CURRICULUM VITAE

Name: Dr. Ronald Paul Mason

Business Address: National Institute of Environmental Health Sciences
PO Box 12233
Research Triangle Park, NC 27709
(919) 541-3910
email: mason4@NIEHS.nih.gov

Education:

June 1966 - B.A. cum laude, University of California at Riverside
Jan. 1972 - Ph.D. Chemistry (physical), University of Wisconsin-Madison

Employment and Experience:

1966 - 1968	Teaching assistant in physical chemistry laboratory, University of Wisconsin-Madison
1971 - 1973	Postdoctoral Fellow, National Institutes of Health, Cornell University, Ithaca, New York
1973 - 1978	Research Chemist, Clinical Pharmacology, Veterans Administration Hospital, Minneapolis, Minnesota
1976 - 1978	Assistant Professor, Department of Medicinal Chemistry, University of Minnesota, Minneapolis, Minnesota
1976 - 1978	Assistant Professor, Department of Medicine and Pathology, University of Minnesota, Minneapolis, Minnesota
1978 - 2002	Research Chemist, National Institute of Environmental Health Sciences, Research Triangle Park, NC
2002 - current	Senior Biomedical Research Service, National Institute of Environmental Health Sciences, Research Triangle Park, NC
1982 - 2008	Adjunct Associate Professor, Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC
1990 - current	Associate Professor, Integrated Toxicology Program, Duke University, Durham, NC
2008 – current	Adjunct Professor, Curriculum in Toxicology, University of North Carolina, Chapel Hill, NC

Honors and Awards:

	National Science Foundation Predoctoral Fellowship - honorable mention
	National Institutes of Health Postdoctoral Fellowship
1994	Southern Chemist Award (Southeast ACS Region)

1996	International EPR/ESR Society's Silver Award for Biology & Medicine
2004	Special Award from Elsevier for publishing most articles in FRBM in 2004, 2002-2004, and 2000-2004
2006	NIEHS Scientist of the Year Award
2007	SFRBM Lifetime Achievement Award
2008	NIEHS Mentor of the Year Award

Societies:

American Society for Pharmacology and Experimental Therapeutics
International Society for the Study of Xenobiotics
The International EPR (ESR) Society
The Oxygen Society
Society of Toxicology
American Chemical Society.

Positions in Societies:

2002-2004	Vice President, The International EPR (ESR) Society
1997-2000	Council Member, The Society for Free Radical Biology and Medicine
2002-current	Council Member, The Society for Free Radical Biology and Medicine

Editorial Boards:

1984-1985	Editorial Board, Chemico-Biological Interactions
1998-current	Editorial Board, Chemico-Biological Interactions
1985-1997	Free Radicals Editor-in-Chief, Chemico-Biological Interactions
1984-current	Editorial Board, Environmental Health Perspectives
1985	Editor, Special Issue of Environmental Health Perspectives "Free Radical Metabolites of Toxic Chemicals"
1985-1987	Editorial Board, Free Radical Research Communications
1985-1987	Editorial Board, Advances in Free Radical Biology and Medicine
1987-1994	Editorial Board, Free Radical Biology and Medicine
1998-current	Editorial Board, Free Radical Biology and Medicine
1989-2002	Editorial Board, Archives of Biochemistry and Biophysics
1994-1998	Editorial Board, Molecular Pharmacology
1997-2002	Editorial Board, Environmental and Nutritional Interactions
1999-2004	Editorial Board, Journal of Biochemical and Biophysical Methods
2002-current	Editorial Board, Spectroscopy
2007-current	Editorial Board, Research in Chemical Toxicology

NIEHS/NIH:

1995-1998	NIH-wide Ethics Committee
1995-present	Chair, NIEHS Ethics Committee

1999-2002	NIEHS Committee on Promotions and Tenure One
2001-2002	NIEHS Search Committee for Chair of Laboratory of Pulmonary Pathology Committee
2003-2004	Chair, NIEHS Search Committee for Bioethicist
2004-2007	NIEHS Committee on Promotions and Tenure Four

Advisory Boards:

1994-1997	National Biomedical Center for Spin Trapping and Free Radicals at the Oklahoma Medical Research Foundation.
1994-1997	Lung Injury - Mechanisms and Therapy at Duke University
1995-2000	Marine/Freshwater Biomedical Sciences Center of Duke University
1998-present	The National Biomedical EPR Center at the Medical College of Wisconsin
2003-present	"In Vivo Bioengineering Research Partnership," NIH EB00557 at the University of Denver
2007	EPR 2007, A Joint Conference of the 12th In Vivo EPR Spectroscopy & Imaging and the 9th International EPR Spin Trapping/Spin Labeling

Patent:

SN 07/569689

The present invention relates to novel pharmaceutical preparations comprising clozapine and a radical scavenger, preferably L-ascorbic acid, designed to prevent agranulocytosis, a possibly fatal side-effect of clozapine.

Research Interests:

Electron spin resonance investigations of free radical metabolism in biochemistry, pharmacology, and toxicology.

Trainee Awards by National Societies and NIEHS:

Walter J. Johnson Prize 1993 is a monetary prize awarded once every 3 years by Academic Press and the Editors of Archives of Biochemistry and Biophysics for the best publication by a young researcher– Janice A. DeGray

Young Investigator Award from "Oxygen Society" 2001 – Steven Qian

Young Investigator Award from "The International EPR Society" 2002 – Steven Qian

Transition to Independent Position (TIP) Grant from NIEHS 2002 – Yeong-Renn Chen

FARE (Fellows Award for Research Excellence) from NIH 2003 – Steven Qian

FARE (Fellows Award for Research Excellence) from NIH 2003 – Dario Ramirez

Young Investigator Award from "Society for Free Radical Biology and Medicine" 2005 – Marcelo Banini

Young Investigator Award from "Society for Free Radical Biology and Medicine" 2005 – Arno Siraki

FARE (Fellows Award for Research Excellence) from NIH 2006 - Arno Siraki

NIEHS/K22 (Transition to Independent Position), 2006-2009 – Steven Qian

FARE Award for Excellence in Biomedical Research NIH 2006 – Dario Ramirez

K99/R00 Pathway for Independence Award, NIEHS, NIH 2006 - Dario Ramirez
GEMS Best Postdoc-Talk 2006 – Dario Ramirez
K99/R00 Pathway for Independence Award, NIEHS, NIH 2008 – Arno Siraki

Invited Oral Presentations Since Coming to NIEHS:

Invited seminar speaker - Research Triangle Park ESR Seminar Series, North Carolina State University, Raleigh, North Carolina, May 1978. "The reductive free radical metabolism of nitro compounds."

Invited speaker - Drug Metabolism Gordon Conference, Plymouth, New Hampshire, August 9, 1978. "Oxygen-sensitive and -insensitive nitroreduction by *E. coli* and rat hepatic microsomes."

Invited seminar speaker - Washington, District of Columbia, ESR Seminar Series, December 12, 1978. "Azo anion free radical metabolite and its role in superoxide generation."

Invited speaker - CIIT, Research Triangle Park, North Carolina, 1980. "The reductive free radical metabolism of nitro compounds."

Invited speaker - Gordon Conference on Magnetic Resonance in Biology and Medicine, Tilton, New Hampshire, August 15, 1980. "A carbon-centered free radical intermediate in the prostaglandin synthetase oxidation of arachidonic acid."

Invited seminar speaker - Department of Biophysics, Roswell Park Memorial Institute, Buffalo, New York, January 5, 1981. "Free radical metabolites of toxic chemicals."

Invited seminar speaker - Laboratory of Toxicology, Harvard School of Public Health, Harvard University, Boston, Massachusetts, April 2, 1981. "Free radical metabolites of toxic chemicals."

Invited symposium speaker - AAAS Meeting, Toronto, Canada, January 8, 1981. "Free radicals in the environment."

Invited seminar speaker - National Biomedical ESR Center, University of Wisconsin, Milwaukee, Wisconsin, January 12, 1981. "Free radical metabolites of toxic chemicals."

Invited seminar speaker - Radiation Laboratory, University of Notre Dame, North Bend, Indiana, January 9, 1981. "Free radical metabolites of toxic chemicals."

Invited symposium speaker - International Symposium on Spin Trapping and Nitroxyl Radical Chemistry, Guelph, Canada, July 16, 1981. "Spin trapping artifacts due to the reduction of nitroso spin traps."

Invited symposium speaker - Free radicals, Lipid Peroxidation and Cancer, Brunel University, Uxbridge, England, July 10, 1981. "Free radical metabolites of chemical carcinogens."

Invited symposium speaker - Southwest Regional Meeting of ACS, Lexington, Kentucky, November, 1981. "Free radical formation by hepatic microsomal cytochrome P-450."

Invited seminar speaker - Fogarty Scholar Seminar, Washington, District of Columbia, October, 1981. "Free radical metabolism of bisulfite (hydrated sulfur dioxide)."

Invited symposium speaker - CIIT Meeting on Toxicity of Nitro Compounds, Raleigh, North Carolina, January, 1982. "Free radical mechanism of nitroreductase."

Invited seminar speaker - Departments of Biochemistry and Chemistry, Louisiana State University, Baton Rouge, Louisiana, April 30, 1982. "Free radical metabolism of bisulfite (hydrated sulfur dioxide)."

Invited seminar speaker - Department of Biophysics, Federal University of Rio de Janeiro, Rio de Janeiro, Brazil, June, 1982. "Free radical metabolism of bisulfite (hydrated sulfur dioxide)."

Invited seminar speaker - Brazilian Center of Physics Research, Rio de Janeiro, Brazil, July, 1982. "Free radical metabolism of bisulfite (hydrated sulfur dioxide)."

Invited speaker - Gordon Conference on Magnetic Resonance in Biology and Medicine, Tilton, New Hampshire, August 9, 1982. "The formation of sulfur trioxide radical anion during the prostaglandin hydroperoxidase-catalyzed oxidation of bisulfite (hydrated sulfur dioxide)."

Invited seminar speaker - Department of Chemistry, Duke University, Durham, North Carolina, May 13, 1983. "ESR studies of free-radical metabolites of sulfur dioxide."

Invited speaker - National Bureau of Standards, Washington, District of Columbia, May 7, 1983. "ESR studies of free-radical metabolites of sulfur dioxide."

Invited speaker - European Molecular Biology Organization Workshop on Oxidative Damage and Related Enzymes, Rome, Italy, October, 1983. "ESR studies of free-radical metabolites of sulfur dioxide."

Invited speaker - Gordon Research Conferences, Drug Metabolism, Plymouth, New Hampshire, July 27, 1983. "Free radical formation by cytochrome P-450."

Invited speaker - National Advisor Environmental Health Science Council, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina, January 24, 1984.

Invited speaker - Rockefeller University, New York, New York, March 6, 1984. "Free radical metabolites of L-cysteine and glutathione."

Invited speaker - Rutgers University, Piscataway, New Jersey, March 7, 1984. "Free radical metabolites of L-cysteine and glutathione."

Invited speaker - Extramural Associates Meeting, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina, May 7, 1984.

Invited speaker - Delaware Valley Drug Metabolism Discussion Group, Plymouth Meeting, Pennsylvania, May 16-17, 1984. "Spin trapping of peroxy radicals."

Invited speaker - Federation of American Societies for Experimental Biology Summer Research Conference on Immunopharmacology, Vermont Academy, Saxtons River, Vermont, July 1-6, 1984. "Oxidants in relationship to arachidonic acid metabolism."

Invited symposium speaker - Oxygen and Sulfur Radicals in Chemistry and Medicine, 4th International Symposium on Hypoxic Cell Radiosensitizing Drugs: the First and Second Generations on Cancer Treatment, Fermo, Italy, August 26-September 6, 1984. "Free radical metabolites of L-cysteine and glutathione."

Invited symposium speaker - IUPHAR 9th International Congress of Pharmacology, Cellular Injury Caused by Free Radicals, London, England, July, 1984. "Free radical metabolites of L-cysteine and glutathione oxidation."

Invited speaker - Department of Biophysics, Stockholm University, Stockholm, Sweden, August 26, 1984. "Free radical metabolites of L-cysteine and glutathione oxidation."

Invited speaker - Department of Biophysics, University of Giessen, Giessen, West Germany, September 8, 1984. "Free radical metabolites of L-cysteine and glutathione oxidation."

Invited speaker - Department of Toxicology, University of Mainz, Mainz, West Germany, September 10, 1984. "Free radical metabolites of L-cysteine and glutathione oxidation."

Invited speaker - School of Forestry and Environmental Sciences, Duke University, Durham, North Carolina, February 1, 1985. "Free radical metabolites of L-cysteine and glutathione."

Invited speaker - Department of Pharmaceutical Chemistry, University of California, San Francisco, California, February 7, 1985. "Free radical metabolites of L-cysteine and glutathione."

Invited symposium speaker - 69th Annual Meeting of the Federation of American Societies for Experimental Biology and Guest Societies, Free Radicals in Metabolism, Anaheim, California, April 21-26, 1985. "Free radical oxidation of GSH and thiol drugs by mammalian peroxidases."

Invited symposium speaker - Third International Symposium on Biological Reactive Intermediates in honor of James and Elizabeth Miller, University of Maryland, College Park, Maryland, June 6-8, 1985. "GSH free radical formation by HRP-interaction with GSH peroxidase."

Symposium chairman - American Society for Pharmacology and Experimental Therapeutics, Boston, Massachusetts, August 18-22, 1985. "Free radical metabolites of toxic chemicals."

Invited conference speaker - Fourth International Conference on Superoxide and Superoxide Dismutase, Rome, Italy, September 1-6, 1985. "Spin trapping studies of carbon tetrachloride metabolism by the perfused liver."

Invited lecturer - NATO Advanced Study Institute at Povoa de Varzim, Oxygen Radicals in Biological Systems: Recent Progress and New Methods for Study, Porto, Portugal, September 1-15, 1985.

Invited conference speaker - 17th Southeastern Magnetic Resonance Conference, University of Alabama, Tuscaloosa, Alabama, October 2-4, 1985. "Spin trapping studies of carbon tetrachloride metabolism by the perfused liver."

Invited participant - Dahlem Konferenzen on Mechanisms of Cell Injury: Implications for Human Health, Berlin, Germany, October 20-25, 1985. "Free radical formation by mammalian peroxidases."

Invited speaker - Hahn-Meitner - Institut für Kernforschung, Berlin, Germany, October 24, 1985. "Free radical metabolites of L-cysteine and glutathione."

Invited speaker - Department of Chemistry, University of Tübingen, Tübingen, West Germany, October 29, 1985. "Formation of free radical metabolites from acetaminophen."

Invited speaker - 13th L.H. Gray Conference on Free Radical Biochemistry and Radiation Injury, Brunel University, Uxbridge, United Kingdom, July 18, 1986. "An overview of free radical detection in biological systems using electron spin resonance."

Invited speaker - Third Biennial General Meeting of the Society for Free Radical Research, University of Dusseldorf, Dusseldorf, West Germany, July 22, 1986. "An overview of free radical detection in biological systems using electron spin resonance."

Invited speaker - Sandoz Company, Basel, Switzerland, July 24, 1986. "The formation of a novel free radical metabolite from CCl_4 in the perfused rat liver and *in vivo*."

Invited speaker - Environmental Protection Agency, Research Triangle Park, North Carolina, March, 1986. "The formation of a novel free radical metabolite from CCl_4 in the perfused rat liver and *in vivo*."

Invited speaker - 8th Rocky Mountain Regional ACS Meeting, Denver, Colorado, June 11, 1986. "The formation of a novel free radical metabolite from CCl_4 in the perfused rat liver and *in vivo*."

Invited speaker - 192nd National ACS Meeting, Anaheim, California, September 8, 1986. "Free radical reactions in pesticide metabolism."

Invited speaker - Paterson Symposium on Bioactivation of Quinone Anti Tumor Agents, Christie Hospital and Holt Radium Institute, Manchester, United Kingdom, October 22, 1986. "ESR studies of anthracycline free radical metabolites."

Invited speaker - Department of Pharmacology, The School of Pharmacy, University of London, London, United Kingdom, October 26, 1986. "Thiyl free radical metabolites of thiol drugs and glutathione."

Invited speaker - Department of Pharmacology, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, November 4, 1986. "Characterization of free radical metabolites in biological systems using electron spin resonance."

Invited speaker - Oklahoma Medical Research Foundation, Oklahoma City, Oklahoma, February 2, 1987. "Thiyl free radical metabolites of thiol drugs and glutathione."

Invited speaker - University of Nevada, Reno, Nevada, February 4, 1987. "Thiyl free radical metabolites of thiol drugs and glutathione."

Discussant - University of California, Berkeley, California, February 6-7, 1987. "Oxygen radicals and antioxidants in cancer and aging."

Invited speaker - 4th International Congress on Oxygen Radicals, La Jolla, California, June 27, 1987. "Spin trapping superoxide and hydroxyl radicals: fact or fancy."

Invited speaker - Cardiovascular Research Laboratory, The Queen's Medical Center, Honolulu, Hawaii, August 20, 1987. "*In vivo* detection of free radical metabolites."

Invited speaker - Toxic Oxygen and the Liver, National Institute of Arthritis, Diabetes and Digestive and Kidney Diseases, Bethesda, Maryland, September 14, 1987. "*In vivo* detection of free radical metabolites."

Invited speaker - N.C. Society of Toxicology, Governors Inn, Research Triangle Park, North Carolina, October 14, 1987. "Free radical mechanism of prostaglandin formation."

Invited speaker - Greater Washington Area ESR Discussion Group, The George Washington University, Washington, District of Columbia, November 2, 1987. "*In vivo* detection of free radical metabolites."

Invited speaker and chairman - Endogenous Factors in the Toxicity of Xenobiotics, International Society for the Study of Xenobiotics Society, Clearwater, Florida, November 8, 1987. "Endogenous

free radical formation as a consequence of drug metabolism" and "Thiyl free radical metabolites of GSH and drugs."

Invited plenary speaker - Belgian Society for the Study of Oxygen Metabolism, Brussels, Belgium, December 11, 1987. "Spin trapping superoxide and hydroxyl radical: fact or fancy?"

Invited speaker - Free Radicals, A Search for New Methodology, Society for Free Radical Research, Winter Meeting, London, United Kingdom, December 14, 1987. "Spin-trapping, the ideal method for measuring oxygen radical formation?"

Invited speaker - Twenty First International Conference of the ESR Group of the Royal Society of Chemistry, Cardiff, Wales, March 21, 1988. "*In vivo* rat hemoglobin thiyl free radical formation following administration of phenylhydrazine and hydrazine-based drugs."

Invited speaker - Free Radicals in Chemistry and Biology, Louisiana State University, Baton Rouge, Louisiana, March 28, 1988. "*In vivo* detection of free radical metabolites."

Invited speaker - International Conference on Medical, Biochemical and Chemical Aspects of Free Radicals, 4th Biennial General Meeting of the Society for Free Radical Research, Kyoto, Japan, April 9-13, 1988. "*In vivo* rat hemoglobin thiyl free radical formation following administration of phenylhydrazine and hydrazine-based drugs."

Invited speaker - 10th Annual Japanese Magnetic Resonance Conference, Kyoto, Japan, April 14, 1988. "*In vivo* detection of free radical metabolites."

Invited speaker - Third Chemical Congress of North America, ACS/ISSX Symposium, Intermediary Xenobiotic Metabolism in Animals: Methodology, Mechanisms and Significance, Toronto, Canada, June 9, 1988. "Methods for detection of free radical intermediates in studying xenobiotic metabolism."

Invited speaker - University of Minnesota, Symposium in Honor of the Retirement of Professor Gilbert J. Mannering, Minneapolis, Minnesota, June 13-14, 1988. "*In vivo* detection of free radical metabolites."

Invited speaker - Gordon Conference on Magnetic Resonance in Biology and Medicine, Tilton, New Hampshire, July 18, 1988. "*In vivo* free radical damage to oxyhemoglobin by hydrazines."

Invited speaker - Symposium on "Free Radicals" in the XIII International Conference on Magnetic Resonance in Biological Systems, Madison, Wisconsin, August 14-19, 1988. "*In vivo* detection of free radical metabolites."

Invited speaker - EPA Workshop on Structural Properties for Determining Mechanisms of Toxic Action, Duluth, Minnesota, October 18-20, 1988. "Free radical formation and the Marcus theory of electron transfer."

Member of Scientific Board of Visitors - Review the Molecular Toxicology Group, Oklahoma Research Foundation, Oklahoma City, Oklahoma, October 30-November 1, 1988.

Invited speaker - International Symposium of Free Radicals in Medicine, Vienna, Austria, November 8-12, 1988. "The spin trapping of pyrimidine nucleotide free radicals in a Fenton system."

Invited speaker - Rijks Universiteit, Leiden, The Netherlands, November 15, 1988. "*In vivo* detection of free radical metabolites."

Invited speaker - 6th CMEA Symposium on Electron Spin Resonance in Biochemistry, Molecular Biology, and Medicine, Smolenice Castle, Czechoslovakia, November 21-22, 1988. "*In vivo* detection of free radical metabolites."

Invited speaker - Second International Conference on Mechanisms of Antimutagenesis and Anticarcinogenesis, Ohito, Japan, December 4-9, 1988. "The spin trapping of pyrimidine nucleotide free radicals in a Fenton system."

Invited speaker - Department of Reaction Chemistry, University of Tokyo, Tokyo, Japan, December 12-13, 1988. "*In vivo* detection of free radical metabolites."

Invited speaker - Upjohn Company, Kalamazoo, Michigan, January 12-13, 1989. "*In vivo* detection of free radical metabolites."

Invited speaker - Department of Chemistry, West Virginia University, Morgantown, West Virginia, February 15, 1989. "*In vivo* detection of free radical metabolites."

Invited speaker - Eppley Institute for Research in Cancer and Allied Diseases at the University of Nebraska Omaha Medical Center, Omaha, Nebraska, February 16-17, 1989. "*In vivo* detection of free radical metabolites."

Invited speaker - Free Radicals in Toxicology, North Carolina State University, Raleigh, North Carolina, February 20, 1989. "*In vivo* detection of free radicals metabolites".

Invited speaker - Department of Molecular Pharmacology at the Albert Einstein College of Medicine of Yeshira University, New York, New York, April 24, 1989. "*In vivo* detection of free radical metabolites."

Invited speaker - Symposium on Biological Oxidations in the 21st Midwest ACS Regional Meeting, Cleveland, Ohio, June 1-2, 1989. "Peroxyl and inhibitor free radical metabolites of lipoxygenase."

Invited speaker - Department of Pharmacology, University of Siena, Siena, Italy, June 15, 1989. "*In vivo* detection of free radical metabolites."

Invited speaker - Department of Clinical Pharmacology, University of Florence, Florence, Italy, June 16, 1989. "*In vivo* detection of free radical metabolites."

Invited lecturer - NATO Summer School on Sulfur-centered Reactive Intermediates in Chemistry and Biology, Maratea, Italy, June 18-30, 1989. "ESR investigations of thiyl free radical metabolites of glutathione and drugs" and "*In vivo* hemoglobin thiyl radical formation as a consequence of toxic chemical metabolism."

Invited speaker and organizing committee member - 2nd International Symposium on Spin-Trapping and Aminoxyl Radical Chemistry, University of Guelph, Guelph, Canada, July 2-7, 1989. "*In vivo* detection of free radical metabolites in biological fluids."

Invited speaker - Symposium on The Use of ESR to Study Reactive Species in Biological Systems at the International Rocky Mountain EPR Conference, Denver, Colorado, July 31, 1989. "Free radical intermediates associated with drugs."

Invited speaker - International Conference on Regulation of Free Radical Reactions (Biomedical Aspects), Varna, Bulgaria, September 13-16, 1989. "*In vivo* detection of free radical metabolites in biological fluids."

Invited speaker - International Conference on Nitroxide Radicals, Novosibirsk, U.S.S.R., September 18-22, 1989. "*In vivo* detection of free radical metabolites in biological fluids."

Invited speaker - Twenty-First Annual Southeastern Magnetic Resonance Conference, Memphis, Tennessee, October 6-7, 1989. "*In vivo* detection of free radical metabolites in biological fluids."

Invited speaker - Magnetic Resonance Conference 1989, Schloss Reinhardsbrunn, G.D.R., November 5-10, 1989. "*In vivo* detection of free radical metabolites."

Invited speaker - Department of Chemistry, Utah State University, Logan, Utah, January 24, 1990. "*In vivo* detection of free radical metabolites in biological fluids."

Invited speaker - Gordon Research Conference on Oxygen Radicals in Biology, Ventura, California, January 29-February 2, 1990. "*In vivo* detection of free radical metabolites in biological fluids."

Invited speaker - The Pan-American Assoc. of Biochemical Societies, Sao Paulo, Brazil, February 8-22, 1990. "*In vivo* detection of free radical metabolites in biological fluids."

Symposium chairman - FASEB, Washington, District of Columbia, April 2, 1990. "*In vivo* detection of free radical metabolites of toxic chemicals and drugs."

Invited speaker - FASEB, Washington, District of Columbia, April 2, 1990. "Biliary radical adducts of toxic chemicals and drugs."

Invited speaker - Department of Pharmacology and Toxicology, University of Maryland School of Pharmacy, Baltimore, Maryland, April 11, 1990. "Detection of free radical metabolites in biological fluids."

Invited speaker - Merck Frosst Centre for Therapeutic Research, Pointe Claire-Dorval, Quebec, Canada, April 12, 1990. "Peroxyl and inhibitor free radical metabolites of lipoxygenase."

Invited speaker - Gordon Conference on Magnetic Resonance in Biology and Medicine, Tilton School, Tilton, New Hampshire, July 17, 1990. "Quantitation of free radical formation through spin trapping."

Invited speaker - Workshop on Special Topics in Medical Magnetic Resonance, Whistler, British Columbia, Canada, July 26, 1990. "Free radical intermediates."

Invited speaker and chairman - 13th International EPR Symposium, Denver, Colorado, August 1, 1990. "*In vivo* detection of free radical metabolites."

Plenary speaker - VIIth Euchem Conference on "Organic Free Radicals", Arles, France, September 20, 1990. "*In vivo* formation of α-hydroxyethyl free radical from ethanol."

Invited speaker - Walter Straub Institute for Pharmacology and Toxicology, Ludwig - Marimilians - University Munich, Germany, September 25, 1990. "*In vivo* detection of free radical metabolites from hydroperoxides and ethanol."

Invited speaker - Institut Strahlen-biologie GSF Forschungszentrum, Neuherberg, Germany, September 26, 1990. "ESR: the spin trapping technique."

Selected speaker - Oxidative Damage and Repair. The 5th Biennial Meeting of the International Society for Free Radical Research, Pasadena, California, November 15, 1990. "*In vivo* detection of free radical metabolites of toxic chemicals and drugs in biological fluids."

Review panel member - Health Effects Institute, Cambridge, Massachusetts, November 27, 1990. "Ozone interaction with biological macromolecules and molecular dosimetry."

Invited speaker - Rohm and Haas Company, Research Laboratories, Spring House, Pennsylvania, November, 28, 1990. "*In vivo* detection of free radical metabolites."

Federal agency liaison - January 9-11, 1991, Review of "Experts system for predicting the environmental fate and effects of chemicals."

Invited speaker - Toxicology Scholar Seminar Series. Integrated Toxicology Program, Duke University Medical Center, Durham, North Carolina, January 23, 1991. "*In vivo* detection of free radical metabolites."

Invited speaker - Interdisciplinary Toxicology Seminar, University of Illinois Urbana - Champaign, Urbana, Illinois, May 3, 1991. "*In vivo* detection of free radical metabolites of toxic chemicals and drugs."

Invited speaker - Present and Future Magnetic Resonance Imaging, Ottawa, Illinois, May 4, 1991. "Role of environmental compounds and free radicals on health."

Invited speaker and chairman - Constituent Congress International Society for Pathophysiology, Moscow, U.S.S.R., June 1, 1991. "*In vivo* detection of free radical metabolites of toxic chemicals and drugs in biological fluids."

Invited speaker - LEPONEX/CLOZARIL/Agranulocytosis Research Meeting, London, United Kingdom, June 22, 1991. "Investigations into the possible role of free radical formation in clozapine-associated agranulocytosis."

Invited speaker and chairman - 23rd Southeastern Magnetic Resonance Conference, Georgia State University, Atlanta, Georgia, October 3-5, 1991. "*In vivo* detection of free radical metabolites of toxic chemicals, drugs, and iron in bile."

Ad hoc member - Scientific Board of Visitors, Oklahoma Research Foundation, Oklahoma City, Oklahoma, November 3-4, 1991.

Invited key speaker - 3rd International Symposium on Spin Trapping and Aminoxyl Radical Chemistry, Kyoto, Japan, November 22-24, 1991. "*In vivo* detection of free radical metabolites of toxic chemicals, drugs, and iron in bile."

Invited speaker - Sumitomo Chemical Company, Takarazuka, Japan, November 25, 1991. "*In vivo* detection of free radical metabolites of toxic chemicals, drugs, and from iron in bile."

Invited speaker and symposia co-chairman - Society of Toxicology Annual Meeting, Seattle, Washington, February 27, 1992. "Free radicals in toxicology."

Invited speaker - Free Radicals in Biology graduate course, Department of Veterinary Pathobiology, University of Illinois Urbana-Champaign, Urbana, Illinois, March 31, 1992. "Redox cycling"; and April 2, 1992. "PGS-catalyzed oxidations."

Invited speaker - VI Biennial Meeting, International Society for Free Radical Research, Torino, Italy, June 17, 1992. "Free radicals in drug activation and metabolism."

Invited speaker - Satellite Congress of VI SFRR, Free Radicals in Nutrition, Cagliari, Italy, June 23, 1992. "Direct evidence for *in vivo* hydroxyl radical generation in experimental iron overload: an ESR spin-trapping investigation."

Invited speaker - 9th International Symposium on Microsomes and Drug Oxidations, Jerusalem, Israel, July 8, 1992. "Trace transition metal-catalyzed free radical reactions in microsomal drug metabolism."

Invited speaker - QSAR 92 Fifth International Workshop on QSAR in Environmental Toxicology, Duluth, Minnesota, July 21, 1992. "Free radical metabolites of toxic chemicals and drugs as sources of oxidative stress."

Invited chairperson - 15th International EPR Symposium, Denver, Colorado, August 4, 1992. "Possible role of free radical formation in clozapine (Clozaril)-induced agranulocytosis."

Invited speaker - 15th International EPR Symposium, Denver, Colorado, August 5, 1992. "Possible role of free radical formation in clozapine (Clozaril)-induced agranulocytosis."

Invited participant - Workshop on the Future of EPR, Denver, Colorado, August 7, 1992. "Panel #1 -high resolution EPR."

Invited chairperson - British Association for Cancer Research Workshop - Bioreduction agents: Activation, detoxification and clinical development. Oxford University, Pembroke College, Oxford, United Kingdom, September 17-19, 1992.

Invited speaker - Department of Pharmacy, De Montfort University, Leicester, England, September 21, 1992. "Possible role of free radical formation in clozapine (Clozaril)-induced agranulocytosis."

Invited speaker - Curriculum in Toxicology UNC Monthly Seminar Series. University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, October 7, 1992. "Possible role of free radical formation in clozapine (Clozaril)-induced agranulocytosis."

Invited speaker - Program of Environmental Carcinogenesis, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina, October 8, 1992. "Evidence for *in vivo* hydroxyl radical generation in iron overload."

Invited chairperson - 24th Southeastern Magnetic Resonance Conference - EPR. North Carolina State University, Raleigh, North Carolina, October 9, 1992.

Invited plenary speaker - Research week of the University of Puerto Rico. Humacao University College, Puerto Rico, November 17, 1992. "Free radicals in toxicology and disease."

Invited speaker - Department of Chemistry and Biology, Humacao University College, Puerto Rico, November 17, 1992. "Redox coupling of radical anion metabolites of toxic chemicals and drugs and the Marcus theory of electron transfer."

Invited speaker - Continuing education course Application of Advanced Technologies to Problems in Toxicology, Society of Toxicology, New Orleans, Louisiana, March 14, 1993. "New developments in electron spin resonance in toxicology."

Invited chairperson - Society of Toxicology, Oxidative injury/lipid peroxidation - II, New Orleans, Louisiana, March 17, 1993.

Invited speaker and chairperson - Oxygen Radicals and Lung Injury, Morgantown, West Virginia, August 30 - September 2, 1993. "Detection of oxygen-derived radicals in biologic systems."

Invited speaker - Departmental Colloquium, Department of Chemistry, West Virginia University, West Virginia, September 1, 1993. "*In vivo* detection of free radicals."

Invited speaker and chairperson - *In Vivo* EPR and EPR Studies of Viable Biological Systems, Hanover, New Hampshire, October 18-22, 1993. "Methods for the *in vivo* detection of radical adducts."

Invited speaker and chairperson - 4th International Symposium on Spin Trapping and Organic EPR Spectroscopy with Applications in Chemistry, Biology and Medicine, Oklahoma City, OK, October 24-28, 1993. "Detection and identification of free radicals in biological systems."

Invited chairperson - Oxidants & Antioxidants in Biology: New Developments in Research and Health Effects, Pasadena, California, February 4-5, 1994. "Chemical mechanisms of bioradicals".

Invited speaker - Max-Delbrück-Centrum für Molekulare Medizin Berlin-Buch, Berlin, March 14, 1994. "ESR spin trapping investigations into hydroxyl radical generation in iron overload."

Invited speaker - Sandoz, Basel, Switzerland, March 16, 1994. "Detection and identification of free radicals in biological systems including nitric oxide."

Invited speaker - BIOSPEC Centrum voor Biomoleculaire Spectroscopie, University of Leiden, Leiden, The Netherlands, March 18, 1994. "ESR research on radical molecules in biology."

Invited speaker - Societé Francaise de Recherches sur les Radicaux Libres, Paris, France, March 21, 1994. "Detection and identification of free radicals in biological systems."

Invited speaker - Université de Marseille, Marseille, France, March 22, 1994. "Detection of oxygen-derived radicals in biological systems."

Invited speaker - Forty-second Annual Meeting of the Radiation Research Society, Nashville, Tennessee, May 2, 1994. "ESR spin trapping investigations into hydroxyl radical generation in iron overload."

Invited speaker - Center in Molecular Toxicology, Vanderbilt University, Nashville, Tennessee, May 3, 1994. "Detection and identification of free radicals in biological systems."

Invited speaker - Duke University Integrated Toxicology Program, Duke University, Durham, NC May 9, 1994. "ESR evidence from *in vivo* models of hydroxyl radical formation in iron overload."

Invited speaker - 17th International EPR Symposium, Denver, Colorado, August 2, 1994. "Electron spin resonance investigations of free radical toxicology."

Invited speaker and organizing committee - 26th Southeastern Magnetic Resonance Conference, Chapel Hill, NC, October 24, 1994. "Nitric oxide production during endotoxic shock in CCl_4-treated rats."

Invited speaker - Regional Sophisticated Instrumental Centre, Madras, India, September 10, 1994. "Nitric oxide production during endotoxic shock in CCl_4-treated rats."

Invited speaker - Centre for Cellular and Molecular Biology, Hyderabad, India, September 13, 1994. "Detection and identification of free radicals in biological systems."

Plenary speaker - Free Radicals in Biology, Satellite Meeting of the 16th International Congress of Biochemistry and Molecular Biology, Chandigarh, India, September 16, 1994. "Detection and identification of free radicals in biological systems."

Invited speaker - Free Radicals in Biology, Satellite Meeting of the 16th International Congress of Biochemistry and Molecular Biology, Chandigarh, India, September 17, 1994. "Nitric oxide production during endotoxic shock in CCl_4-treated rats."

Invited chairperson and selected speaker - Cellular Oxidants, Production and Consequences, Queenstown, New Zealand, November 1-3, 1994. "*In vivo* free radical generation by chromium (VI): an electron spin resonance spin-trapping investigation."

Invited chairperson and selected speaker - 7th Biennial Meeting International Society for Free Radical Research, Sidney, Australia, November 6-10, 1994. "Nitric oxide production during endotoxic shock in CCl_4-treated rats."

Invited speaker - Department of Chemistry, The University of Memphis, Memphis, Tennessee, December 15, 1994. "ESR detection of nitric oxide in biological systems."

Southern Chemist Award presentation - Rhodes College, Memphis, Tennessee, December 15, 1994. "Detection and identification of free radicals in biological systems."

Invited speaker - Duke Marine Center, Duke University, Beaufort, North Carolina, March 10, 1995. “ESR detection of nitric oxide in biological systems.”

Invited speaker - Apex Bioscience, Inc., Durham, North Carolina, March 16, 1995. "Electron spin resonance investigations of free radical toxicology."

Invited speaker - Department of Energy, High-field Magnetic Resonance Center, Hanford, Washington, April 20, 1995. "Electron spin resonance investigations of free radical toxicology."

Invited speaker - Protein Derived Free Radicals in Metal Enzymes, Friiberghs Herrgård outside Stockholm, Sweden, September 12, 1995. "Self peroxidation of metmyoglobin results in formation of an oxygen-reactive tryptophan-centered radical."

Invited speaker - Astra AB, Safety Assessment, Södertäije, Sweden, September 13, 1995. "Electron spin resonance investigations of free radical toxicology."

Invited speaker – Marion Merrell Dow, Cincinnati, Ohio, October 2, 1995. "Free Radicals and antioxidants in health and disease."

Invited speaker – Marion Merrell Dow, Cincinnati, Ohio, October 3, 1995. "Electron spin resonance investigations of free radical toxicology."

Invited speaker - Ohio State University, Columbus, February 26, 1996. "Self peroxidation of metmyoglobin results in formation of an oxygen-reactive tryptophan-centered radical."

Invited speaker - Interdisciplinary Seminar Series on Free Radicals in Biology and Medicine, Ohio State University, Columbus, February 27, 1996. "Detection and identification of free radicals."

Invited speaker - College of Pharmacy, Ohio Northern University, Ada, February 28, 1996. "Free radical toxicology of toxic chemicals and drugs."

NIEHS speaker - Oxidative Stress and Free Radical Faculty, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina, March 27, 1996. "Free radical toxicology of toxic chemicals and drugs."

NIEHS speaker - Oxidative Stress and Free Radical Faculty, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina, April 4, 1996. "Detection and identification of free radicals in biological systems."

Invited speaker- 28th Central Regional Meeting of ACS, Dayton, OH, June 10, 1996. Environmental Chemistry, "Electron spin resonance investigations of free radical toxicology."

Selected speaker- VII International Symposium on Organic Free Radicals, Bardolino, Italy, June 21, 1996. "The free radical metabolism of phenolphthatein by lactoperoxidase."

Invited Speaker- NATO Workshop "Free Radicals in Biology and Environment," Bardolino, Italy, June 22, 1996. "Detection and identification of free radicals in biological systems."

Invited Speaker- Jozef Stefan Institute EPR Center, Ljubljana, Slovenia, June 28, 1996. "Electron spin resonance investigations of free radical toxicology."

Invited Speaker- Europe Workshop on Oxidative Stress, Seggau Castle, Styria, Austria, July 5, 1996. "Tryptophan specificity in the self-peroxidation of metmyoglobin by hydrogen peroxide."

Award Address- 19th International EPR symposium, Denver, CO, July 23, 1996. "Metabolism of hydroxyurea to nitric oxide."

Invited Plenary Speaker- VIII Biennial Meeting of the International Society for Free Radical Research, Barcelona, Spain, October 2, 1996. "Electron spin resonance investigation of free radical toxicology."

Invited Speaker- Department of Chemistry, Louisiana State University, Baton Rouge, LA, October 15, 1996. "Electron spin resonance investigations of free radical toxicology."

Invited Speaker- Radiation Biology Branch, National Cancer Institute, Bethesda, MD, October 22, 1996. "Self-peroxidation of metmyoglobin results in formation of an oxygen-reactive tryptophan-centered radical."

Organized and Chaired- Biological Electron Spin Resonance Workshop, Oxygen Society 1996 Annual Meeting, Miami Beach, FL, November 20, 1996. Spoke on "Detection of Oxygen-derived Radicals with ESR."

Invited Speaker- International Conference on EPR-Spectroscopy on Nitric Oxide in Biological Systems, Suzdal, Russia, December 13, 1996. "Metabolism of hydroxyurea to nitric oxide."

Invited Speaker - 3rd Winter Research Conferences - Proteins and Free Radicals from Radical Enzymes to Damages, Les Arcs, France, March 10, 1997. "Reaction of prostaglandin H synthase tyrosine radical with nitric oxide."

Invited Plenary Speaker - 30th Annual International Meeting of the ESR Group of the Royal Society of Chemistry - ESR Spectroscopy of Radicals in Organic and Biological Systems, The University of Lancaster, England, April 6, 1997. "*In vivo* spin trapping from Chemistry to Toxicology."

Invited Speaker - Biochemical Spectroscopy Spring Symposium, The University of North Carolina at Greensboro, NC, April 25, 1997. "Electron Spin Resonance Investigations of Free Radical Toxicology."

Invited Speaker - Workshop on Detection of Free Radicals, Chulakhorn Research Institute, Bangkok, Thailand, May 22-24, 1997. "Reactions and involvement of free radical processes in toxicology," "Detection of oxygen radicals and experimental designs," and "EPR applications in pharmacology and toxicology."

Invited Speaker - Faculty of Science, Hahidol University, Bangkok, Thailand, May 26, 1997. "Free radical metabolites of toxic chemicals and drugs."

Invited Speaker - Society for Free Radical Research - European Region Summer Meeting, Abayo, Italy, June 27, 1997. "Nitric Oxide Trapping of the Tyrosyl Radical of Prostaglandin H Synthase-2 Leads to Tyrosine Iminoxyl Radical and Nitrotyrosine Formation."

Invited Speaker - Department of Toxicology, North Carolina State University, Raleigh, NC, September 2, 1997. "Electron Spin Resonance Investigations of Free Radical Toxicology."

Organizing Committee and Chair- The Second International Meeting on Oxygen/Nitrogen Radicals and Cellular Injury, 1997 Annual Meeting, Durham, NC, September 7-10, 1997. Presented on "Nitric Oxide Trapping of the Tyrosyl Radical of Prostglandin H Synthase-2 Leads to Tyrosine Iminoxyl Radical and Nitrotyrosine Formation."

Invited Speaker - International Symposium on Nitric Oxide in Health and Diseases, Kumamoto, Japan, September 20, 1997. "In Vivo Production of Nitric Oxide in Rats Following Administration of Hydroxyurea."

Invited Speaker - Health Effects Laboratory Division, Pathology and Physiology Research Branch, NIOSH, Morgantown, WV, December 3, 1997. "Electron Spin Resonance Investigations on Free Radical Toxicology."

Invited Speaker - NIEHS-Duke-UNC Environmental Clinical Research Training Program for Nurses and Physicians, NIEHS, Research Triangle Park, NC, January 6, 1998. "Electron Spin Resonance Investigations of Nitric Oxide in Animals & Humans."

Organized and Chaired - Annual Meeting of the Oxygen Club of California '98 World Congress, Free Radical School/Biological Electron Spin Resonance Workshop, Santa Barbara, CA, February 6-8, 1998. "Detection of Oxygen-Derived Radicals with ESR" and "Detection of Thiyl Radicals."

Organized and Chaired - Symposium: Phantom Free Radical Metabolites: Implications of futile metabolism for hepatoxicity, Experimental Biology '98, San Francisco, CA, April 21, 1998. "Introduction: background on free radical metabolism."

Invited Chair - Third International Conference on Biochemistry and Molecular Biology of Nitric Oxide, University of Californium Los Angeles, CA, July 14, 1998. "Inducible NO Synthase and Cyclooxygenase-2."

Invited Speaker - 21st International EPR Symposium, Denver, CO, July 29, 1998. "Nitric Oxide Trapping of the Tyrosyl Radical Formed by the Action of Peracetic Acid on Catalase Leads to Nitrotyrosine Formation."

Invited Speaker and Co-Chair - IX Bienniel Meeting International Society for Free Radical Research, Sao Paulo, Brazil, September 7-11, 1998. "Free Radical Detection and Biomarkers" and "Nitric Oxide Trapping of a Catalase-Derived Tyrosyl Radical Leads to Nitrotyrosine Formation."

Invited Speaker - Duke University Integrated Toxicology Program, Toxicology Scholar Seminar Series, Duke University, Durham, NC, November 2, 1998. "Nitric Oxide Trapping of the Tyrosyl Radical in Enzymes."

Invited Speaker - Laboratory of Biochemistry, National Heart, Lung, and Blood Institute, NIH, Bethesda, MD, November 18, 1998. "Trapping Tyrosyl Radical by Nitric Oxide - Biochemical and Toxicological Consequences."

Invited Speaker - Department of Chemistry, Wake Forest University, Winston-Salem, NC, January 20, 1999. "Trapping Tyrosyl Radical by Nitric Oxide - Biochemical and Toxicological Consequences."

Invited Speaker - Laboratory of Pharmacology and Chemistry, National Institute of Environmental Health Sciences, National Institutes of Health, Research Triangle Park, NC, March 4, 1999. "Trapping of Tyrosyl Radical by Nitric Oxide - Biochemical and Toxicological Consequences."

Invited Speaker - The Biophysics Graduate Program, Biophysics Research Institute, Milwaukee, Wisconsin, May 5, 1999. "Free Radical Reactions of Nitric Oxide: Toxicological and Biochemical Consequences."

Invited Speaker - 32nd Annual International Meeting: ESR Spectroscopy; Recent Advances and Applications, Royal Society of Chemistry, The University of York, Wales, United Kingdom, April 15, 1999. "Nitric Oxide Trapping of the Tyrosyl Radical of Prostaglandin H Synthase-2 Leads to Tyrosine Iminoxyl Radical and Nitrotyrosine Formation."

Invited Speaker - Second International Conference on the Chemistry and Biology of Peroxynitrite, Crete, Greece, May 18, 1999. "Nitric Oxide Trapping of the Tyrosyl Radical of Prostaglandin H Synthase-2 Leads to Tyrosine Iminoxyl Radical and Nitrotyrosine Formation."

Invited Speaker - Institute of Materials Science, NCSR Democritos, Athens Greece, May 21, 1999. "Free Radical Reactions of Nitric Oxide - Biochemical and Toxicological Consequences."

Invited Speaker – Anzmag 2000 – The Australian and New Zealand Society for Magnetic Resonance, Mt. Buller, Australia, Feb. 13-17, 2000 "Nitric Oxide Trapping of the Tyrosyl Radical of Prostaglandin H Synthase-2 Leads to Tyrosine Iminoxyl Radical and Nitrotyrosine Formation."

Invited Speaker – Heart Research Institute, Sydney, Australia, Feb. 19, 2000 "Tyrosyl Radical Trapping by Nitric Oxide – Biochemical and Toxicological Consequences".

Invited Speaker – 32nd ACS Central Regional Meeting, Covington, KY, May 18, 2000 "Tyrosyl

Radical Trapping by Nitric Oxide – Biochemical and Toxicological Consequences."

Invited Speaker – Department of Environmental and Occupational Health, University of Pittsburgh, Pennsylvania, May 23, 2000 "In Vivo Free Radical Detection – Triumphs, Challenges, and Defeats."

Invited Speaker – Department of Surgery Research Residents Seminar, University of Pittsburgh, Pennsylvania, May 24, 2000 "Tyrosyl Radical Trapping by Nitric Oxide – Biochemical and Toxicological Consequences."

Invited Speaker – Department of Biophysics, Institute of Molecular Biology, Jagiellonian University, Kraków, Poland, June 6, 2000 "In Vivo Free Radical Detection – Triumphs, Challenges, and Defeats."

Invited Speaker – 5th Symposium, Free Radicals in Biology and Medicine—Poland, University of Lódz, Lódz, Poland, June 7, 2000 "Tyrosyl Radical Trapping by Nitric Oxide – Biochemical and Toxicological Consequences."

Invited Speaker – First International Conference of the Society for Free Radical Research – Africa, Kruger Lodge, South Africa, July 16, 2000 "Detection of free radicals in animals and humans with electron spin resonance."

Plenary Speaker and Chair – 6th International Symposium on Spin Trapping – Marseille, France, August 27-31, 2000. "Biological spin trapping – Triumphs, challenges, and defeats."

Invited Speaker and Chair – 10th Biennial Meeting of the International Society for Free Radical Research – Kyoto International Conference Hall, Kyoto, Japan, October 16-20, 2000 "Protein-Centered Radical(s) of Mitochondrial Cytochrome *c* Oxidase and Mechanism-based Inhibition by Cyanyl Radical."

Invited Speaker and Chair – International Symposium on *In Vivo* ESR Spectroscopy – Kyushu University, Fukuoka, Japan, October 21-22, 2000 " Biological Spin Trapping – Triumphs, challenges, and defeats."

Invited Speaker – Departmental Seminar, Department of Chemistry, Academia Sinica, Taipei, Republic of China, October 25, 2000 "Tyrosyl Radical Trapping by Nitric Oxide – Biochemical and Toxicological Consequences."

Invited Speaker – Department Seminar – Department of Pharmacy, School of Medicine, the University of Tokushima, Kuramoto, Tokushima, Japan, October 23, 2000 "*In Vivo* Free Radical Detection – Triumphs, Challenges, and Defeats."

Invited Speaker – Workshop on Free Radical Chemistry and its Biomedical Implications – Institute of Biomedical Sciences, Academia Sinica, Taipei, Republic of China, October 26, 2000 "*In Vivo* Free Radical Detection – Triumphs, Challenges, and Defeats."

Invited Speaker – Department Seminar – LPC/NIEHS, Research Triangle Park, NC, USA, November 9, 2000 "*In Vivo* Free Radical Detection – Triumphs, Challenges, and Defeats."

Invited Speaker and Chair – Society of Toxicology 40th Annual Meeting – San Francisco, California, USA, March 29, 2001 "Catalytic Functions of Tyrosyl Radicals and Their Interactions with Nitric Oxide."

Invited Speaker – Department Seminar – Free Radical Biology Center, Biophysics Research Institute, Medical College of Wisconson, Milwaukee, Wisconnson, USA, May 3, 2001 "*In Vivo* Free Radical Detection – Triumphs, Challenges, and Defeats."

Invited Speaker – Genotoxicity and Environmental Mutagen Society (GEMS) Spring Meeting – NIEHS, Research Triangle Park, NC, USA, May 16, 2001 "*In Vivo* Free Radical Detection – Triumphs, Challenges, and Defeats."

Invited Speaker – 2nd International Symposium on Mechanisms, Models and Predictions of Idiosyncratic Drug Toxicity – Atlantic City, New Jersey, USA, June 12, 2001 "Possible Role of Free Radical Formation in Clozapine (Clozaril) Induced Agranulocytosis"

Invited Speaker and Chair – 43rd Rocky Mountain Conference on Analytical Chemistry – Denver, Colorado, USA, August 1, 2001 "Acute Methanol or Formate Intoxication Generates Free Radical Metabolites *in vivo*: Role of the Fenton Reaction."

Invited Speaker – Free Radicals: Perspectives and Futures – University of Notre Dame, Notre Dame, Indiana, USA, August 24, 2001 "*In Vivo* Free Radical Detection – Methanol and Formate Metabolism."

Invited Speaker and Chair – 9th International Meeting and Workshop on EPR Studies of Viable Systems (especially in vivo) and Related Techniques – Dartmouth Medical School, Hanover, NH, USA, September 9, 2001 "*In Vivo* Direct Evidence of Free Radical Formation in Acute Lung Injury Induced by Lipopolysaccharide and *Pseudomonas Aeruginosa*."

Invited Speaker and Chair – 3rd International Conference on Nitroxide Radicals – Kaiserslautern, Germany, September 28, 2001 "Acute Methanol or Formate Intoxication Generate Free Radical Metabolites *In Vivo*: Role of the Fenton Reaction."

Invited Speaker – 5th Workshop on EPR Applications in Biology and Medicine – Kraków, Poland, October 3, 2001 "*In Vivo* Direct Evidence of Free Radical Formation in Acute Lung Injury Induced by Lipopolysaccharide or *Pseudomonas Aeruginosa*."

Invited Speaker – Nutrients, Oxidation and New Genetic Pathways Leading to Cancer – Chapel Hill, NC, USA, November 28, 2001 "Sensitive analytical approaches to free radical measurements *in vivo* and *in vitro*."

Invited Speaker – 35th Annual International Meeting: Advanced Techniques and Applications of ESR – University of Aberdeen, Scotland, UK, April 9, 2002. "*In Vivo* Free Radical Formation by NADPH oxidase in lung induced by lipopolysaccharide – a model for ARDS."

Invited Speaker – The Medical College of Wisconsin, Milwaukee, USA, May 2, 2002. "*In Vivo* Direct Evidence of Free Radical Formation in Acute Lung Injury Induced by Lipopolysaccharide and *Pseudomonas Aeruginosa*."

Invited Speaker – 3rd International Conference on Oxygen/Nitrogen Radicals: Cell Injury and Disease – Morgantown, WV, USA, June 5, 2002. "*In Vivo* Direct Evidence of Free Radical Formation in Acute Lung Injury Induced by Lipopolysaccharide."

Invited Speaker – Research Society on Alcoholism – San Fransico, CA, USA, June 28, 2002. "Alcohol and the Liver: A Memorial for Ron Thurman."

Organized and Chaired – 7th International Symposium on Spin Trapping – Chapel Hill, NC, USA, July 7 – 12, 2002.

Invited Speaker – Workshop on the EPR of Aqueous Samples: 25th International EPR Symposium – Denver, CO, USA, July 28, 2002. "Examples of Free Radical Metabolite Formation in Aqueous Solution."

Invited Speaker – Lawrence H. Piette Memorial Lecture, 44th Rocky Mountain Conference on Analytical Chemistry – Denver, CO, USA, July 30, 2002. "*In Vivo* Lipid-derived Free Radical Formation by NADPH Oxidase in Acute Lung Injury Induced by Lipopolysaccharide – a Model for ARDS."

Invited Speaker – Department of Chemistry, Rensselaer Polytechnic Institute – Troy, NC, USA, December 3, 2002. "*In Vivo* Free Radical Detection – Triumphs, Challenges, and Defects."

Invited Speaker and Chair – Society of Toxicology 42nd Annual Meeting & ToxExpo: Free Radicals in the Toxicity of Alcohols – Salt Lake City, UT, USA, March 10, 2003. "An *In Vivo* ESR Spin-Trapping Study: Free Radical Generation in Rats from Methanol and Formate Intoxication- Role of the Fenton Reaction."

Invited Speaker – The 10th International Workshop on Bio-Medical ESR Spectroscopy and Imaging – Fukuoka, Japan, April 2, 2003. "Immunological identification of the myoglobin radical formed by hydrogen peroxide-spin trapping without quantum mechanics."

Invited Speaker – ESR New Developments: An International Symposium – Ithaca, NY, USA, April 26, 2003. "Immunological identification of the myoglobin radical formed by hydrogen peroxide."

Invited Speaker – Free Radical Research Center, Medical College of Wisconsin, Department of Biophysics – Milwaukee, WI, USA, May 1, 2003. "Free Radical Immunology – Spin Trapping without Quantum Mechanics."

Invited Speaker – 10th Annual Meeting of the Society for Free Radical Biology and Medicine – Seattle, WA, USA, November 20, 2003. "Methods in Free Radical Biology and Medicine and their Application to Translational Research."

Invited Speaker and Member International Advisory Committee– International Conference on Natural Products, Free Radicals and Radioprotectors in Health & III Annual Conference of Society for Free Radical Research-India – India, January 18, 2004. "Using anti-DMPO to trap radicals in time and space."

Invited Speaker – 46th Rocky Mountain Conference on Analytical Chemistry – Denver, Colorado, USA, August 2, 2004. "Synergistic production of lung free radicals by diesel exhaust particles and endotoxin."

Invited Speaker – Free Radicals in Chemistry and Biology Seminar – University of Colorado at Denver, Colorado, USA, August 4, 2004. "Using antibodies to capture radicals in time and space or immuno-spin trapping-free radical detection without quantum mechanics."

Invited Speaker – 1st International Congress on Toxicology in Slovenia with Workshops – Nova Gorica, Slovenia, September 19, 2004. "Using anti-DMPO to detect trapped hemoprotein radicals with immuno-spin trapping."

Invited Speaker - Duke University Integrated Toxicology Program: 2005 Spring Seminar Series - Searle Center, Duke University, Durham, North Carolina, USA, February 25, 2005. "Using anti-DMPO to trap radicals in time and space."

Invited Speaker – Medical College of Wisconsin Free Radical Research Center – Medical College of Wisconsin, Department of Biophysics – Milwaukee, WI, May 5, 2005. "Capturing Protein and DNA Radicals in Time Space with Immuno-Spin Trapping."

Invited Speaker – 47th Rocky Mountain Conference on Analytical Chemistry – Denver, Colorado, USA, August 2, 2005. "Tyrosyl Radical Trapping of Nitric Oxide-Biochemical and Toxicological Consequences."

Invited Speaker - EPR 2005: The International Conference/Workshop on Electron Paramagnetic Resonance Spectroscopy and Imaging of Biological Systems - Hilton Columbus at Easton Town Center - Columbus, Ohio, USA, September 5, 2005. "Capturing Protein and DNA Radicals in Time Space with Immuno-Spin Trapping."

Invited Speaker – 4th International Conference on Nitroxide Radicals : Synthesis, Properties and Implications of Nitroxides – Akademgorodok, Novosibirsk, Russia, September 23, 2005. "Capturing Protein and DNA Radicals in Time and Space with Immuno-Spin Trapping."

Invited Speaker – International Conference on Reactive Oxygen and Nitrogen Species, Nitric Oxide, Antioxidants, and Human Health – Smolensk, Russia, September 30, 2005. "Nitric Oxide by Tyrosyl Radical Leads to Nitrotyrosine Formation in Proteins."

Invited Speaker – Journal Club Presentation and Meeting – Duke University Medical Center-Durham, North Carolina, USA , October 5, 2005. "Capturing Protein and DNA Radicals in Time and Space with Immuno-Spin Trapping."

Invited Speaker – Department of Biochemistry Seminar – University of North Carolina - Chapel Hill, North Carolina, USA, November 1, 2005. "Capturing Protein and DNA Radicals in Time and Space with Immuno-Spin Trapping."

Invited Speaker **–** Society of Free Radical Biology and Medicine, 12th Annual Meeting/ Pre-Meeting Workshop : Rigorous Detection and Identification of Free Radicals in Biology and Medicine – Austin, Texas, USA, November 16, 2005. "Application Techniques of Electron Spin Resonance and Immuno-Spin Trapping."

Invited Speaker – Gordon Research Conference, Oxygen Radicals – Ventura, California, USA, February 6, 2006. "Capturing Protein and DNA Radicals in Time and Space by Immuno-spin Trapping."

Invited Speaker – The Fourth Annual NIEHS Science Awards Day – Scientist of the Year Presentation - Research Triangle Park, NC, USA, November 2, 2006. "Do it Yourself Detection of Protein and DNA Free Radicals in Organelles, Cells, and Tissues: A 30 year Odyssey."

Invited Speaker – Department of Chemistry Seminar-The John Hopkins University - Baltimore, Maryland, USA, April 24, 2007. "Do It Yourself Detection of Protein and DNA Free Radicals in Organelles, Cells, and Tissues: A 30 Year Odyssey."

Invited Speaker – Department of Pharmaceutical Sciences Seminar, Engebretson Lectue Series-North Dakota State University - Fargo, North Dakota, USA, April 26, 2007. "Do It Yourself Detection of Protein and DNA Free Radicals in Organelles, Cells, and Tissues: A 30 Year Odyssey."

Invited Speaker and Chair - EPR 2007, A Joint Conference of the 12th In Vivo EPR Spectroscopy & Imaging and the 9th International EPR Spin Trapping/Spin Labeling: Spin Trapping Applications in Biology and Medicine Symposium – Chicago, Illinois, USA, May 1, 2007. "Do It Yourself Detection of Protein and DNA Free Radicals in Organelles, Cells, and Tissues: A 30 Year Odyssey."

Invited Lecture – Free Radicals in Montevideo 2007 – V Meeting of SFRBM-South American Group and V International Conference on Peroxynitrite and Reactive Nitogen Species – Montevideo, Uruguay, SA, September 3, 2007. "Free Radical Production in both Diabetes and Ketosis are Mediated by iNOS."

Invited Speaker and Co-Chair – VIIth International Workshop on EPR (ESR) in Biology and Medicine – Krakow, Poland, October 5, 2007. "First L-Tryptophan Radical Cation ESR Studies: Support for Tryptophan's Involvement in Protein Electron Transport."

Invited Speaker – 36th Southeastern Magnetic Resonance Conference – The University of Alabama – Tuscaloosa, Alabama, USA, November 10, 2007. "Unraveling the Causative Role of Inducible Nitric Oxide Synthase-mediated Free Radical Production in the Pathogenesis of Diabetes."

Invited Speaker – 5th JSPS Core-to-Core Program Seminar - Winter School on Redox Biology, Chemistry & Imaging - NIH – Bethesda, Maryland, USA, November 12, 2007. "Redox Chemistry and Spin Trapping."

Invited Speaker – 14th Annual Meeting SFRBM – Washington, DC, USA, November 14, 2007. "Determination of the Distribution of Protein Radicals in Cells and Tissue by Immuno-Spin Trapping."

SFRBM Lifetime Achievement Award Lecture – 14th Annual Meeting SFRBM – Washington, DC, USA, November 14, 2007. "Do It Yourself Detection of Protein and DNA Free Radicals: A 30 Year Odyssey."

Advisory Board – HSSRC/AIST-NIEHS/NIH Joint International Symposium - Biomarkers of Oxidative Stress in Health and Diseases – Osaka, Japan, January 16-19, 2008.

Chair – HSSRC/AIST-NIEHS/NIH Joint International Symposium- Biomarkers of Oxidative Stress in Health and Diseases – Osaka, Japan, January 18, 2008. Plenary Session V: Biomarkers of Protein and DNA Modification.

Invited Speaker – HSSRC/AIST- NIEHS/NIH Joint International Symposium – Biomarkers of Oxidative Stress in Health and Diseases – Osaka, Japan, January 18, 2008. "Immuno-spin Trapping of DNA Radicals."

Selected Speaker - Gordon Conference – Oxygen Radicals – Ventura, California, February 5, 2008. "Procainamide, but not N-Acetylprocainamide, Induces Protein Free Radical Formation on Myeloperoxidase: A Potential Mechanism of Agranulocytosis."

Invited Speaker – Free Radical Research Center – Milwaukee, Wisconsin, May 1, 2008. "First L-Tryptophan Radical Cation ESR Studies: Support for Tryptophan's Involvement in Protein Electron Transport and Site Determination."

Invited Speaker – Columbia University - New York, New York, May 15, 2008. "Do It Yourself Detection of Protein and DNA Free Radicals in Organelles, Cells, and Tissues."

Invited Speaker – Joint NCI/NIEHS Scientific Meeting –Research Triangle Park, North Carolina, June 19, 2008. "Detection of Biological Free Radicals in Time and Space."

Invited Speaker – 31st International EPR Symposium Preliminary Program – Beaver Run Resort, Breckenridge, Colorado, July 29, 2008. "Detection of Protein and DNA Free Radicals in Organelles, Cells, and Tissues."

Invited Speaker and Session Chair -- A Joint Conference of the 13th In Vivo ESR/EPR Spectroscopy & Imaging and the 10th International EPR Spin Trapping/Spin Labeling: EPR2008 The 7th JSPS Core-to Core Seminar Biomedical Redox Navigation (EPR2008) – Fukuoka, Japan, September 28, 2008. "Determination of the Distribution of Protein Radicals in Cells and Tissue by Immuno-Spin Trapping."

Invited Plenary Speaker -- Annual Meeting of the Japanese ESR Society, Fukuoka, Japan, October 1, 2008. "Do-It-Yourself Detection of Free Radicals: A 30 Year Odyssey."

Invited Speaker -- Division of Pharmacology and Therapeutics, Kumamoto University, Kumamoto, Japan, October 1, 2008. "Do-It-Yourself Detection of Free Radicals: A 30 Year Odyssey."

Invited Speaker -- Department of Dermatology, Kagawa University, Kagawa, Japan, October 3, 2008. "Do-It-Yourself Detection of Free Radicals: A 30 Year Odyssey."

Invited Speaker -- Department of Medical Pharmacology, University of Tokushima, Tokushima, Japan, October 6, 2008. "Do-It-Yourself Detection of Free Radicals: A 30 Year Odyssey."

Invited Speaker -- Department of Chemistry, Wakayama Medical College, Wakayama, Japan, October 8, 2008. "Do-It-Yourself Detection of Free Radicals: A 30 Year Odyssey."

Invited Speaker – The 14th Biennial Meeting of the Society for Free Radical Research International (14th SFRR), Beijing, China, October 19, 2008. "Determination of the distribution of Protein Radicals in Cells and Tissue by Immuno-Spin Trapping."

Original Journal Publications:

1. **Mason, R.P.** and Harriman, J.E.: Electron spin resonance spectra of zwitterion radicals and isoelectronic anion radicals. J. Phys. Chem. 76:2479-2481, 1972.

2. **Mason, R.P.** and Freed, J.H.: Estimating microsecond rotational correlation times from lifetime broadening of nitroxide electron spin resonance spectra near the rigid limit. J. Phys. Chem. 78:132l-1323, 1974.

3. **Mason, R.P.**, Polnaszek, C.F., and Freed, J.H.: Comments on the interpretation of electron spin resonance spectra of spin labels undergoing very anisotropic rotational reorientation. J. Phys. Chem. 78:1324-1329, 1974.

4. Hwang, J.S., **Mason, R.P.**, Hwang, L.-P., and Freed, J.H.: Electron spin resonance studies of anisotropic rotational reorientation and slow tumbling in liquid and frozen media. III. Perdeuterated 2,2,6,6-tetramethyl-4-piperidone *N*-oxide and an analysis of fluctuating torques. J. Phys. Chem. 79:489-511, 1975.

5. **Mason, R.P.** and Holtzman, J.L.: The mechanism of microsomal and mitochrondrial nitroreductase. Electron spin resonance evidence for nitroaromatic free radical intermediates. Biochemistry 14:1626-1632, 1975.

6. **Mason, R.P.** and Holtzman, J.L.: The role of catalytic superoxide formation in the O_2 inhibition of nitroreductase. Biochem. Biophys. Res. Commun. 67:1267-1274, 1975.

7. **Mason, R.P.** and Harriman, J.E.: ESR investigation of the nitrobenzene anion radical in single crystals of benzoate salts. J. Chem. Phys. 65:2274-2287, 1976.

8. Hsi, E., **Mason, R.**, and Bryant, R.G.: Magnetic resonance studies of α-chymotrypsin crystals. J. Phys. Chem. 80:2592-2597, 1976.

9. **Mason, R.P.**, Giavedoni, E.B., and Dalmasso, A.P.: Complement-induced decrease in membrane mobility: Introducing a more sensitive index of spin-label motion. Biochemistry 16:1196-1201, 1977.

10. **Mason, R.P.**, Peterson, F.J., and Holtzman, J.L.: The formation of an azo anion free radical metabolite during the microsomal azo reduction of sulfonazo III. Biochem. Biophys. Res. Commun. 75:532-540, 1977.

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