich, F.P., Yamamoto, K., and Ohtani, H. (2011) *Abst., 131st Annu. Meeting Pharmaceut. Soc. Japan* (28-31 March, Shizuoka). "Comparison of the Inhibitory Characteristics of Mechanism-based Inhibitors of Various CYP3A4 Variants."
759. Guengerich, F.P., Cheng, Q., Salamanca-Pinzón, S.G., and Xiao, Y. (2011) *Abst., 17th Int. Conf. Cytochrome P450: Biochemistry, Biophysics, and Structure* (26-30 June, Manchester, UK), p. 20. "Deciphering the Functions of P450 Enzymes." (invited symposium speaker)
760. Zhao, L., Christov, P.P., Kozekov, I.D., Kozekova, A., Rizzo, C.J., and Guengerich, F.P. (2011) *Abst., TOXI Division, 242nd Natl. Meetg., Amer. Chem. Soc.* (28 Aug.-1 Sept., Denver). "Translesion Synthesis Across N<sup>2</sup>, 3-Ethenoguanine by Microbial and Human DNA Polymerases."
761. Cho, S-H., and Guengerich, F.P. (2011) *Abst., TOXI Division, 242nd Natl. Meetg., Amer. Chem. Soc.* (28 Aug.-1 Sept., Denver). "Stereochemical Aspects of the Conjugation of Butadiene Epoxide with Glutathione by Glutathione Transferases."
762. Lamb, D.C., Zhano, B., Guengerich, F.P., Kelly, S.L., and Waterman, M.R. (2011) *Abst., 17th Int. Conf. Cytochrome P450: Biochemistry, Biophysics, and Structure* (26-30 June, Manchester, UK), p. 21. "Deorphanization of Microbial Cytochromes P450 and Their Biological Role(s) in Novel Pathways."
763. Yamazaki, H., Suemizu, H., Igaya, S., Shimzu, M., Murayama, N., Shibata, N., Nakamura, M., Chowdhury, G., and Guengerich, F.P. (2011) *Abstracts, 17th Int. Conf. Cytochrome P-450: Biochemistry, Biophysics, and Structure* (26-30 June, Manchester, UK), p. 82. "Reactive Metabolite Formation from Thalidomide Mediated by Human Cytochrome P450 3A Enzyme and in Chimeric Mice with Humanized Liver."
764. Guengerich, F.P., Shimada, T., and Yamazaki, H. (2012) *Abst., Soc. Toxicology, Natl. Meetg.* (11-15 March, San Francisco). "Interactions of Polycyclic Aromatic Hydrocarbons." (invited workshop speaker)
765. Guengerich, F.P., Pence, M.G., Zhao, L., Eoff, R.L., Rizzo, C.J., and Egli, M. (2012) *Abst., 244th Natl. Meetg., Amer. Chem. Soc.* (19-23 August, Philadelphia), TOXI 34. "Structural and Functional Studies of Archeal and Human DNA Damage Bypass Polymerases and Their Interactions with Carcinogen-modified DNA." (Invited symposium speaker)
766. Guengerich, F.P., Cheng, Q., Tian, Z., Xiao, Y., Nagy, L.D., and Waterman, M.R. (2012) *Abstracts, 11th Sympos. Cytochrome P450 Biodiversity Biotechnology* (22-26 June, Torino). "Searches for Functions of P450s and Unusual Reactions." (Invited symposium speaker)
767. Guengerich, F.P. (2012) *Abstracts, 11th Int. Sympos. Synthesis and Applications of Isotopes and Isotopically Labelled Compounds* (9-13 Sept., Heidelberg). "Use of Deuterium in Difficult Enzymatic Analyses and in Understanding the Kinetics of Cytochrome P450 Reactions." (Invited plenary speaker) 768.  
Guengerich, F.P., Cheng, Q., and Xiao, Y. (2012) *Abstracts, North Am. Meetg. Int. Soc. Study Xenobiotics* (14-18 October, Dallas). "Metabolomics Approaches to Discovery of New P450 Functions." (Invited symposium speaker)
769. Xiao, Y., and Guengerich, F.P. (2012) *Abstracts, Gordon Research Conference, Drug Metabolism* (8-13 July, Holderness School, Plymouth, NH). "Cytochrome P450 2W1 Oxidizes Both Lysophospholipids and Free Fatty Acids."
770. Guengerich, F.P. (2012) *Abst., Asian Soc. Toxicol., 39th Annu. Meetg.* (17-20 July, Sendai) "Fifty Years After the Discovery of Cytochrome P450: What Do We Know About the Positive and Negative Roles in Toxicology and Health Issues?" (Invited plenary lecture)

771. Cho, S-H., and Guengerich, F.P. (2012) *Abstracts, 244th Natl. Meetg., Amer. Chem. Soc.* (19-23 August, Philadelphia), TOXI 119. "Mutation Spectra of S-(2-Hydroxy-3,4-epoxybutyl)GSH: Comparison with 1,3-Butadiene and Its Metabolites in the *Escherichia coli* spoB Gene."
772. Zhao, L., Chowdhury, G., Christov, P.P., Rizzo, C.J., and Guengerich, F.P. (2012) *Abstracts, 244th Natl. Meetg., Amer. Chem. Soc.* (19-23 August, Philadelphia), TOXI 15. "Synthesis of Peptide DNA Crosslinks Induced by 1,2-Dibromoethane and O<sup>6</sup>-Alkylguanine DNA-Alkyltransferase."
773. Yamazaki, H., Suemizu, H., Shimizu, M., Shibata, N., Nakamura, M., Chowdhury, G., and Guengerich, F.P. (2012) *Abst., 19th Int. Sympos. Microsomes Drug Oxidations/12th Europ. Int. Soc. Study Xenobiotics Meetg.* (19-21 June, Noordwijk aan Zee, Netherlands). "Formation of Dihydroxylated and Glutathione Conjugate Metabolites Derived from Thalidomide and 5-Hydroxythalidomide in Humanized TK-NOG Mice."
774. Guengerich, F.P. (2012) *Abst., 19th Int. Sympos. Microsomes Drug Oxidations/12th Europ. Int. Soc. Study Xenobiotics Meetg.* (19-21 June, Noordwijk aan Zee, Netherlands). "Unusual Reactions Catalyzed by Cytochrome P450 Enzymes."
775. Malil, S., Maharjan, R., Bhattarai, T., Guengerich, F.P., and Aryal, P. (2012) *Conf. of Natl. Acad. Sci. Nepal* (Kathmandu, Nepal). "Development of Efficient Host Strain for Expression of Cytochrome P450s by Endogenous Increased Biosynthesis of 5-Aminolevulinic Acid."
776. Zhao, B., Guengerich, F.P., and Waterman, M.R. (2012) *Abst., 2012 Conference on the Adrenal Cortex* (20-22 June, Houston). "X-Ray Structure of CYP21 and the Biochemical Basis of Congenital Adrenal Hyperplasia."
777. Guengerich, F.P. (2012) *2012 Toxicology and Sustainable Molecular Design Conference*, Environmental Protection Agency/Univ. Connecticut (11 December, Storrs, CT). "Mechanistic Toxicology: Informing Safer Chemical Design." (Invited symposium speaker)
778. Guengerich, F.P. (2013) *Abst., Soc. Toxicology, Natl. Meetg.* (10-14 March, San Antonio) "Merit Award/Bioactivation, Covalent Binding, and Toxicity: A Personal Odyssey." (award lecture)
779. Cho, S-H., and Guengerich, F.P. (2013) *Abst., Soc. Toxicology, Natl. Meetg.* (10-14 March, San Antonio) "Replication Past S-[4-(N<sup>6</sup>-Deoxyadenosyl)2,3-dihydroxybutyl]glutathione by DNA Polymerases."
780. Kim, J., Song, I., Jo, A., Eoff, R.L., Guengerich, F.P., and Choi, J-Y. (2013) *Abst., 13th Int. Congress Toxicol.* (30 June-4 July, Seoul). "Biochemical Characterization of Natural Genetic Variants of Human DNA Polymerase Iota."
781. Song, I., Kim, E-J., Guengerich, F.P., and Choi, J-Y. (2013) *Abst., 13th Int. Congress Toxicol.* (30 June-4 July, Seoul). "Biochemical Characterization of Eight Variants of Human Polymerase kappa Involved in Translesion DNA Synthesis."
782. Guengerich, F.P. (2013) *Abst., 13th Int. Congress Toxicol.* (30 June-4 July, Seoul). "Enzymes Involved in Metabolism of Carcinogens: Which Should be Modulated?" (Invited symposium speaker)
783. Cho, S-H., and Guengerich, F.P. (2013) *Abst., 246th Natl. Meetg., Amer. Chem. Soc.* (8-12 September, Indianapolis). "In Vivo Mutagenicity of Butadiene Diepoxide-Glutathione Conjugate."
784. Chowdhury, G., Pegg, A.E., and Guengerich, F.P. (2013) *Abst., 246th Natl. Meetg., Amer. Chem. Soc.* (8-12 September, Indianapolis). "Detection and Characterization of Ethylene Dibromide-Derived DNA Crosslinks with O<sup>6</sup>-Alkylguanine-DNA Alkyltransferase."
785. Guengerich, F.P., Cho, S-H., and Zhao, L. (2013) *Abst., 38th Fed. Eur. Bioch. Soc. Congress* (6-11 July, St. Petersburg, Russia). "Mechanisms of Activation of Carcinogens by Oxidation and Conjugation." (Invited plenary lecturer)

786. Guengerich, F.P. (2013) *Abstracts, 6th Beilstein Symposium on Expt. Std. Conditions Enzyme Characterization* (16-20 Sept., Rüdeshheim, Germany). "Structure and Function of Translesion DNA Polymerase and Interactions with Damaged DNA."
787. Guengerich, F.P., Egli, M., Lei, L., Pallan, P.S., Nagy, L.D., Gonzalez, E., and Waterman, M.R. (2013) *Abst., 18th Int. Conf. on Cytochrome P450* (18-22 June, Seattle). "Zebrafish Cytochrome P450 17A2: Structure, Function, and Relevance to Other P450s Catalyzing Steroid 17-Oxidations." (Invited symposium speaker)
788. Kim, D., Cha, G.S., Nagy, L.D., Yun, C-H., and Guengerich, F.P. (2013) *Abst., 18th Int. Conf. on Cytochrome P450* (18-22 June, Seattle). "Kinetic Analysis and Rate-Limiting Steps of Oxidation by Cytochrome P450 4A11."
789. Nagy, L.D., Kim, D., Capdevila, J.A., and Guengerich, F.P. (2013) *Abst., 18th Int. Conf. on Cytochrome P450* (18-22 June, Seattle). "Roles of Oxidized Cysteines in Catalytic Activity of Human Cytochrome P450 4A11."
790. Chowdhury, G., Yamazaki, H., Shibata, N., and Guengerich, F.P. (2013) *Abst., 18th Int. Conf. on Cytochrome P450* (18-22 June, Seattle). "Biotransformation of Thalidomide by Human P450s: Formation of Reactive Intermediates and Glutathione Adducts."
791. Gonzalez, E., Lei, L., Nagy, L.D., Pallan, P.S., Waterman, M.R., Egli, M., and Guengerich, F.P. (2013) *Abst., 18th Int. Conf. on Cytochrome P450* (18-22 June, Seattle). "Functional and Structural Studies of *Danio Rebio* P450 17A1 and 17A2."
792. Yoshimoto, F.K., and Guengerich, F.P. (2013) *Abst., 18th Int. Conf. on Cytochrome P450* (18-22 June, Seattle). "Mechanism of the Third Step (C-C Bond Cleavage) of Cytochrome P450 19A1."
793. Kotapati, S., Wickramaratne, S., Kowal, E.A., Stone, M.P., Guengerich, F.P., and Tretyakova, N. (2013) *Abst., 246th Natl. Meetg.* (8-12 September, Indianapolis). "Translesion Synthesis and Structural Studies of 1,3-Butadiene-induced Deoxyadenosine Adducts."
794. Egli, M., Patra, A., Müller, L., and Guengerich, F.P. (2013) *Abs, Third Int. Conf. Chemical Structural Biology of Nucleic Acids and Proteins* (13-15 Sept., Atlanta). "Structure, Kinetics, and Mechanism of 8-oxoG Bypass by Y-Class DNA Polymerases."
795. Guengerich, F.P. (2013) *Annu. Meetg. Australasian Soc. Clin. Exp. Pharmacologists/Toxicologists* (1-4 December, Melbourne, Australia). "The Importance of Basic Drug Metabolism Resreach to the Pharmaceutical Industry: Sources in the Past 30 Years and Needs for the Future." (Invited Plenary Lecture)
796. Guengerich, F.P. (2014) *Abst., 20th Int. Sympos. Microsomes Drug Oxidations* (18-22 May, Stuttgart). "Catalytic Diversity of Cytochrome P450." (Invited symposium lecture)
797. Milne, G.L., Wei, S., Capdevila, J.H., and Guengerich, F.P. (2013) *13th Conf. Bioactive Lipids in Cancer Inflammation, and Related Diseases* (3-6 November, San Juan, Puerto Rico) "20-HETE Is Present Primarily Esterified in Phospholipids and Neutral Lipids in Wild Type and *Cyp4a14*<sup>(-/-)</sup> Mice."
798. Akiyoshi, T., Nakamura, K., Guengerich, F.P., and Ohtani, H. (2014) *Abstracts, 134th Annu. Meetg., Pharmaceut. Soc. Japan* (27-30 March, Kagoshima) "Comparison of the Inhibitory Profiles of Itraconazole and Cimetidine for Testosterone and Midazolam."
799. Akiyoshi, T., Nakamura, K., Guengerich, F.P., and Ohtani, H. (2014) *Abstracts, 134th Annu. Meetg., Pharmaceut. Soc. Japan* (27-30 March, Kagoshima) "Mechanism-based Inhibition Profiles of Grapefruit Juice Extracts and Its Components to Cytochrome P450 3A4 Genetic Variants."
800. Goyal, S., Siller, M., Yoshimoto, F.K., Xiao, Y., Wei, S., and Guengerich, F.P. (2014) *Abst., Gordon Conference on Drug Metabolism* (6-11 July, Holderness, NH). "Identification of a New Endogenous Substrate of Cytochrome P450 2U1 in Human Brain."

801. Chaudry, A.S., Yang, X., Lee, S.J., Burchart, G.J., Fan, Y.P., Guengerich, F.P., Strom, S.C., Thummel, K., and Schuetz, E.G. (2014) *Drug Metab. Rev.* 45 (Suppl. 1), 214. "Functional Significance of SNPs on CYP3A4 Expression and Activity in Caucasian Livers."
802. Bojic', M., Barbero, L.M., Riva, S., Dolgos, H., Fluck, M., Achim, F., Gallemann, D. and Guengerich, F.P. (2014) *Abstracts, 20th Int. Sympos. Microsomes Drug Oxidations* (18-22 May, Stuttgart, Germany). "Inhibition of Cytochrome P450 3A4 by Cilengitide."
803. Xiao, Y., Siller, M., Goyal, S., Yoshimoto, F.K., Wei, S., and Guengerich, F.P. (2014) *FASEB J.* "Functional Studies of Orphan Enzymes by LC-MS-Based Metabolomics: Oxidation of Endogenous *N*-Arachidonoylserotonin by Human Cytochrome P450 2U1."
804. Guengerich, F.P. (2014) *Abstracts, 19th No. Amer. Int. Soc. Study Xenobiotics/29th Jpn. Soc. Study Xenobiotics Meetg.* (19-23 October, San Francisco). "Potential Toxicity with Overlap Between Drug and Endogenous Substrates of Cytochrome P450 Enzymes."
805. Nagy, L.D., Gonzalez, E., Kramlinger, V.M., Pallan, P.S., Lei, L., Egli, M., and Guengerich, F.P. (2014) *Abst., 248th Natl. Meetg., Amer. Chem. Soc.* (10-14 Aug., San Francisco). B102. "Molecular Basis of Different Steroid Oxidations by Cytochrome P450 17A1 Enzymes."
806. Zhang, Q., Patra, A., Lei, L., Egli, M., and Guengerich, F.P. (2014) *Abst., 248th Natl. Meetg., Amer. Chem. Soc.* (10-14 Aug., San Francisco) TOXI. "Structure and Mechanism of Human DNA Polymerase Eta Bypass of an Abasic Site and *O*<sup>6</sup>-Methylguanine."
807. Su, Y., Patra, A., Nagy, L.D., Zhang, Q., Müller, L., Egli, M., and Guengerich, F.P. (2014) *Abst., 248th Natl. Meetg., Amer. Chem. Soc.* (10-14 Aug., San Francisco) TOXI. "Mechanism of 8-Oxo-7,8-dihydro-2'-deoxyguanosine Bypass by Human DNA Polymerase  $\eta$ ."
808. Yoshimoto, F.K., and Guengerich, F.P. (2014) *Abst., Great Lakes Drug Metab. Dispos. Group Meetg.* (15-16 May, Indianapolis) "Novel Product Identification with Human Cytochrome P450 19A1 Aromatase."
809. Goyal, S., Siller, M., Yoshimoto, F.K., Xiao, Y., Wei, S., and Guengerich, F.P. (2014) *Abst., Great Lakes Drug Metab. Group Meetg.* (15-16 May, Indianapolis). "Oxidation of Endogenous *N*-Arachidonoylserotonin by Human Cytochrome P450 2U1."
810. Wang, C., and Guengerich, F.P. (2014) *Abst., Great Lakes Drug Metab. Group Meetg.* (15-16 May, Indianapolis). "Kinetic Analysis of Human Cytochrome P450 1A2."
811. Yoshimoto, F.K., and Guengerich, F.P. (2014) *Abst., 12th Int. Aromatase Sympos.* (satellite meeting to the Endocrine Soc. Annu. Meetg./16th Int. Cong. Endocrinology) (25-26 June, Chicago) "Elucidation of the Mechanism of the Third Step of the Steroid Aromatase Reaction."
812. Snabrenberg, C.L., Hardaway, J.A., Retzlaff, C.L., Whitaker, S.M., Li, Z., Xu, S., Micheva, K.D., Smith, S.J., Xiao, Y., Guengerich, F.P., and Blakeley, R.D. (2014) *Soc. Neurosci., Abst.* (November). "Swip-10/Mblac1: Conserved Regulators of Extracellular Glutamate Homeostasis."
813. Guengerich, F.P. (2014) *Metabolites and Safety, Relating Biotransformation to Human Safety and Risk: Addressing the Translational Gaps., Drug Metabolism Discussion Group* (Gothenberg, Sweden, 3-4 September). "In Vitro Studies on P450 and Drug Metabolism – What Else Should We Be Concerned About?"
814. Murayama, N., Chesne', C., Guengerich, F.P., and Yamazaki, H. (2014) *Abstracts, 19th No. Amer. Int. Soc. Study Xenobiotics/29th Jpn. Soc. Study Xenobiotics Meetg.* (19-23 October, San Francisco). "Roles of Auto-induction of Human P450 3A Enzymes Involved in the Tertogenicity of Thalidomide."
815. Yoshimoto, F.K., and Guengerich, F.P. (2014) *Abstracts, 19th No. Amer. Int. Soc. Study Xenobiotics/29th Jpn. Soc. Study Xenobiotics Meetg.* (19-23 October, San Francisco). "The Mechanism of the Carbon-Carbon Bond Cleavage Step of the Cytochrome P450 19A1 Aromatase Reaction."

816. Wang, C., and Guengerich, F.P. (2014) *Abstracts, 19th No. Amer. Int. Soc. Study Xenobiotics/29th Jpn. Soc. Study Xenobiotics Meetg.* (19-23 October, San Francisco). "Kinetic Analysis of Steroid 21-Hydroxylase in Human Cytochrome P450 21A2 Functional Variants."
817. Xiao, Y., Ding, X., and Guengerich, F.P. (2014) *Abst., Gordon conf. Drug Metabolism* (6-11 July, Holderness, NH). "Functional Studies of Orphan Human P450 Enzymes by LC-MS Based Metabolomics: Accumulation of Taurine Conjugated Bile Acids in P450 2S1 Knockout Mice."
818. Kramlinger, V.M., and Guengerich, F.P. (2014) *Abst., Great Lakes Drug Metab. Group Meetg.* (15-16 May, Indianapolis). "Enzymes Involved in Mammalian Morphine Biosynthesis."
819. Kramlinger, V.M., and Guengerich, F.P. (2014) *Abst., Gordon Conf. Drug Metabolism* (6-11 July, Holderness, NH). "Mammalian Morphine Biosynthesis."
820. Yoshimoto, F.K., and Guengerich, F.P. (2015) *Abstracts, 24th Winter Enzyme Mechanisms Conference* (4-8 January 2015, Galveston, TX). "Compound I is the Active Iron Species for the Third Step of Steroid Aromatase Cytochrome P450 19A1."
821. Guengerich, F.P., Yoshimoto, F.K., Nagy, L.D., Kramlinger, V.M., Wang, C., Gonzalez, E., Johnson, K.M., Xiao, Y., Pallan, P.S., Lei, L., Waterman, M.R., Egli, M., and Corbo, J.C. (2015) *Abstracts, 19th Int. Conf. Cytochrome P450* (12-15 June, Tokyo). "New Aspects of Cytochrome P450 Oxidations of Steroids and Vitamins." (invited plenary lecturer)
822. Sedgeman, C.A., Bojic', M., Nagy, L.D., and Guengerich, F.P. (2015) *FASEB J.* 716.6. "Oxidation of Sialic Acid and Aspirin by Human Cytochrome P450."
823. Gonzalez, E., Nagy, L.D., and Guengerich, F.P. (2015) *FASEB J.* 722.13. "Kinetic Analysis of the Processivity of Human Cytochrome P450 17A1."
824. Guengerich, F.P., Zhao, Q., Su, Y., Choi, J-Y., Patra, A., and Egli M. (2015) *Abst., 250th Natl. Meetg. Amer. Chem. Soc.* (16-20 August, Boston) TOXI. "Structural and Functional Studies of Human Translesion Synthesis by DNA Polymerases  $\eta$ ,  $\iota$ , and  $\kappa$  and Their Interactions with Damaged DNA." (Invited symposium speaker)
825. Aya, K., Kobayashi, Y., Akiyoshi, T., Imaoka, A., Hibino, H., Araki, T., Miyazaki, M., Guengerich, F.P., Nakamura, K., Nakamura, T., Yamamoto, K., and Ohtani, Y. (2015) *Abst. 135th Annu. Meetg. Pharmaceut. Soc. Japan* (25-28 March, Kobe City). "Comparison of the Inhibitory Profiles of Fluconazole and Saquinavir for Testosterone Metabolism in CYP3A4 Genetic Variants."
826. Akiyoshi, T., Ohashi, T., Imaoka, A., Hibino, H., Araki, T., Miyazaki, M., Guengerich, F.P., Nakamura, K., Nakamura, T., Yamamoto, K., and Ohtani, Y. (2015) *Abst. 135th Annu. Meetg. Pharmaceut. Soc. Japan* (25-28 March, Kobe City). "Mechanism-based Inhibition Profiles of Verpamil and Its Metabolites with Cytochrome P450 3A4 Genetic Variants."
827. Bojic', M., Sedgeman, C.A., Nagy, L.D., and Guengerich, F.P. (2015) *Abst., 19th Int. Conf. Cytochrome P450* (12-15 June, Tokyo) "Involvement of Cytochrome P450 in Oxidation of Aspirin."
828. Su, Y., Patra, A., Harp, J.M., Egli, M., and Guengerich, F.P. (2015) *Abst., Gordon Conf. Mammalian DNA Repair* (8-13 February, Ventura, CA) "Roles of Arg-61 and Glu-38 in Human DNA Polymerase  $\eta$  in Bypass of Deoxyguanosine or 7,8-Dihydro-8-oxo-deoxyguanosine."
829. Guengerich, F.P. (2015) *Abst., 3rd Alcohol and Cancer Conf.* (29 May-3 June, Crete, Greece) "Cytochrome P450 and Cancer: Roles in the Metabolism of Carcinogens, Steroids, Drugs, and Ethanol."
830. Siller, M., Yoshimoto, F.K., and Guengerich, F.P. (2015) *Abst., 13th Eur. Meetg., Int. Soc. Study Xenobiotics* (22-25 June, Glasgow). "Deorphanization of Human Cytochrome P450 4X1."

831. Johnson, K.M., and Guengerich, F.P. (2015) *Abst., 250th Natl. Meetg. Amer. Chem. Soc.* (16-20 August, Boston) TOXI. "DNA-Protein Cross-Links: DNA Peptide Cross-Link Preparation and DNA Polymerase Miscoding."
832. Kim, J.-K., Yeom, M., Guengerich, F.P. and Choi, J.-Y. (2015) *Abst., AsiaTox 2015, 7th Int. Congress Asian Soc. Toxicol.* (23-26 June, Jeju Island, Republic of Korea). "Effects of Eight Natural Variations on Catalytic Activities of Human DNA Polymerase  $\kappa$ ."
833. Yeom, M., Kim, I.-H., Kim, J.-K., Eoff, R.L., Guengerich, F.P. and Choi, J.-Y. (2015) *Abst., AsiaTox 2015, 7th Int. Congress Asian Soc. Toxicol.* (23-26 June, Jeju Island, Republic of Korea). "Effects of Eight Natural Variations on Catalytic Activities of Human DNA Polymerase  $\kappa$ ."
834. Wang, C., Egli, M., and Guengerich, F.P. (2015) *Abstracts, Gordon Res. Conf., Drug Metabolism* (12-17 July, Holderness, NH). "Human Cytochrome P450 21A2 Crystal Structure and Phenotypes of Mutations."
835. Aya, K., Akiyoshi, T., Imaoka, A., Hibino, H., Avaki, T., Miyazaki, M., Guengerich, F.P., Nakamura, K., Nakamura, T., Yamamoto, K., and Ohtani, Y. (2015) *Abst. 59th Meetg. Pharmaceut. Soc. Japan, Kanto Branch* (12 September, Funabashi City). "Systematic Comparison of the Inhibitory Profiles in the Metabolism of CYP3A4 Genetic Variants."
836. Kramlinger, V.M., Johnson, K.M., Fujiwara, R., Nagy, L.D., and Guengerich, F.P. (2015) *Abst., 20th No. Amer. Meetg., Int. Soc. Study Xenobiotics* (18-22 October, Orlando). "Cytochrome P450 27C1 Catalyzes the Desaturation of Retinol to 3,4-Dehydroretinol."
837. Gonzalez, E., and Guengerich, F.P. (2015) *Abst., 20th No. Amer. Meetg., Int. Soc. Study Xenobiotics* (18-22 October, Orlando). "Processivity of Human Cytochrome P450 17A1 and the Role of Cytochrome  $b_5$ ."
838. Sedgeman, C.A., and Guengerich, F.P. (2015) *Abst., Southeast Regional Am. Chem. Soc./Meetg.* (4-7 November, Memphis) "Bypass and Misincorporation of DNA Polymerases at DNA-Peptide Crosslinks."
839. Guengerich, F.P. (2016) *Gordon Res. Conf. Drug Metabolism* (10-15 July, Holderness, New Hampshire). "Orphan P450s."

## Invited Seminars

1. September, 1977 Toxicology Laboratory, Dow Chemical Company, Midland, Michigan
2. August, 1978 Department of Biochemistry, University of Texas Medical School, Houston, Texas
3. January, 1979 Department of Biochemistry, University of Michigan Medical School, Ann Arbor, Michigan
4. March, 1979 Department of Pharmacology, University of Illinois Medical Center, Chicago
5. March, 1979 Department of Pharmacology, University of Connecticut Health Science Center, Farmington
6. March, 1979 Laboratory of Molecular Carcinogenesis, National Cancer Institute, Bethesda, Maryland
7. June, 1979 Department of Biochemistry and Drug Metabolism, Hoffman-LaRoche, Nutley, New Jersey
8. December, 1979 Department of Biochemistry, University of Texas Health Sciences Center, Dallas, Texas
9. December, 1979 Center in Clinical Pharmacology, Vanderbilt University, Nashville, Tennessee
10. January, 1980 Department of Chemistry, Tulane University, New Orleans, Louisiana
11. February, 1980 Merck, Sharp, and Dohme Research Laboratories, Rahway, New Jersey
12. March, 1980 Center in Toxicology, Michigan State University, East Lansing, Michigan
13. May, 1980 Department of Biochemistry, University of Oregon Health Science Center, Portland, Oregon
14. May, 1980 Center in Environmental Toxicology, Oregon State University, Corvallis, Oregon
15. July, 1980 Department of Pharmacology, University of Mainz, Mainz (Federal Republic of Germany)
16. July, 1980 Department of Physiological Chemistry, University of the Saarland, Medical School, Homburg (Federal Republic of Germany)
17. October, 1980 Department of Biochemistry, University of Louisville Medical Center, Louisville, Kentucky
18. March, 1981 Department of Biochemistry, Scripps Clinic and Research Foundation, La Jolla, California
19. March, 1981 Department of Biochemistry, University of Texas Health Sciences Center, Dallas, Texas
20. March, 1981 Department of Biochemistry and Biophysics, Texas A & M University, College Station, Texas

21. April, 1981 Department of Experimental Therapeutics, Roswell Park Memorial Institute, Buffalo, New York
22. April, 1981 American Health Foundation, Valhalla, New York
23. May, 1981 National Center for Toxicological Research, Jefferson, Arkansas
24. July, 1981 Department of Pharmacy, Kobe University, Kobe (Japan)
25. September, 1981 Oklahoma Medical Research Foundation, Oklahoma City, Oklahoma
26. October, 1981 Department of Pharmacology, Vanderbilt University, Nashville, Tennessee
27. November, 1981 New York State Department of Public Health, Albany, New York
28. November, 1981 Fels Research Institute, Temple University, Philadelphia, Pennsylvania
29. November, 1981 Divisions of Nutrition and Toxicology, Cornell University, Ithaca, New York
30. April, 1982 Department of Pharmacology, University of Minnesota, Minneapolis, Minnesota
31. April, 1982 Section of Biochemistry, Mayo Clinic, Rochester, Minnesota
32. September, 1982 Max von Pettenkofer Institute des Bundesgesundheitsamtes, Berlin (Federal Republic of Germany)
33. September, 1982 Department of Pharmacology, University of Mainz (Federal Republic of Germany)
34. September, 1982 Biochimie Medicale, Faculté de Médecine, Necker-Enfants Malades, Paris (France)
35. September, 1982 Department of Physiological Chemistry, University of the Saarland, Homburg (Federal Republic of Germany)
36. September, 1982 Department of Physiological Chemistry, University of Ulm, Ulm (Federal Republic of Germany)
37. October, 1982 Departments of Biochemistry, Pharmacology, and Medicine, Medical College of Virginia, Richmond, Virginia
38. November, 1982 Department of Pharmacology, University of North Carolina, Chapel Hill, North Carolina
39. November, 1982 Section on Pulmonary Metabolism, National Institute of Environmental Health Science, Research Triangle Park, North Carolina
40. December, 1982 Department of Biochemistry, University of Vermont, Burlington, Vermont
41. January, 1983 Section of Biochemical Toxicology, Haskell Laboratory, E.I. Dupont de Nemours, Newark, Delaware
42. February, 1983 Department of Chemistry, University of Virginia, Charlottesville, Virginia
43. April, 1983 Department of Pharmacology, University of Iowa, Iowa City
44. May, 1983 Department of Pharmacology, Northwestern University, Chicago, Illinois



45. May, 1983 Abbott Laboratories, North Chicago, Illinois
46. May, 1983 Departments of Pharmacology and Biochemistry, Medical College of Wisconsin, Milwaukee, Wisconsin
47. May, 1983 Department of Pharmaceutical Chemistry, University of Washington, Seattle, Washington
48. June, 1983 Merck, Sharp, and Dohme Research Laboratories, Rahway, New Jersey
49. June, 1983 Department of Biochemistry, University of Medicine and Dentistry of New Jersey, Newark, New Jersey
50. September, 1983 Department of Biological Chemistry, University of Konstanz, Konstanz (Federal Republic of Germany)
51. September, 1983 Department of Physiological Chemistry, University of Ulm, Ulm (Federal Republic of Germany)
52. September, 1983 Biochimie Medicale, Faculte de Medecene, Necker-Enfants Malades, Paris (France)
53. October, 1983 Department of Pharmacology, Vanderbilt University, Nashville, Tennessee
54. December, 1983 Eppley Institute for Cancer Research, Omaha, Nebraska
55. February, 1984 Department of Chemistry, Tulane University, New Orleans, Louisiana
56. April, 1984 Department of Chemistry, Georgia Technological Institute, Atlanta, Georgia
57. June, 1984 Lilly Research Laboratories, Eli Lilly and Co., Indianapolis, Indiana
58. July, 1984 Enzymologie Medicale, INSERM, Paris (France)
59. July, 1984 Department of Pharmacology, University of Basel, Basel (Switzerland)
60. July, 1984 Department of Pharmacology, University of Dortmund, Dortmund (Federal Republic of Germany)
61. July, 1984 Department of Toxicology, Gesellschaft für Strahlen-und Umweltforschung, Munich (Federal Republic of Germany)
62. August, 1984 Department of Drug Metabolism, Pfizer, Kent (U.K.)
63. August, 1984 Department of Pharmacology, St. Mary's Hospital Medical School, London (U.K.)
64. October, 1984 Laboratory of Molecular Carcinogenesis, National Cancer Institute, Bethesda, Maryland
65. October, 1984 Burroughs-Wellcome Research Laboratories, Research Triangle Park, North Carolina
66. November, 1984 Department of Pharmacology, Duke University, Durham, North Carolina
67. November, 1984 McNeil Pharmaceuticals, Spring House, Pennsylvania
68. February, 1985 American Chemical Society, Nashville Section, Nashville, Tennessee

69. March, 1985 Department of Pharmaceutical Chemistry, University of California, San Francisco, California
70. March, 1985 Frederick Cancer Center, Frederick, Maryland
71. April, 1985 Department of Environmental Health, University of Cincinnati, Cincinnati, Ohio
72. September, 1985 Department of Biochemistry, Cell Biology, Microbiology, and Molecular Biology, Pennsylvania State University, State College, Pennsylvania
73. September, 1985 Merck, Sharp, and Dohme Research Laboratories, Rahway, New Jersey
74. September, 1985 Department of Medicinal Chemistry, University of Kansas, Lawrence, Kansas
75. October, 1985 Department of Chemistry, University of Texas, Austin, Texas
76. November, 1985 Department of Biochemistry, Emory University, Atlanta, Georgia
77. November, 1985 Reproductive Sciences and Endocrinology Laboratories, University of Miami, Miami, Florida
78. November, 1985 Department of Biochemistry, University of Miami, Miami, Florida
79. December, 1985 Department of Biochemistry, University of Illinois, Urbana, Illinois
80. December, 1985 Pfizer and Co., Groton, Connecticut
81. December, 1985 Department of Microbiology, Vanderbilt University, Nashville, Tennessee
82. April, 1986 Cancer Center, Northwestern University, Chicago, Illinois
83. April, 1986 Abbott Laboratories, North Chicago, Illinois
84. June, 1986 Department of Pharmacology, University of Maryland, Baltimore, Maryland
85. September, 1986 Dr. Margarete Fischer-Bosch Institute für Klinische Pharmakologie, Stuttgart (Federal Republic of Germany)
86. September, 1986 Department of Physiological Chemistry, University of Ulm, Ulm (Federal Republic of Germany)
87. September, 1986 Department of Pharmacology and Toxicology, University of Erlangen, Erlangen (Federal Republic of Germany)
88. October, 1986 School of Pharmacy, Laval University, Quebec City (Canada)
89. October, 1986 Cancer Research Center, Laval University, Quebec City (Canada)
90. October, 1986 Merck, Sharp, and Dohme Research Laboratories, West Point, Pennsylvania
91. December, 1986 Courtland Biochemical Institute, Middlesex Hospital Medical School, London (U.K.)
92. January, 1987 Department of Pharmacology and Toxicology, University of Mississippi Medical Center, Jackson, Mississippi

93. April, 1987 Department of Chemistry, Wayne State University, Detroit, Michigan
94. May, 1987 Department of Analytical Biochemistry, Hokkaido University, Sapporo (Japan)
95. May, 1987 Department of Pharmacology, Keio University, Tokyo (Japan)
96. May, 1987 Institute of Public Health, Osaka (Japan)
97. June, 1987 Section on Pharmacokinetics and Pharmacodynamics, St. Jude Children's Hospital, Memphis, Tennessee
98. July, 1987 Department of Drug Metabolism, Pfizer, Kent (U.K.)
99. July, 1987 Center for Bio-Pharmaceutical Sciences, Leiden (Netherlands)
100. July, 1987 Department of Pharmacology, University of Dortmund, Dortmund (Federal Republic of Germany)
101. September, 1987 Department of Pharmacology, University of Kentucky, Lexington, Kentucky
102. November, 1987 Merck, Sharp, and Dohme Research Laboratories, Rahway, New Jersey
103. December, 1987 Department of Pharmacology, University of Massachusetts, Worcester, Massachusetts
104. February, 1988 Guelph-Waterloo Centre for Graduate Work in Chemistry, Guelph, Ontario (Canada)
105. February, 1988 Department of Pharmacology, University of Western Ontario, London, Ontario (Canada)
106. March, 1988 Department of Pharmacology and Toxicology, University of Arizona, Tucson, Arizona
107. May, 1988 Department of Pharmaceutical Sciences, Kyushu University, Fukuoka (Japan)
108. May, 1988 Institute for Protein Research, Osaka, University, Osaka (Japan)
109. May, 1988 Division of Pharmacology, Shionogi Research Laboratories, Osaka (Japan)
110. May, 1988 Takarazuka Research Center, Sumitomo Chemical Co., Hyogo (Japan)
111. May, 1988 Department of Analytical Biochemistry, Hokkaido University, Sapporo (Japan)
112. July, 1988 Department of Drug Metabolism, Glaxo Laboratories, Research Triangle Park, North Carolina
113. November, 1988 Institute of Molecular Biology, Academia Sinica, Namkang, Taipei (Republic of China)
114. November, 1988 National Taiwan University, Taipei (Republic of China)
115. December, 1988 Department of Pharmacology, University of Rochester, Rochester, New York
116. December, 1988 Toxicology Training Program, Environmental Health Sciences Center,

- University of Rochester, Rochester, New York
117. January, 1989 Department of Medicine, University of Maryland Medical School, Baltimore, Maryland
  118. January, 1989 Cancer Center, University of Maryland Medical School, Baltimore, Maryland
  119. January, 1989 Department of Pathology, University of Maryland Medical School, Baltimore, Maryland
  120. March, 1989 Department of Pharmacology, East Carolina University School of Medicine, Greenville, North Carolina
  121. May, 1989 Department of Chemistry, University of Maryland, College Park, Maryland
  122. May, 1989 Department of Pharmacology, Johns Hopkins University, Baltimore, Maryland
  123. August, 1989 Section of Biochemical Toxicology, Haskell Laboratory, E.I. DuPont de Nemours, Newark, Delaware
  124. October, 1989 Dai-Nippon Pharmaceuticals, Osaka (Japan)
  125. October, 1989 Upjohn, Tsukuba (Japan)
  126. October, 1989 Tokyo College of Pharmacy, Tokyo (Japan)
  127. October, 1989 Tohoku University, Sendai (Japan)
  128. October, 1989 Daiichi Chemical Co., Tokyo (Japan)
  129. November, 1989 Merck-Frosst Pharmaceuticals, Montreal (Canada)
  130. December, 1989 Boehringer-Ingelheim Pharmaceuticals, Ridgefield, Connecticut
  131. January, 1990 Smith Kline Beecham Pharmaceuticals, King of Prussia, Pennsylvania
  132. January, 1990 Merck, Sharp, and Dohme Research Laboratories, Rahway, New Jersey
  133. January, 1990 Department of Chemical Biology and Pharmacognosy, Rutgers University, Piscataway, New Jersey
  134. February, 1990 Division of Gastroenterology, Department of Medicine, Vanderbilt University, Nashville, Tennessee
  135. June, 1990 Department of Toxicology, National Institute of Public Health, Oslo (Norway)
  136. June, 1990 Department of Pharmacokinetics and Drug Metabolism, Cardiovascular Research, AB Hässle, Mölndal (Sweden)
  137. June, 1990 Glaxo Research Group Ltd., Hartfordshire (U.K.)
  138. August, 1990 Istituto di Mutagenesi e Differenziamento, Pisa (Italy)
  139. September, 1990 Department of Pharmacology, Emory University, Atlanta, Georgia
  140. September, 1990 Department of Chemistry, Wake Forest University, Winston-Salem, North

- Carolina
141. October, 1990 Institute for Toxicology, University of Mainz, Mainz (Federal Republic of Germany)
  142. November, 1990 Institute for Science and Technology, Seoul (South Korea)
  143. November, 1990 Fujisawa Pharmaceutical Company, Osaka (Japan)
  144. November, 1990 Department of Pharmacology, Kobe-Gakuin University, Kobe (Japan)
  145. November, 1990 Tohoku University, Sendai (Japan)
  146. November, 1990 Department of Analytical Biochemistry, School of Pharmacy, Hokkaido University, Sapporo (Japan)
  147. November, 1990 Sankyo Pharmaceutical Co., Tokyo (Japan)
  148. December, 1990 Toxicology Program, Texas A and M University, College Station, Texas
  149. December, 1990 University of Texas Cancer Center, Science Park, Smithville, Texas
  150. January, 1991 Department of Pharmacology, Vanderbilt University School of Medicine, Nashville, Tennessee
  151. February, 1991 American Health Foundation, Valhalla, New York
  152. March, 1991 College of Pharmacy, University of New Mexico, Albuquerque, New Mexico
  153. March, 1991 Duke University Marine Laboratory, Beaufort, North Carolina
  154. May, 1991 Chemical Industry Institute of Toxicology, Research Triangle Park, North Carolina
  155. May, 1991 Drug Safety and Metabolism, Glaxo Inc. Research Institute, Research Triangle Park, North Carolina
  156. May, 1991 Hospital for Sick Children, Research Institute, Toronto (Canada)
  157. May, 1991 Department of Pharmacology, University of Toronto, Toronto (Canada)
  158. July, 1991 Toxicology Division, Environmental Health and Safety Department, Mobil Oil Corporation, Princeton, New Jersey
  159. September, 1991 Institute of Hygiene and Epidemiology, Society for Occupational Medicine, Czechoslovak Medical Society; Departments of Pharmacology and Biochemistry, Czechoslovak Academy of Sciences; Department of Biochemistry, Charles University, Prague (Czechoslovakia)
  160. October, 1991 Department of Biochemistry, University of Arkansas Medical School, Little Rock, Arkansas
  161. October, 1991 National Center for Toxicological Research, Jefferson, Arkansas
  162. October, 1991 Johns Hopkins School of Hygiene and Public Health, Baltimore, Maryland
  163. November, 1991 Department of Analytical Biochemistry, School of Pharmacy, Hokkaido University, Sapporo (Japan)

164. November, 1991 Faculty of Pharmaceutical Sciences, Chiba University, Chiba (Japan)
165. November, 1991 Daiichi Pharmaceutical Co., Tokyo (Japan)
166. November, 1991 Osaka Prefectural Institute of Public Health, Osaka (Japan)
167. November, 1991 Dainippon Pharmaceuticals, Osaka (Japan)
168. November, 1991 Department of Pharmacology, Hiroshima University, Hiroshima (Japan)
169. January, 1992 Department of Biochemistry, Memorial University of Newfoundland, St. John's, Newfoundland (Canada)
170. February, 1992 Molecular Sciences Research Center, Battelle Pacific Northwest Laboratories, Richland, Washington
171. March, 1992 Department of Pharmacology, Wayne State University, Detroit, Michigan
172. March, 1992 Department of Drug Metabolism, Burroughs Wellcome, Research Triangle Park, North Carolina
173. April, 1992 Pharmaceutical Research Division, Parke-Davis, Ann Arbor, Michigan
174. September, 1992 Zentrum Pharmakologie und Toxikologie, Abteilung Allgemeine Pharmakologie, Medizinische Hochschule Hannover, Hannover (Germany)
175. November, 1992 Tsukuba Research Laboratories, Eisai Co. Ltd., Tsukuba (Japan)
176. November, 1992 Upjohn, Tsukuba (Japan)
177. November, 1992 Banyu Pharmaceutical Co., Tsukuba (Japan)
178. November, 1992 Tokyo College of Pharmacy, Tokyo (Japan)
179. November, 1992 Daiichi Pharmaceutical Co., Tokyo (Japan)
180. November, 1992 Department of Analytical Biochemistry, School of Pharmacy, Hokkaido University, Sapporo (Japan)
181. November, 1992 National Cancer Institute, Tokyo (Japan)
182. November, 1992 Department of Biochemistry, University of Uppsala, Uppsala (Sweden)
183. May, 1993 Merck Sharp, and Dohme Research Laboratories, Rahway, New Jersey
184. July, 1993 Department of Physiological Chemistry, University of Ulm, Ulm (Federal Republic of Germany)
185. July, 1993 Courtland Biochemical Institute, Middlesex Hospital Medical School, London (U.K.)
186. July, 1993 Glaxo Group Research, Ltd., Hartfordshire (U.K.)
187. July, 1993 Department of Drug Metabolism, Pfizer, Kent (U.K.)
188. July, 1993 Department of Pharmacological Sciences, University of Newcastle, Newcastle-upon-Tyne (U.K.)
189. September, 1993 Department of Laboratory Science, University of California, San Francisco,

California

190. October, 1993 Nestlé Ltd., Research Centre, Lausanne (Switzerland)
191. October, 1993 Institute for Toxicology, University of Mainz, Mainz (Federal Republic of Germany)
192. November, 1993 Pfizer and Co., Groton, Connecticut
193. April, 1994 Experimental Station, Central Reserach, E.I. DuPont de Nemours, Newark, Delaware
194. May, 1994 Sterling Winthrop Pharmaceuticals, Collegeville, Pennsylvania
195. July, 1994 Daiichi Pharmaceutical Co., Tokyo (Japan)
196. July, 1994 Tsukuba Research Laboratories, Eisai Co. Ltd., Tsukuba (Japan)
197. July, 1994 Upjohn, Tsukuba (Japan)
198. September, 1994 National Institute of Mental Health and Neurosciences, Bangalore (India)
199. September, 1994 Division of Pharmacology, Shionogi Research Laboratories, Osaka (Japan)
200. September, 1994 Fujisawa Pharmaceutical Co., Osaka (Japan)
201. September, 1994 Osaka Prefecture Institute of Public Health, Osaka (Japan)
202. September, 1994 Dainippon Pharmaceuticals, Osaka (Japan)
203. September, 1994 Department of Veterinary Toxicology, University of Osaka Prefecture, Sakai (Japan)
204. November, 1994 Schering Plough, Kenilworth, New Jersey
205. January, 1995 Institute for Pharmaceutical Biology, University of Munich, Munich (Germany)
206. January, 1995 Department of Pharmacokinetics and Drug Metabolism, Dr. Karl Thomae GmbH, Biberach (Germany)
207. March, 1995 Department of Biochemistry, Albert Einstein School of Medicine, New York
208. April, 1995 Department of Pharmacology, University of Western Ontario, London, Ontario (Canada)
209. May, 1995 Department of Pharmacology, Meharry Medical College
210. June, 1995 Department of Chemistry, Tohoku University, Sendai (Japan)
211. June, 1995 Sandoz Pharmaceutical Co., Tsukuba (Japan)
212. July, 1995 Sandoz Pharmaceutical Co., Basel (Switzerland)
213. August, 1995 Institute of Experimental Biopharmacy, Czech Academy of Sciences, Hradec Kralove (Czech Republic)
214. September, 1995 Zentrum Pharmakologie und Toxikologie, Abteilung Allgemeine Pharmakologie, Medizinische Hochschule Hannover, Hannover (Germany)

215. October, 1995 Institute for Science and Technology, Seoul (South Korea)
216. October, 1995 Osaka City University, Osaka (Japan)
217. October, 1995 Takarazuka Research Center, Sumitomo Chemical Co., Hyogo (Japan)
218. January, 1996 Department of Pharmacology and Experimental Therapeutics, Tufts University, Boston, Massachusetts
219. April, 1996 Department of Pharmacology and Toxicology, University of Alabama School of Medicine, Birmingham, Alabama
220. May, 1996 Department of Pharmacology, University of Michigan, Ann Arbor, Michigan
221. September, 1996 Department of Pharmacochimistry, Leiden/ Amsterdam Center for Drug Research Vrije Universiteit Amsterdam (Netherlands)
222. September, 1996 Department of Biochemical Toxicology, TNO-CIVO Toxicology and Nutrition Institute, Zeist (Netherlands)
223. September, 1996 Sylvius Laboratories, Center for Bio-Pharmaceutical Sciences, Leiden (Netherlands)
224. September, 1996 Abteilung Toxikologie und Arbeitsmedizin, Institut für Arbeitsphysiologie, Universität Dortmund, Dortmund (Germany)
225. September, 1996 Laboratoire de Chimie et Biochimie Pharmacologiques et Toxicologiques, Université René Descartes, Paris (France)
226. November, 1996 Department of Chemistry, University of Missouri, Columbia, Missouri
227. December, 1996 Otsuka Pharmaceutical Co., Tokushima (Japan)
228. December, 1996 Division of Drug Metabolism Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo (Japan)
229. December, 1996 Takarazuka Research Center, Sumitomo Chemical Co., Hyogo (Japan)
230. December, 1996 Pharmaceutical Research Laboratories, Kyowa Hakko Kogyo Ltd., Shizuoka (Japan)
231. December, 1996 Daiichi Pharmaceutical Co., Tokyo (Japan)
232. February, 1997 Merck, Sharp, and Dohme Research Laboratories, Rahway, New Jersey
233. February, 1997 Division of Clinical Pharmacology, Vanderbilt University
234. April, 1997 Department of Molecular and Integrative Physiology, University of Illinois, Urbana
235. August, 1997 Department of Experimental Therapeutics, Genentech, South San Francisco, California
236. September, 1997 INSERM U128, CNRS, Montpellier (France)
237. September, 1997 College of Pharmacy, University of Texas, Austin
238. October, 1997 Division of Drug Metabolism, Faculty of Pharmaceutical Sciences, Hokkaido



- University, Sapporo (Japan)
239. November, 1997 Nagoya University School of Medicine, Nagoya (Japan)
240. December, 1997 Cancer Center, Bowman-Gray Medical School, Wake Forest University, Winston-Salem
241. February, 1998 Department of Pharmacology, University of Mississippi, Oxford
242. March, 1998 Department of Pharmacology and Toxicology, University of Utah, Salt Lake City
243. March, 1998 Departments of Chemistry and Biochemistry and Toxicology, Utah State University
244. October, 1998 Department of Structural and Cellular Biology, University of South Alabama, Mobile
245. January, 1999 MetaXen, South San Francisco, CA
246. January, 1999 Center for Environmental and Human Toxicology, University of Florida, Gainesville
247. January, 1999 Division of Chemistry and Chemical Engineering, California Institute of Technology
248. February, 1999 Department of Pharmacology, University of Massachusetts, Wooster, MA
249. February, 1999 Departments of Biology and Chemistry, St. Olaf College, Northfield, MN
250. February, 1999 Department of Medicinal Chemistry, College of Pharmacy, University of Minnesota, Minneapolis
251. March, 1999 Department of Drug Metabolism, Merck and Co., Rahway, New Jersey
252. March, 1999 Department of Drug Metabolism, Merck and Co., West Point, Pennsylvania
253. April, 1999 Department of Pharmaceutical Sciences and Human Genetics Program, University of California, San Francisco
254. August, 1999 Department of Pharmaceutics, University of Tokyo, Tokyo (Japan)
255. August, 1999 Dainippon Pharmaceuticals, Osaka (Japan)
256. August, 1999 Osaka City University, Osaka (Japan)
257. August, 1999 Hokuriku Branch, Japanese Pharmaceutical Soc., Kanazawa (Japan)
258. August, 1999 Division of Drug Metabolism, Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo (Japan)
259. September, 1999 Daiichi Pharmaceutical Co., Tokyo (Japan)
260. September, 1999 Colloquium on Metals in Biology, The Enzyme Institute, University of Wisconsin, Madison
261. October, 1999 Department of Drug Metabolism, Novartis

262. October, 1999 Oklahoma Center for Toxicology, University of Oklahoma Health Science Center, Oklahoma City
263. December, 1999 Merck-Frosst Pharmaceuticals, Kirkland, Quebec (Canada)
264. December, 1999 Institut für Arbeitsphysiologie, Univ. Dortmund, Dortmund (Germany)
265. December, 1999 Institut für Experimentelle and Klinische Pharmakologie u. Toxikologie, Universität Rostock, Rostock (Germany)
266. December, 1999 Abteilung Arbeits-und Socialmedizin, George-August-Universität Göttingen, Göttingen (Germany)
267. February, 2000 School of Pharmacy, University of Toledo
268. February, 2000 School of Public Health, University of North Carolina, Chapel Hill
269. February, 2000 Glaxo-Wellcome Pharmaceuticals, Research Triangle Park, North Carolina
270. February, 2000 Research Triangle Park Drug Metabolism Discussion Group, Research Triangle Park, North Carolina
271. February, 2000 Graduate Center for Toxicology, University of Kentucky
272. May, 2000 Department of Biochemical Medicine, Ninewells Hospital and Medical School, Dundee (United Kingdom)
273. August, 2000 Department of Pharmacokinetics and Drug Metabolism, Purdue Pharma Research Center, Ardsley, New York
274. August, 2000 Department of Drug Metabolism, Merck and Co., West Point, Pennsylvania
275. December, 2000 Comparative Oncology Program, University of Pennsylvania, Philadelphia, Pennsylvania
276. January, 2001 Center for Advanced Biotechnology and Medicine, Rutgers University
277. February, 2001 Wadsworth Laboratories, New York State Department of Health, Albany
278. February, 2001 Molecular Toxicology Program, University of California, Los Angeles
279. April, 2001 Environmental Health Sciences Center, University of Arizona
280. July, 2001 Department of Physiology and Pharmacology, University of Queensland, Brisbane (Australia)
281. August, 2001 Pharmacokinetics Department, Aventis Pharmaceuticals, Bridgewater, NJ
282. October, 2001 Osaka Institute of Public Health, Osaka (Japan)
283. October, 2001 Shionogi Research Laboratories, Osaka (Japan)
284. October, 2001 Dainippon Pharmaceuticals, Osaka (Japan)
285. December, 2001 Aventis Pharmaceuticals, Bridgewater, NJ
286. December, 2001 Life Sciences Consortium, Pennsylvania State University, Hershey Medical Center

287.	December, 2001	Transform Pharmaceuticals, Waltham, MA
288.	January, 2002	Department of Chemistry, University of Oklahoma
289.	February, 2002	School of Pharmacy, University of New Mexico
290.	March, 2002	Department of Biochemistry and Molecular Biology, University of Georgia
291.	March, 2002	Department of Chemistry and Physics, Union University, Jackson, TN
292.	April, 2002	Rosetta Inpharmatics, Kirkland, WA
293.	May, 2002	U.S. Environmental Protection Agency, Research Triangle Park, NC
294.	June, 2002	Aventis Pharmaceuticals, Frankfurt (Germany)
295.	June, 2002	Bristol-Myers Squibb, Syracuse, NY
296.	June, 2002	Aventis Pharmaceuticals, Frankfurt (Germany)
297.	August, 2002	Vertex Pharmaceuticals, Cambridge, MA
298.	September, 2002	Department of Biochemistry, University of Saarland, Saarbrücken (Germany)
299.	September, 2002	New England Drug Metabolism Discussion Group, Cambridge, MA
300.	September, 2002	Biological Engineering Division, Massachusetts Institute of Technology, Cambridge, MA
301.	October, 2002	Department of Pharmacology, Toxicology, and Therapeutics, University of Kansas Medical School, Kansas City, KA
302.	October, 2002	Department of Biotransformation, Schering-Plough Research Institute, Union, NJ
303.	November, 2002	Delaware Valley Drug Metabolism Discussion Group, Philadelphia, PA
304.	December, 2002	Laboratoire de Chimie et Biochimie Pharmacologiques et Toxicologiques, Universite Rene Descartes, Paris (France)
305.	December, 2002	Albany Molecular Research, Mt. Prospect, IL
306.	January, 2003	Department of Drug Metabolism, Novartis Pharmaceuticals, East Hanover, NJ
307.	January, 2003	Department of Biochemistry and Molecular Biology, University of Arkansas Medical School, Little Rock, AR
308.	February, 2003	Department of Chemistry, Tennessee State University, Nashville, TN
309.	February, 2003	Department of Chemistry, Kalamazoo College, Kalamazoo, MI
310.	February, 2003	Merck-Frosst Pharmaceuticals, Kirkland, Quebec (Canada)
311.	February, 2003	NIEHS Center, University of Texas Medical Branch, Galveston, TX
312.	March, 2003	Division of Drug Metabolism, Faculty of Pharmaceutical Sciences, Hokkaido University, Sapporo (Japan)

313. April, 2003 Environmental Health Sciences Center, University of North Carolina, Chapel Hill, NC
314. April, 2003 Faculty of Medicine, University of Ljubljana, Ljubljana (Slovenia)
315. May, 2003 Bristol-Myers Squibb, Princeton, NJ
316. September, 2003 Department of Biochemistry and Cellular and Molecular Biology, University of Tennessee, Knoxville
317. October, 2003 Department of Medicinal Chemistry and Pharmacognosy, University of Illinois/Chicago
318. January, 2004 Pfizer, Ann Arbor, MI
319. February, 2004 Department of Biochemistry, Ohio State University
320. March, 2004 Department of Pharmacology, Meharry Medical College
321. April, 2004 Department of Chemistry, Northeastern University
322. April, 2004 Environment and Occupational Health, University of Minnesota, Twin Cities
323. October, 2004 New Jersey Drug Metabolism Group
324. November, 2004 Department of Chemistry, Virginia Commonwealth University
325. January, 2005 Department of Pharmacological Sciences, State University of New York, Stony Brook
326. January, 2005 OSI Pharmaceuticals, Boulder, CO
327. February, 2005 Nashville State Community College, Nashville, TN
328. February, 2005 Center for Drug Evaluation and Review, Food and Drug Administration, Rockville, MD
329. March, 2005 Novartis Pharmaceuticals, East Hanover, NJ
330. March, 2005 Aventis Pharmaceuticals, Frankfurt (Germany)
331. March, 2005 Universität Halle, Halle (Germany)
332. March, 2005 Schering AG, Berlin (Germany)
333. April, 2005 Pfizer, San Diego, CA
334. April, 2005 Southern California Drug Metabolism Discussion Group, San Diego
335. May, 2005 Merck Research Laboratories, Boston
336. May, 2005 Health Canada, Ottawa, Ontario
337. July, 2005 Recorded seminar for Henry Stewart Talks Series
338. September, 2005 Johnson and Johnson, Raritan, NJ
339. October, 2005 Laboratories of Pharmacology/Chemistry and Molecular Toxicology, Natl. Inst. Environmental Health Sciences, Research Triangle Park, NC

340. November, 2005 Department of Chemistry, Western Kentucky University
341. January, 2006 BD Biosciences, Woburn, MA
342. February, 2006 Tskuba University, Tskuba (Japan)
343. February, 2006 Daiichi Pharmaceutical Co., Tokyo (Japan)
344. February, 2006 Korea Institute for Science and Technology, Seoul (Korea)
345. February, 2006 Chonnam University, Gwangju (Korea)
346. March, 2006 Novartis Institutes for Biomedical Research, Cambridge, MA
347. April, 2006 INSERM UMRS 75, University of Paris 5, Paris (France)
348. May 2006 Glaxo-SmithKline, Collegeville, PA
349. June, 2006 Eli Lilly Research Laboratories, Indianapolis, IN (Lilly Lecturer)
350. July, 2006 Abbott Experimental Medicine, Abbott Laboratories, North Chicago, IL
351. July 2006 Department of Biochemistry and Molecular Biology, Rosalind Franklin University of Medicine and Science, North Chicago, IL
352. March, 2007 IRBM/Merck, Rome Italy (Distinguished Scientist Keynote Lecture Series), Pomezia (Italy)
353. March, 2007 Department of Environmental Toxicology, North Carolina State University, Raleigh, NC
354. March, 2007 Department Environmental Toxicology and Genomic Medicine, Autonomous University of Mexico, Mexico City (Mexico)
355. March, 2007 Instituto de Investigaciones Biomédicas, Autonomous University of Mexico, Mexico City (Mexico)
356. March, 2007 Structural Genomics Consortium, University of Toronto, Toronto (Canada)
357. March, 2007 Division of Clinical Pharmacology, Vanderbilt University School of Medicine
358. April, 2007 Department of Biochemistry and Molecular Biology, Michigan State University, East Lansing, MI
359. April, 2007 New England Drug Metabolism Discussion Group, Cambridge, MA
360. May, 2007 Great Lakes Drug Metabolism Discussion Group, Ann Arbor, MI
361. June, 2007 National Institute of Chemistry, Ljubljana (Slovenia)
362. July, 2007 Molecular Biophysics Program, Vanderbilt University
363. October, 2007 Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Sendai (Japan)
364. October, 2007 Showa Pharmaceutical University, Tokyo (Japan)
365. November, 2007 XenoBiotic Laboratories, Princeton, NJ

366. November, 2007 Drug Safety and Metabolism, Schering-Plough, Kenilworth, NJ
367. December, 2007 Korean Food and Drug Administration, Seoul (Korea)
368. December, 2007 Konkuk University, Seoul (Korea)
369. May, 2008 Chengdu University, Chengdu (People's Republic of China)
370. May, 2008 Shanghai Institute of Organic Chemistry, Shanghai (People's Republic of China)
371. May, 2008 Molecular and Environmental Toxicology Center, University of Wisconsin (Madison)
372. October, 2008 Department of Biology, University of Texas/El Paso
373. October, 2008 Departments of Chemistry and Biology, Loyola University, Chicago
374. March, 2009 Environmental Toxicology Graduate Program, University of California, Riverside
375. March, 2009 Bristol-Myers Squibb/BIACON, Bangalore (India)
376. May, 2009 Department of Environmental Medicine, New York University
377. September, 2009 Department of Biological Chemistry, University of Michigan Medical School
378. September, 2009 Department of Pharmacology, University of Michigan Medical School
379. October, 2009 Cancer Center, University of Illinois School of Medicine/Chicago
380. October, 2009 Department of Pharmacology, University of Maryland School of Medicine
381. December, 2009 Department of Biochemistry and Molecular Biology, University of New Mexico (Omdahl Lecture)
382. January, 2010 Department of Pharmaceutical Sciences, University of Colorado (Denver)
383. February, 2010 School of Pharmacy, University of Rhode Island
384. February, 2010 Department of Chemistry, University of Tennessee at Chattanooga
385. May, 2010 School of Biological Sciences and Technology, Chonnam National University, Gwangju (Korea)
386. May, 2010 Korean Society of Toxicology, Seoul (Korea)
387. May, 2010 School of Medicine, University of Louisville (Bloch Lecture)
388. May, 2010 Department of Biochemistry and Molecular Biology, University of Louisville (Bloch Lecture)
389. October, 2010 Department of Pharmacology, University of Tennessee Health Science Center, Memphis
390. November, 2010 Department of Drug Metabolism and Pharmacokinetics, Hoffman-LaRoche, Nutley, NJ
391. November, 2010 Department of Pharmacology, Weill Cornell Medical College

392. January, 2011 Department of Chemistry, University of Tennessee at Chattanooga
393. February, 2011 University of Cagliari, Cagliari (Italy)
394. February, 2011 University of Cagliari, Cagliari (Italy)
395. March, 2011 University of Cagliari, Cagliari (Italy)
396. March, 2011 University of Cagliari, Cagliari (Italy)
397. March, 2011 University of Cagliari, Cagliari (Italy)
398. August, 2011 Center for Biotechnology Research, Konkuk University, Seoul (Korea)
399. August, 2011 Gyeonggi Biocenter, Gyeonggi-do (Korea)
400. August, 2011 Department of Molecular Cell Biology, Sungkyunkwan University School of Medicine and Samsung Biomedical Research Institute, Gyeonggi-do (Korea)
401. November, 2011 Department of Chemistry, Division of Biochemistry, Texas Tech University
402. March, 2012 Department of Pharmacology and Toxicology, University at Buffalo, New York
403. July, 2012 University of Tokyo, Tokyo (Japan)
404. July, 2012 University of Tokyo, Tokyo (Japan)
405. July, 2012 University of Tsukuba, Tsukuba (Japan)
406. July, 2012 Eisai Pharmaceuticals, Tsukuba (Japan)
407. July, 2012 Daiichi-Sankyo Pharmaceuticals, Tokyo (Japan)
408. July, 2012 Showa University, Tokyo (Japan)
409. September, 2012 Faculty of Medicine, University of Ljubljana, Ljubljana (Slovenia)
410. October, 2012 Department of Medicinal Chemistry and Pharmacognosy, University of Illinois/Chicago
411. November, 2012 Department of Environmental Health, University of Cincinnati
412. July, 2013 Department of Pharmacology and Pharmacogenomic Center, Inje University (Busan, Republic of Korea)
413. September, 2013 Department of Pharmacology, Palacky University of Olomouc (Czech Republic)
414. November, 2013 LSA Biophysics Program, University of Michigan, Ann Arbor
415. November, 2013 Adelaide Pharmacology Group, Univ. So. Australia, Adelaide
416. December, 2013 Prince Henry's Institute of Medical Research (Clayton, Australia)
417. December, 2013 Department of Biochemistry, University of Queensland, Brisbane (Australia)
418. December, 2013 School of Chemistry and Molecular Biosciences, University of Queensland, Brisbane (Australia)

- 419. December, 2013 School of Clinical Sciences, Discipline of Pharmacy, Queensland University of Technology, Brisbane (Australia)
- 420. May, 2014 INSERM UMRS 775, University of Paris, 5 (Paris, France)
- 421. September, 2014 Dept. of Drug Metabolism and Pharmacokinetics, AstraZeneca, Mölndal (Sweden)
- 422. October, 2014 School of Pharmacy and Natural Products Center, Univ. Mississippi
- 423. February, 2015 Cancer Center, Virginia Commonwealth University, Richmond
- 424. March, 2015 National Research Institute of Chinese Medicine, Taipei (Taiwan, Republic of China)
- 425. March, 2015 School of Pharmacy, National Definese Medical Center, Taipei (Taiwan, Republic of China)
- 426. March, 2015 School of Pharmacy, National Definese Medical Center, Taipei (Taiwan, Republic of China)
- 427. March, 2015 Academia Sinica, Taipei (Taiwan, Republic of China)
- 428. March, 2015 National Health Research Institutes, Division of Environmental Health and Occupational Medicine (Zhunan, Taiwan, Republic of China)
- 429. June, 2015 Eisai Pharmaceuticals, Tskuba (Japan)