

An Application to the Heilbrun Distinguished Emeritus Fellows Research Program

Applicant: Donald Stein, PhD

Asa G. Candler Professor Emeritus and Distinguished Professor (SOM) Emeritus

Emory College of Arts and Sciences

Title: A Phase I clinical study of subcutaneously administered natural progesterone for the treatment of recurrent Glioblastoma Multiforma.

Background: Since joining the Emory faculty in 1995, I worked on studying the effects of natural progesterone and its metabolites on neuroprotection and recovery from brain injury. In this context, we have had our successes, failures and subsequent validation of our work showing progesterone and its metabolites benefits on repair of the damaged brain. There are now more than 500+ pre-clinical and clinical publications cited on PubMed demonstrating neuroprotective effects of this hormone in both male and female subjects. Progesterone is safe, easy-to-administer and low cost, thus making it a strong candidate for further clinical testing in a variety of CNS disorders. Despite this progress there are still no FDA-approved, safe and effective pharmacotherapies for TBI and its related disorders.

As a part of my research program as Director of the Department of Emergency Medicine BRL, I always thought that brain tumors are among the most destructive and deadly types of brain injury. The current treatments for GBM are very hard on the patients and often leave them with a very diminished quality of life. In this context, my colleagues and I initiated a program to study whether progesterone could be effective in regulating the metabolism and growth of one of the most deadly types of these tumors. Glioblastomas (GBMs) are aggressive primary brain tumors of astrocytic origin. Approximately ten thousand new cases are diagnosed each year in the U.S., making it the most common primary malignant brain tumor in adults. Radiation therapy (RT) and chemotherapy have long been used in the treatment of GBMs and they will delay their progression; but in the long-term more than 95% of patients live less than a year and die of the disease as the tumors progress. Clearly, the field needs newer therapies, especially for when the tumors re-occur. *If progesterone, alone or in*

combination with standard of care therapies extends patient survival and improves the quality of their lives, it would be a substantial contribution to the field of oncology.

Why Progesterone? It is a natural hormone made by both males and females and functions in both the central and peripheral nervous systems. Based on our pre-clinical work we have shown that progesterone, *in the proper dosing and duration*, has no demonstrable negative effects on healthy cells but shrinks and kills tumor cells in rodents efficiently and selectively. Another plus for progesterone is that, when given by injection, it crosses the BBB rapidly. In the brain of its key effects is to reduce the cerebral edema and inflammation that often accompany severe brain injuries from trauma, surgical excision of the tumor, chemotherapy, or radiation. Progesterone has been shown to have a very high safety profile and limited side effects in clinical treatment for brain injury. The current literature shows that progesterone is a pleiotropic agent that works systemically to modulate tissue repair and reduce the cytotoxic cascade that a CNS injury will cause¹.

In this IRB and FDA-approved clinical trial project, our main goal is to establish the pharmacokinetics, safety/tolerability and efficacy of daily subcutaneous natural progesterone in patients with recurrent glioblastoma. We will also employ the evaluation of tissue and serum biomarkers taken from the patients to determine if these markers can be used to help in the prediction of efficacy and effect of the treatment.

The first part of the study will be a dose-finding study where 3+3 patients will be enrolled and treated at different dose levels to find the highest dose that is both safe and tolerable for eligible patients with GBM at 1st to 3rd recurrence. The patients will be given progesterone by subcutaneous injection on a daily basis up to 24 weeks; unless the patient is discontinued for personal or medical reasons. The second part of the study will examine a total of 20 patients treated at the highest dose identified to be safe and tolerable during Part 1 of the study. The patients will be given progesterone by subcutaneous injection on a daily basis at the dose level determined in Part 1 of the study for up to 24 weeks. The study is divided into a Screening period, Treatment period, and End of Treatment (EOT) period. A complete protocol submitted to the FDA and Emory IRB is available upon request.

All of the follow-up biomarker research will be conducted at Emory in the EM Brain Research Laboratory or in the laboratory of Dr Shu in Neurosurgery.

- *If approved, the \$10,000.00 Heilbrun funds will be used specifically to offset the costs of the examination of the tumor biomarkers taken in the clinic and evaluated in the research labs. This would include any clinical charge fees, purchase of supplies, fees for using equipment in the Emory Core facilities.*
- Tumor tissue from the patients will be assessed for the following factors and performed either as part of the original neuropathologic assessment or from subsequent assessment of the original tissue block/slides. *These factors will be correlated with outcomes of patients to determine if there are benefits derived from the progesterone treatment. The initial assays and laboratory validation of protocols will be completed in the first year of study and the overall clinical study is expected to be completed within two years.*
 - **Progesterone receptor (PR-A and PR-B)** – To be determined by immunohistochemistry of glioblastoma tumor from original surgery
 - **MGMT methylation** – This will be determined by PCR with results reported as positive, negative or borderline. We will use results from original pathology or from the original tumor tissue block obtained for this testing.
 - **Mutations in the following genes (p53, EGFR, PTEN, AKT, IDH1, IDH2)** – Sequence variation at hotspots within these genes will be assessed via a SnapShot Cancer Mutation Panel. All patients originally diagnosed at Emory have this test performed as part of the routine neuropathologic assessment. We plan to use results from the original pathology report unless it was not performed; in which case, the original tumor tissue block will be obtained for this testing .
 - **Genomic loss/gain particularly at the following loci (1p, 1q, 7p, 10q, 19q)** – Copy number variation of the entire genome will be assessed via the Oncoscan SNP Microarray Analysis. All patients originally diagnosed at Emory have this test performed as part of their routine neuropathologic assessment. We will use results from the original pathology report unless it was not performed; in which case the original tumor tissue block will be obtained for this testing.

Total Biomarker Assay Costs:

Pharmacokinetics: \$40,000

Histology: \$30,000

Current Clinical and Research Staffing:

PRINCIPAL Physician *Clinical* INVESTIGATOR:

Hui-Kuo G. Shu, MD, PhD.

Professor, Dept. of Radiation Oncology, Emory University-School of Medicine, Phone:

Phone: 404-778-2161, Fax: 404-778-4139

E-Mail: hgshu@emory.edu

Physician CO-INVESTIGATOR (Clinical):

Jeffrey Olson, MD.

Professor, Department of Surgery

Emory University-School of Medicine

Phone: 404-778-5770

E-mail: jolson@emory.edu

Scientific CO-INVESTIGATORS (Pre-Clinical):

Donald Stein, PhD, Professor Emeritus

Neuroscience and Behavioral Biology Program

Emory University College of Arts and Sciences

Phone: 404-273-5226

E-mail: dstei04@emory.edu

Fahim Atif, PhD, Department of Emergency Medicine

Emory University School of Medicine

Phone: 404-727-7614

E-mail: fatif@emory.edu

STATISTICIAN:

Jeffrey Switchenko, PhD Biostatistics Shared Resource

Winship Cancer Institute of Emory University

Phone: 404-778-4157

E-mail: jswitch@emory.edu

¹: Progesterone has been in clinical use since 1934 and was ranked as 189th most prescribed medication in the United States in 2016 with more than 3 million prescriptions

[https://en.wikipedia.org/wiki/Progesterone_\(medication\)#Medical_uses](https://en.wikipedia.org/wiki/Progesterone_(medication)#Medical_uses)

CURRICULUM VITAE

DONALD G. STEIN, Ph.D.

Asa G. Candler Professor Emeritus
Distinguished Professor in Emergency Medicine (Adjunct)
Faculty, Program in Neuroscience and Behavioral Biology
Emory College of Arts and Sciences

ADDRESS 1295 E. Rock Springs Road, apt:120
Atlanta, Georgia 30306

Voice: (404) 273-5226

E-mail: dstei04@emory.edu

EDUCATION

1960 Bachelor of Arts (honors), Experimental Psychology, Michigan State University
1962 M.A., Experimental-Comparative Psychology, Michigan State University
1965 Ph.D., Psychology, University of Oregon
1965-66 Post-doctoral Fellowship, National Institute of Health, Massachusetts Institute of
Technology

PROFESSIONAL EXPERIENCE

1966-69 Assistant Professor of Psychology, Clark University, Worcester, Massachusetts

1969-73 Associate Professor of Psychology; Director of the Brain Research Laboratory,
Clark University, Worcester, Massachusetts

1973-88 Professor of Psychology; Director of the Brain Research Laboratory, Clark
University, Worcester, Massachusetts

1978-86 Professor of Neurology, University of Massachusetts Medical Center

1988-95 Dean, Graduate School; Associate Provost for Research; Professor of Psychobiology
and Biological Sciences, Rutgers - The State University of New Jersey

1990-95 Adjunct Professor of Neuroscience and Neurology, University of Medicine and
Dentistry of New Jersey

1995-00 Vice Provost and Dean, Graduate School of Arts and Sciences; Professor of
Psychology and Neurology, Emory University

1999-00 Interim Vice President for Research, Emory University

2000-2010 Asa G. Candler Professor with Faculty Appointments in Emergency Medicine,
Neurology and Psychology (adjunct-Jan. 2002), Emory University

- 2010-2021 Distinguished Professor of Emergency Medicine, Director, Brain Research Laboratory Emory University (Retired)
- 2019-2021 Asa G. Candler Professor, Emory University, Faculty: Program in Neuroscience and Behavioral Biology
- 2021 Professor Emeritus, Emory College of Arts and Sciences, Program in Neuroscience and Behavioral Biology, Adjunct Professor, Department of Emergency Medicine

TEACHING EXPERIENCE AND INTERESTS

General Physiological Psychology
 Recovery from Brain Injury
 Pharmacology of Brain Damage and Recovery
 History of Brain Function
 Science and Public Policy
 Clinical Trial policy and implementation
 Neuroethics and commercialization of the academy

AREAS OF SPECIALIZATION AND RESEARCH INTERESTS

The role of neurosteroids in recovery of function after traumatic brain injury and stroke in both young and aged subjects, and the development of neurosteroids as potential adjunct for the treatment of certain types of brain cancers.

AWARDS AND HONORS

- National Institutes of Mental Health Pre-Doctoral Research Fellowship, University of Oregon, Eugene, Oregon, September 1963-August 1965
- National Institutes of Mental Health Post-Doctoral Research Fellowship, Massachusetts Institute of Technology, September 1965-August 1966
- Fulbright Scholar, Claude Bernard University, Lyon, France, 1971-72
- Fulbright Scholar, INSERM, Kremlin-Bicêtre Hospital, Paris, France 1971
- Government of France Ministry of Foreign Affairs Fellowship, September 1971-June 1972
- Fulbright Travel Award to France, September 1975
- Government of France Visiting Scientist, Université Louis Pasteur, Strasbourg, France, 1977, 1980, 1982, 1983, 1984, 1988 and 1989
- Government of France appointment to Hospital Neurologique, Institut National de Santé et Recherche Médicale at Lyon, France, September 1975-August 1976
- Government of France appointment as "Professeur Associé," University of Nice, France, 1977
- Society for Neuroscience: Grass Foundation Traveling Scientist Award, February 1979
- Institut National de Santé et Recherche Médicale Visiting Scientist, Paris, France, 1979
- American Association for the Advancement of Science Congressional Fellowship in Science and Engineering, U.S. Senate, Washington, DC, September 1980-August 1981
- Who's Who in America
- Who's Who in Frontier Science and Technology
- Fellow, American Association for the Advancement of Science

- Fellow and Charter Member, American Psychological Society
- Dean's Alumni Achievement Award, University of Oregon
- President, Winter Conference on Brain Research, 1992–94
- Chair, Winter Conference on Brain Research, Fellowships Committee of 1995–2000
- Chair, New York Academy of Sciences Section on Biomedical Sciences, 1993–94
- Fulbright Research Scholar Fellowship, Paris, France, 2001
- Halle Institute Faculty Study Trip: India, January 2003
- North American Brain Injury Society (NABIS) award for scientific contributions to enhancing recovery from brain injury, Tampa Florida, 2005
- President, International Brain Injury Association, 2005-2007
- Board of Governors, International Brain Injury Association, 2005-present
- Scientific Chair, Academy of Multidisciplinary Neurotraumatology, 2005-2011
- Scientific Counselor, World Federation of Neurorehabilitation, 2005-present
- Erskine Visiting Fellowship, University of Canterbury, Christchurch, New Zealand, March-April 2007
- Wayner-NOXXE Award for major scientific contributions to behavioral neuroscience, International Behavioral Neuroscience Society, Rio De Janeiro, Brazil, June 2007
- Association for Psychological Science, Festschrift for Donald Stein, San Francisco, May 2009
- Erskine Visiting Fellowship, University of Canterbury, Christchurch, New Zealand, February-March 2010
- Emory University Game-Changer Award, September 2010
- Erskine Visiting Fellowship, University of Canterbury, Christchurch, New Zealand, February-April, 2013
- Emory University School of Medicine Dean's Distinguished Lecture and Award, 2013
- Brain Injury Association of America William Fields Caveness Award, 2013
- American Psychological Association, 20th annual Neal Miller Distinguished Lecture, APA Convention, Honolulu, HI, 2013
- Philip L. Lance Award for Public Awareness of Brain Injury, Hinds Feet Farm, Charlotte, NC, 2014
- Jennett Plum Award for Clinical Achievement in the Field of Brain Injury Medicine, International Brain Injury Association, San Francisco CA, 2014
- Henry Stonnington Award for Best *Brain Injury* Review Paper of 2015, International Brain Injury Association, 2016
- Emory University Postdoctoral Association Best Mentor award, 2016
- Professor Emeritus, Emory College of Arts and Sciences, Emory University

RESEARCH GRANTS AND CONTRACTS AWARDED

- NIMH Neurological Sciences Training Grant, Departments of Psychology and Biology, Clark University (9/66-8/68)
- USPHS Research Grant: Facilitation of learning by electrical stimulation of hippocampus. PI (1967-1968)
- NSF Research Grant: Facilitation of learning by alteration of CNS development, with J.J. Brink as Co-Principal Investigator (10/1/67-1/31/70)
- USPHS Biomedical Sciences Grant, in support of several projects (1968-1969)
- NINCDS Research Grant: Recovery of function in CNS. Principal Investigator (1969–1973)

- NSF Research Grant: Facilitation of learning by alteration of CNS development. PI (1970)
- NIMH Research Career Development Award. Principal Investigator (1972-1978)
- NIA Research Grant: The psychobiology of aging. Principal Investigator (1976-1979)
- NIA Research Grant: International Conference on "The Psychobiology of Aging" (1979-1980)
- NIA Research Grant: Aging, nerve growth factor and brain function. Principal Investigator (1979-1982)
- Foundation for Nutritional Advancement Research Grant: Antioxidants and recovery from CNS injuries. Principal Investigator (1979-1982)
- USAMRDC Research Grant: The neurotrophic substances and behavioral recovery from brain damage. Principal Investigator (1982-1983)
- Fidia Research Laboratories Research Grant, Abano Terme, Italy: Gangliosides and brain function. Principal Investigator (1983-1993)
- Fidia Research Laboratories Research Grant, Abano Terme, Italy: The effects of GM1 gangliosides on recovery of function after brain injury. Principal Investigator (1989-1992)
- NIH Research Grant: Fetal brain transplants and recovery from brain damage (7/1/84-6/30/87)
- American Paralysis Association Research Grant: Fetal brain tissue transplants and behavioral recovery from central nervous system injury. Principal Investigator (1984-1987)
- Grant to organize the Luxembourg International Conference on "Pharmacological approaches to the treatment of brain and spinal cord injury," Walferdange, Luxembourg (7/7-7/11/86)
- NINDS Research Grant: Fetal brain transplants and recovery from brain damage. PI (1/1/85-4/30/92)
- Biomeasure, Inc. Research Grant: Evaluation of the neurotrophic effects of ginkgo biloba extract upon CNS lesions. Principal Investigator (1987-1989)
- Biomeasure, Inc. Research Grant: Further investigations on the effects of the ACTH/-MSH analogue BIM-22105 on recovery of function after brain injury. PI (1989-91)
- GENRE Corporation: Trophic factors and recovery from brain damage in development, maturity and senescence (1/1/91-12/31/98)
- IPSEN Pharmaceutical: Ginkgo biloba extracts and recovery from traumatic brain damage (1992-97)
- GENRE Corporation: The effects of progesterone on the immune system and on recovery from traumatic brain injury in rats (1998-2003)
- Field Neurosciences Institute: The morphological and behavioral effects of progenitor cell and progesterone treatments on recovery from contusion injury of the frontal cortex in rats (2000-02)
- Health and Human Services (CDC): Progesterone and recovery from brain damage (1993-1999)
- NINDS Clinical Trial Planning Grant participant and consultant: Progesterone as treatment for traumatic brain injury (2001-2004)
- NINDS Research Grant: The Neuroprotective mechanisms of progesterone after traumatic brain injury (03/1/01- 02/28/05)
- NINDS Research Grant: The Neuroprotective effects of progesterone and its metabolites on recovery from traumatic brain injury (12/01/01-11/30/05)
- NIHCD grant: The effects of chronic dihydroepiandrosterone (DHEA) administration on recovery of function after traumatic brain injury (04/01/01-03/31/03)
- Robert Wood Johnson Foundation Grant to organize, develop and present a symposium on "The Commercialization of Academia," Emory University, June 2002
- Senator Sam Nunn Policy Forum, Bank of America grant in support of symposium on the commercialization of academia (see above)

- NICHD supplement: The efficacy of progesterone compared to that of thyrotropin releasing hormone (TRH) in the functional outcome of traumatic brain injury, 2005; 2007
- NIH/NICHD: Progesterone, TBI and CNS repair in mature and aged rats, 2005-2010
- United States Army Medical Research and Materiel Command: Progesterone in the Field-Forward Treatment of Traumatic Brain Injury, 2008-2009
- NIH: R01 Combination of progesterone and vitamin D in the treatment of traumatic brain injury, 2010-2013
- Emory Center for Injury Control (PI, Houry), Project #4: Preclinical assessment of Progesterone Treatment for Pediatric Traumatic Brain Injury, 2014
- NIH R21: (Hua) Role of Toll-like receptor-2 and -4 in the secondary brain damage following traumatic brain injury, Co-PI, 2010-2012
- NIH U01: Progesterone in the treatment of ischemic stroke, 2010-2013
- American Heart Association SDG 0830481N (Sayeed): Co-Investigator, 2011-2014
- Marcus Foundation Gift in support of research, 2021-2016
- Allen and Company Gift in support of research 2008-present

PROFESSIONAL ACTIVITIES

Reviewer of grant applications

National Science Foundation - Psychobiology and Neurobiology Divisions

National Institutes of Health, Ad Hoc Study Section, Neuroscience Training Grant Reviews

Ipsen Pharmaceutical Corporation, Alzheimer's Association, American Paralysis Association

Consultant to the Canadian National Stroke Network: Scientific Advisory Committee

Expert Committee, Canada Foundation for Innovation Fund

Consultant to "Enhancing Rehabilitation Research in the South" (ERRIS) project sponsored by NCMRR

Consultant NIH review of the RFA HD-03-025, Genetic Basis of Recovery & Rehabilitation. Bethesda MD, March 2004

Member, National Advisory Child Health and Human Development Council, 2004-2008

Member, CDC TBI Portfolio review panel, 2007

Member, Executive Planning Committee, NICHD, 2007-2009

Reviewer, Rehabilitation Research & Development, Department of Veterans Affairs, 2012-present

Reviewer, Department of Defense, Congressionally Mandated Traumatic Brain Injury Research Panel 2022

Past and/or present Editorial Board Memberships:

Founding Editor, *Restorative Neurology and Neuroscience* (Editorial Board)

Co-editor, *Pediatric Rehabilitation*

Co-editor, *Developmental Neurorehabilitation* (formerly *Pediatric Rehabilitation*)

Founding Editor, *Brain Injury Professional*

Editorial Board, *Behavioral and Neural Biology*

Editorial Board, *Behavioral Brain Research*

Editorial Board, *Brain Injury*

Editorial Board, *J. Cell Transplantation*

Editorial Board, *Progress In Brain Research*

Editorial Board, *Future Neurology*

Editorial Board, *Neurotrauma Letters*

Memberships Past and Present

Fellow, American Association for the Advancement of Science

Fellow, American Psychological Society

American Association of University Professors

European Brain and Behavior Society

Association of Fulbright Fellows

International Behavioral Neuroscience Society

International Brain Injury Association (Former President and Member, Board of Governors)

New York Academy of Sciences

Neurotrauma Society

Phi Beta Kappa

Society for Neuroscience

Sigma Xi Scientific Honorary

CIVIC ORGANIZATIONS/COMMUNITY SERVICE

Initiated and organized a Science and Technology Political Action Committee (SCITEC-PAC) to support federal candidates committed to basic research and development

Planned and organized fund-raising activities for the development of the political action committee

Founded and organized the National Coalition for Science and Technology

Grants review Veteran;s Administration Program in Traumatic Brain Injury

(member of the current advisory group on the Cohen Veteran's Bioscience initiative)

SERVICE TO EMORY

Courses taught 2004-present

IBS 770 Spring 2005

IBS 770/NBB470S Fall 2006

Individual classes taught current year

Chemistry 729, Fall 2010

NBB 361, Spring 2010

NBB 401, Spring 2011

NBB 404, 2019-2021

Undergraduate theses supervised, 2014-2015

Neil Patel, NBB program, 2015

Undergraduate lab rotations supervised, 2014-2015

Liz Perez, class of 2014

Cherrie Liu, class of 2016

Constance Zhang, class of 2014

Most recent PhD student advisor/committee member, 2010-2015

Rachael Stewart Allen, Ph.D., 2014

Monica Chau, Ph.D., 2014

Committees 2004-present

Comprehensive Neurosciences Center Stroke Program Planning Committee, 2005, 2008

Fringe Benefits Committee, 2006, 2008

Search Committee, Rehabilitation Medicine Chair, 2005-2006
Mind, Brain & Neuroscience Brainstorming subcommittee of the Strategic Planning
Steering Committee
Search Committee, Emergency Medicine Chair, 2007
Neuroscience Leadership Initiative Committee, 2007-2008
Emergency Medicine Appointments and Promotions, 2013-present
Search Committee, Director of Brain Research Laboratory, Emergency Medicine

Other

MD-PhD program recruitment
Neuroscience recruitment
Department of Emergency Medicine, Search Committee, Director Brain Research Lab
Editorial advisor, Academic Exchange, 2003-2009

Emory Alumnae Program Speaker

Back to Class: Emory in Chicago, April 2014

PRESENTATIONS AND INVITED COLLOQUIA

- University of Toronto, Spring 1970
- McGill University, Montreal, Canada, Fall 1970
- The biochemical bases of learning and memory. Aphasia Research Conference, VA Hospital, Boston MA, 1970.
- Recovery of function following frontal lobe lesions in the rhesus monkey. Eastern Psychological Association Meeting, New York, NY, April 1971.
- Worcester Foundation for Experimental Biology, Shrewsbury, MA, April 1971
- Department of Psychology, State University of New York, Stony Brook, NY, April 1971
- Department of Psychology, Washington University, St. Louis, MO, April 1971
- Faculté de Médecine, St. Etienne, France, January 1972
- Institut National de Santé et Recherche Médical, Lyon, France, March 1972
- Faculty of Medicine, Institute of Psychology, University of Milan, Milan, Italy, April 1972
- Faculty of Medicine, Institute of Psychology, Catholic University, Rome, Italy, April 1972
- Institute of Psychology, Hacettepe University, Ankara, Turkey, May 1972
- Faculty of Medicine, University of Tours, Tours, France, June 1972
- Mt. Holyoke College, South Hadley, Massachusetts, February, 1973
- Worcester Foundation for Experimental Biology, Shrewsbury, MA, Fall 1974
- Children's Hospital Research Center, Harvard Medical School, Boston, MA, March 1975
- Université de Compiègne, Compiègne, France, April 1975
- Instructor: Short course on Neuroplasticity and Recovery of Function. 6th Annual Meeting, Society for Neuroscience, Toronto, Canada, November 1976
- University of Pennsylvania Medical College, Philadelphia, PA, February 1977
- New York University Medical School, New York, NY, February 1977
- Psychology Department, Harvard University, Cambridge, MA, March 1977
- Université Paul Valéry, Montpellier, France, 1976
- Unité de Recherches de Physiopathologie du Systeme Nervous, Lyon, France, 1976
- Unité de Recherches, Neurological Hospital, Paris, France, 1976

- University of Cambridge, Cambridge, England, 1976
- National Institute of Medical Research, Mill Hill, England, 1976
- University College, London, England, 1976
- Ecole des Hautes Etudes, Paris, France, 1976
- Université de Lausanne Faculté de Médecine, Institut de l'Anatomie, Lausanne, France, 1976
- Université de Genève Ecole de Psychologie, Geneva, France, 1976
- Université de Nice Faculté des Sciences, Nice, France, 1976
- Hôpital Jules Cormond, Faculté de Médecine, Lyon, France, 1976
- Université Claude Bernard Faculté de Médecine, Lyon, France, 1976
- Musée de l'Histoire Naturelle, Paris, France, 1976
- University of Pittsburgh, Pittsburgh PA, 1977
- Brandeis University, Waltham MA, 1977
- University of Connecticut, Storrs CT, 1977
- Recovery from brain damage: Behavioral and morphological aspects (panel member and Workshop Chairman) Annual Winter Brain Research Conference, Keystone, CO, January 1978
- University of Illinois, Urbana IL, 1978
- National Institutes of Health Laboratory of Developmental Neurobiology, Bethesda MD, 1978
- Boston University School of Rehabilitation Medicine, Boston MA, 1978
- University of South Florida, Grass Foundation Traveling Scientist, Tampa FL, 1978
- University of Florida, Gainesville, FL, 1978
- Columbia University, Teachers College, New York, NY, 1978
- Tufts University, Medford, MA, 1979
- Ecole des Hautes Etudes, Paris, France, Spring 1979
- Université de Paris, VII, Paris, France, Spring 1979
- Université Louis Pasteur, Strasbourg, France, Spring 1979
- Université Mohammed V, Rabat, Morocco, Spring 1979
- Institute Pédagogique, Psychobiology of Aging Conference, Walferdange, Luxembourg, May 1979
- Institut Nationale de Santé et Recherche Médicale, Paris, France, May and June 1979
- Université Louis Pasteur, Strasbourg, France, Spring, 1980
- European Brain & Behavior Conference, Rotterdam, The Netherlands, April 1981
- University of Virginia Medical College, Charlottesville, VA, May 1981
- University of Rochester Medical School, Rochester, NY, June 1981
- Massachusetts Psychological Association, Boxborough, MA, November 1981
- Workshop participant: "Nerve growth factor - is it present and/or active in the CNS?" Winter Conference on Brain Research, Steamboat Springs CO, January 1982.
- Workshop participant: "Brain injury at an early age: What is the potential for recovery?" Winter Conference on Brain Research, Steamboat Springs CO, January 1982.
- Council for Advancement and Support of Education, Washington, DC, February 1982
- 10th Aharon Katzir-Katchalsky Conference, "Aging of the Brain," Mantova, Italy, March 1982
- Hobart and William Smith Colleges, Geneva, NY, May 1982
- Sandoz, Limited, Basel, Switzerland, July 1982

- College of St. Benedict/St. John's University, Collegetown, MN, October 1982
- Society for Neuroscience, National Council, Minneapolis, MN, October 1982
- Panel Participant: 1) "Do rats have hypotheses?" (2) Panel Participant: "Neurotrophic factors and recovery from CNS lesions." (3) Panel participant: "Aging and Brain Damage." Winter Conference on Brain Research, Keystone, CO, January 1983
- (1) The function of the cerebral cortex: Holistic perspective. (2) Environmental experience and brain functions. IBRO/UNESCO/WHO Workshop, Undernutrition and Higher Brain Functions, University of Chile, Santiago, Chile, April 1983.
- John F. Kennedy School of Government, Cambridge, MA, April 1983
- Université Louis Pasteur, Strasbourg, France, June 1983
- Les Laboratoires Dausse, Paris, France, July 1983
- City University of New York, New York, NY, October 1983
- Clark University, Jonas Clark Fellows Dinner, Worcester, MA, October 1983
- McLean Hospital, Harvard Medical School, Cambridge, MA, December 1983
- Veterans Administration Medical Center, Boston, MA, March 1984
- Rutgers Medical School, Piscataway, NJ, March 1984
- University of Massachusetts Medical Center, Worcester, MA, March 1984
- National Coalition for Science and Technology Career Symposium, Center for Talented Youth and the Boston Science Museum, Baltimore, MD, March 1984
- Veterans Administration Hospital, Boston, MA, April 1984
- Rockefeller University, New York, NY, April 1984
- National Education Association, National Coalition for Science and Technology Seminar, Columbus OH, March 1984
- Institute for Child Development, New York, NY, April 1984
- National Coalition for Science and Technology Public Forum, Washington, DC, May 1984
- Environment, brain damage and recovery. Inter-Urban Stroke Academic Association, Ontario, Canada, May 1984
- National Coalition for Science & Technology, Minnesota High Technology Council, Minneapolis MN, May 1984
- Recovery from brain damage: Experimental and theoretical approaches. International Neuropsychology Society Conference, Aachen, West Germany, June 1984
- Fetal brain transplants facilitate behavioral recovery from CNS lesions. Eric K. Fernstrom Symposium, Lund, Sweden, June 1984
- International Neuropsychology Symposium, Beaune, France, June 1984
- St. Elizabeth's Hospital, National Institutes of Health Seminar, Washington, DC, August 1984
- Brain plasticity, learning and memory. European Brain and Behavior Society, Strasbourg, France, September 1984
- Animals in research: A vanishing breed. Society for Research Administrators, San Diego, CA, September 1984
- Neurotrophic substances transplants and functional recovery from brain injury. Academy of Physical Medicine and Rehabilitation, Boston MA, October, 1984
- Fidia Research Laboratory Meeting, Washington, DC, November 1984
- New conceptual approaches to prophylaxis in therapy of organophosphorus poisoning. National Academy of Sciences, Defense Department, Palm Beach FL, November 1984

- American Paralysis Association, McLean, VA, January 1985
- Neurotrophic substances and recovery from brain damage. National Institutes of Mental Health, St. Elizabeth's Hospital, Washington, DC, March 1985
- University of Connecticut, Storrs, CT, April 1985
- Clark University Breakfast/Lunch Series, Worcester, MA, April 1985
- Museum of Science, Career Symposium for Academically Talented Youth, Boston, MA, April 1985
- Moss Rehabilitation Hospital, Philadelphia, PA, April 1985
- Cornell University, Ithaca, NY, April 1985
- Eunice Kennedy Shriver Center for Mental Retardation, Waltham, MA, May 1985
- Recovery from brain injury following GM1 ganglioside treatment. International College of Neuropsychopharmacology, Sienna, Italy, May 1985
- Ganglioside enhances behavioral recovery and neuronal repair in brain damaged rats. International Society for Neurochemistry, Mantova, Italy, May, 1985
- Developmental plasticity and recovery of function. Pontifical Academy of Sciences Study Group, Vatican City, June 1985
- Review of the environmental determinants of recovery following brain damage. International Neuropsychological Society, Copenhagen, Denmark, June 1985
- Biology of ganglioside and CNS repair. University of Madrid, Madrid, Spain, June 1985
- Du Pont Company, Wilmington, DE, June 1985
- Clark University, Biology Department, Worcester, MA, November 1985
- Johnson Institute, Edison, NJ, December 1985
- Fidia Peer Group Meeting, Washington, DC, January 1986
- University of Vermont, Burlington, VT, March 1986
- Biomeasure Company, Hopkinton, MA, March 1986
- Cell & Tissue Transplantation into the Adult Brain Conference. New York Academy of Sciences, New York, NY, April 1986
- Amherst College, Amherst, MA, May 1986
- International Conference on Neuroplasticity, Madrid, Spain, May 1986
- Rigshospitalet, Copenhagen, Denmark, June 1986
- University of Copenhagen, Copenhagen, Denmark, September 1986
- Wesleyan University, Middletown, CT, October 1986
- Marlboro High School, Central Massachusetts Regional National Honor Society Officers' Convention, October 1986
- Society for Neuroscience Council Meeting, Washington, DC, November 1986
- The University of New Mexico, Albuquerque, NM, November 1986
- Anatomical bases of rehabilitation. Head Trauma Rehabilitation Conference, Elwyn Institutes, Elwyn, PA, November 1986
- National Head Injury Foundation Symposium on "A Vision of the Future," Chicago, IL, November 1986
- Monsanto Company, St. Louis, MO, December 1986
- Veterans Administration, Boston, MA, December 1986
- 15th Collegium Internationale Neuro-Psychopharmacologicum, San Juan, Puerto Rico, December 1986

- Workshop participant: "New developments in the functional role of ganglioside." (2)
Panel participant: "Sex differences, hormones and fetal brain tissue transplants." Winter Conference on Brain Research, Vail CO, January 1987
- Fetal brain tissue transplants and recovery of cognitive performance in animals with frontal cortex lesions. American Paralysis Association, Project Target Program Review Conference, San Diego CA, January 1987
- American Paralysis Association, McLean, VA, January 1987
- University of Vermont, Burlington, VT, March 1987
- Rutgers - The State University of New Jersey, New Brunswick, NJ, April 1987
- 1) Development of plasticity in the CNS: Organismic and environmental influences; 2) Developmental and environmental aspects of brain damage and recovery of function. The Heinz Werner Institute for Developmental Analysis, Heinz Werner Lecture Series in Developmental Psychology and Related Disciplines, Clark University, Worcester MA, April 1987
- Instituto de Biofisica, Rio De Janeiro, Brazil, June 1987
- Experimental approaches to the treatment of brain injuries. Conference on "Rehabilitation of Brain Damaged People," University of Copenhagen, Copenhagen, Denmark, June 1987
- Session Chair: "Functional recovery of damaged nervous system." International Society for Neurochemistry and American Society for Neurochemistry Joint Meeting, Satellite Symposium on "New Trends in Ganglioside Research: Neurochemical and Neuroregenerative Aspects," Puerto La Cruz, Venezuela, June 1987
- Neurotrophic effects of fetal brain tissue transplants on recovery of cognitive performance in animals with frontal cortex lesions. Schmitt Neurological Sciences Symposium on Transplantation into the Mammalian CNS, Rochester, NY, June-July 1987
- Ganglioside and behavioral recovery after brain damage. Participant in workshop on "Ganglioside in CNS Development and Repair." 2d World International Brain Research Organization Congress, Budapest, Hungary, August 1987
- Neurotrophic effects of fetal brain tissue transplants on recovery of cognitive performance in rats with frontal and motor cortex lesions. Satellite Meeting of the 2nd World International Brain Research Organization Congress on "Functional Aspects of Neuronal Grafting in the Mammalian CNS," Pecs, Hungary, August 1987
- Recovery of neuropsychological function. American Psychological Association Conference, Invited Master Lecture Series Lecturer, New York, NY, August 1987
- Institute for Brain Injury Research and Training, Camden, NJ, November 1987
- Plenary Session Moderator: "Frontiers of Head Injury." National Head Injury Foundation National Symposium, San Diego CA, December 1987
- Nencki Institute of Experimental Biology, Warsaw, Poland, July 1989
- Cephalon Pharmaceutical Company, Paoli, PA, September 1989
- Institute for Basic Research in Development, Staten Island, NY, September 1989
- Ludwig-Maximilians University, Munich, Germany, October 1989
- Neurotrauma Society, Phoenix, AZ, October 1989
- European Winter Conference on Brain Research, Les Arcs, France, March 1990
- Department of Chemistry, University of Missouri, St Louis, MO, April 1990
- Magee Rehabilitation Hospital, Philadelphia, PA, April 1990

- Louis Pasteur University, Strasbourg, France, April 1990
- European Society for Neurochemistry, Magdeburg, GDR, August 1990
- Scandinavian Aphasia Society, Odense, Denmark, September 1990
- Center for Brain Injury Rehabilitation, Copenhagen, Denmark, September 1990
- European Neuroscience School Faculty lecturer, Praglia, Italy, October 1990
- CNR Research Institute, Indianapolis, IN, October 1990
- Department of Psychology, Davidson College, Davidson, NC, December 1990
- University of Medicine & Dentistry, Newark, NJ, February 1991
- Jewish Community Center, Bayonne, NJ, March 1991
- European Brain and Behavior Society, Goldsmith College, London April 1991
- Department of Biology, New York University, New York, NY, April 1991
- Magee Rehabilitation Hospital, Philadelphia, PA, April 1991
- IPSEN Meeting of Ginkgo and Recovery of Function, Montreux, Switzerland, April 1991
- French Society for Neuroscience, Strasbourg, France, May 1991
- American Psychological Society, Washington, DC, June 1991
- University of Hong Kong, Faculty of Medicine, June 1991
- Department of Psychology, Central Michigan University, Mt. Pleasant, MI, September 1991
- Department of Psychology, University of Sydney, Sydney, Australia, October 1991
- Department of Psychology, University of South Carolina, October 1991
- American Academy of Neurology, Los Angeles, CA, October 1991
- New Jersey Head Injury Association, Edison, NJ, October 1991
- Good Samaritan Hospital, Portland, OR, December 1991
- National Head Injury Foundation, Los Angeles, CA, December 1991
- Case Western Reserve/MetroHealth Medical Center, Cleveland, OH, April 1992
- New Jersey Association for Biomedical Research, Fairleigh Dickinson University, NJ, April 1992
- Instituto de Fisiologia Celular, University of Mexico, Mexico City, Mexico, April 1992
- Recovery of function: how much can the injured brain adapt? International Brain Injury Forum, Oxford, England, March 1993
- Brain injury and functional recovery: contextual, environmental and pharmacological factors. New Jersey Head Injury Association's 11th Annual Seminar, Eatontown, NJ, April 1993
- Gender difference in behavioral deficit following entorhinal cortex lesion. 2nd Annual International Behavioral Neuroscience Conference, Clearwater FL, April 1993
- Problems and prospects for research on recovery from traumatic brain injury. International Neuropsychology Symposium, Collioure, France, June 1993
- Transplants as therapy for brain dysfunctions: problems, prospects and interesting alternatives. 25th International Congress of Psychology, Brussels, Belgium, July 1992
- Neuroplasticity and its importance for recovery of function. Symposium on Neuropsychological Rehabilitation, CBF-Laboratoriet, Lunds Universitet, Sweden, September 1992
- Pharmacological and anatomical changes underlying recovery from brain injury. 2nd Conference on Progress in Neuropsychological Rehabilitation, Copenhagen, Denmark, September 1992

- Brain damage and recovery: what have we learned since Lashley and what do we still need to know? European Neuroscience Association Satellite Symposium on Stimulation of Brain Repair, Munich, Germany, September 1992
- Alkermes, Inc., Cambridge, MA, May 1993
- University of Rome, Italy, June 1993
- New frontiers in research on recovery from brain damage. Bryn Mawr Rehabilitation Hospital, Malvern, PA, October 1993
- The effect of a free radical scavenger Ginkgo Biloba extract (EGB 761) on the behavioral, histopathological, and biochemical outcomes following bilateral prefrontal cortex contusions in the male rat. Rutgers Neuroscience Symposium, Newark NJ, November 1993
- Bowman Gray School of Medicine, Winston-Salem, NC, March 1994
- Medical School of Magdeburg, Institute of Medical Psychology, Magdeburg, Germany, April 1994
- Emory University School of Medicine, Department of Neurology, Atlanta, GA, April 1994
- Weizmann Institute for Science, Rehovot, Israel, April 1995
- International Brain Injury Association, Copenhagen, Denmark, May 1995
- University of Salamanca (Spain), September 1995
- University of Mexico, Jalapa, Mexico, November 1995
- Emory University, Department of Neurology Grand Rounds, January 1996
- Emory University, Departments of Cell Biology, Neuroscience & Anatomy colloquium, February 1996
- National Public Television, Charlie Rose Show, interviewed February 1996
- Emory University, Department of Psychology, colloquium, March 1996
- Carter Center, Atlanta, GA, Briefing on mental health research of President and Mrs. Jimmy Carter, May 1996
- International Neuropsychological Association, Newcastle-upon Tyne, England. Workshop on neural plasticity, June 1996
- Society for Neuroscience, Twenty Sixth Annual Meeting, Washington, DC, 1996
- National Academy of Neuropsychology, New Orleans, LA, 1996
- CSAAC, Rockville, MD, 1996
- Kurt Goldstein Institute, Steinach Germany, September 1997
- International Joint Conference on Stroke and Cerebral Circulation, Anaheim CA, 1997.
- New Frontiers in Brain injury research: Sex differences and hormones play a role in recovery. Georgia Brain Injury Assoc, Lake Lanier, GA., January 1998
- Brain Injury Association of Georgia, Pathways to Progress Conference, Atlanta, February 1998
- Käplyä Rehabilitation Center, Helsinki, Finland, March 1998 (2 events)
- Sex Hormones and Recovery from TBI. University of Georgia, Athens, GA, September 1998
- New Directions in the treatment of brain injury. Braintree Hospital, Braintree, MA, November 1998
- Sex, Brain damage and Recovery. Emory Alumni Assoc., Johnson City, TN, November, 1998

- Sex hormones, brain damage and recovery. American Physical Therapy Association retreat on Neuroplasticity, Newport RI, 1998
- Perspectives on Brain Damage and Treatment: Hormones play a critical role. University of Oregon, Eugene, OR, May 1999
- Theories of Recovery, and Hormones, Sex differences and Recovery from Traumatic Brain Injury (2 lectures). Bancroft Rehabilitation Symposium, Philadelphia PA, September 1999
- The use of progesterone and its metabolites in treatment of TBI. Wagner College, Staten Island, NY, February 2000
- Sex hormones and recovery of function after TBI. University of Oklahoma, Oklahoma City, OK, March 2000
- Brain damage and repair: new approaches for a new millennium. Field Neurosciences Institute, Saginaw MI, May 2000
- Hormones and Recovery from Brain Injury. Department of Psychology, University of Lethbridge, Lethbridge, Canada, July 2000
- Theories of Recovery from Brain injury, SARA Hospital System South American Conference on Neurorehabilitation, Brasilia, Brazil, September 2000
- Sex, brain damage and recovery. Combined Canadian Winter Conference on Brain Research & Stroke Network Meeting, Fernie, Canada, February 2001
- Theories of neural plasticity and recovery of function. International Brain Injury Association, Torino, Italy, May 2001
- Neural stem cell transplants promote behavioral recovery in a mouse model of traumatic brain injury. American Society for Neurotransplantation and Repair, Tampa FL, 2001
- Keynote Speaker, Neurosteroids, Brain damage and repair, University of Oklahoma Health Sciences Center, Oklahoma City, Oklahoma, October 2001
- Progesterone, Brain Damage and Recovery, Frontiers in Neuroscience lecture, Graduate Division of Biological and Biomedical Sciences, Emory University, October 2001
- Progesterone and recovery from brain damage. Laboratory of Neuroendocrinology, Rockefeller University, New York, March 2001
- Hormones, brain damage and recovery. FLENI Hospital, Buenos Aires, Argentina, September 2000
- Sex, brain damage and recovery. Centre for Brain Repair, Cambridge University, Cambridge, England, April 2001
- Hormones, brain damage and recovery. INSERM Unite 488, Kremlin-Bicetre Hospital, Villejuif, France, April 2001
- Neurosteroids, plasticité neuronale et restauration fonctionnelle après attaint cérébrale. Department of Neuroscience, University of Paris (VII), June 2001
- Workshop on neurosteroids and recovery from traumatic brain damage. Center for Brain Injury Repair, University of Copenhagen, Copenhagen, Denmark, May 2001
- Mechanisms of CNS repair in response to brain injury. Center for Brain Injury and University of Copenhagen, Copenhagen, Denmark, June 2001
- Neurosteroids in brain repair. University of Virginia, Department of Medical Rehabilitation, ERRIS Program, July 2001
- Bridging the gap between basic research and clinical issues in rehabilitation: neurosteroids and recovery of function. First regional ERRIS meeting, University of Virginia Medical Center, Charlottesville, Virginia, July 2001

- Theories of Localization: Historical and contemporary perspectives on a perplexing paradigm. Winter Conference on Brain Research, January 2002
- Current Issues in Localization of function in the Central Nervous System, 34th Winter Conference on Brain Research, Snowmass at Aspen CO, January 2002
- Current concepts in CNS repair after traumatic brain injury. Center for Rehabilitation Medicine, Emory University, February 2002
- Neurosteroids, brain damage and repair. Hormones and Behavior Conference, Breckenridge, CO, March 2002
- Sex, Brain damage and Recovery. University of Kansas Symposium on Stroke and Rehabilitation. Kansas City, KS, April 2002
- Conference Organizer and Speaker: Robert Wood Johnson Foundation/Sam Nunn Policy Forum on “Commercialization of the Academy, Emory University, Atlanta GA, April 2002
- Sex, Brain damage and Recovery: the role of neurosteroids in CNS response to injury. Louis Pasteur University, Strasbourg, France, May 2002
- Sex, Brain damage and Recovery: the role of neurosteroids in CNS response to injury. University of Magdeburg, Center for Neural Repair, Magdeburg, Germany, June 2002
- Sex Hormones, Brain Damage, and Recovery. Davidson College, Davidson NC, March 2003
- A Brief History of Neuroscience. Furman University, Greenville SC, March 2003
- Traumas crâniens. Gacyclidine, Paris, France, May 2003
- Sex, Brain Damage and Recovery. Consortium for the Assessment of Research on Progestin and Estrogens (CARPE), Ft Worth, TX, August 2003
- The role of progesterone and related neurosteroids in the treatment of traumatic brain injury and stroke. Second International Conference Restauracion Neurologica, Sanra Clara, Cuba, February 2004
- Progesterone’s beneficial effects in the damaged central nervous system. ERPM 2004, Stéroïdes sexuels: le point sur l’action des estrogènes et des progestatifs. Montpellier, France, March/April 2004
- Progesterone and Recovery of Function; History of Brain Function. University of St Andrews, St Andrews, Scotland, April 2004
- Spotlight Speaker, Children with Special Needs: Planning a Research Future, Rockville MD, May 2004
- Commercialization of the University: Implications for Research, Teaching and Scholarship. Central Michigan University, Saginaw MI, May 2004
- Brain Repair. Field Neurosciences Institute, Saginaw MI, May 2004
- Sex hormones in the treatment of traumatic brain injury: From basic research to clinical practice. 2nd International Conference on Neuropsychological Rehabilitation after Brain Injury, Vipiteno, Italy, June 2004
- Gender and Neurosteroids in Pathogenesis, Treatment and Recovery after TBI. American Academy of Physical Medicine & Rehabilitation, Phoenix, AZ, October 2004
- The Future of Estrogen and Hormone Therapy in Postmenopausal Women. CARPE (Consortium for the Assessment of Research on Progestins & Estrogens) Conference, Ft. Worth, TX, November 2004
- Promising agents, lessons from trials. National Center for Medical Rehabilitation Research: Neuroprotection/Neuroregeneration in TBI. New York City, February 2005
- Emory University, Department of Neurology Grand Rounds, April 2005

- Neurosteroids in traumatic brain injury: Recent developments. Plenary Address, World Congress on Brain Injury, Melbourne, Australia, April 2005
- The pharmacology of CNS repair. Looking Ahead: Innovations in Brain Injury Rehabilitation International Conference, Manchester, Great Britain, September 2005
- International Symposium to Find a “Cure” for Brain Injury. Johnstown, PA, October, 2005
- Progesterone in the treatment of traumatic brain injury: from the laboratory bench to the patient's bedside, 4th World Congress for Neurorehabilitation, Hong Kong, February 2006
- Overview of neuroplasticity and neuroregeneration, Contemporary Forums Brain Injuries Conference, San Antonio March 2006
- Gender and hormonal protective factors, 2nd Federal Traumatic Brain Injury Interagency Conference: Integrating Models of Research and Service Delivery, Bethesda, MD, March 2006
- Keynotes speeches: 1) Historical and conceptual issues in plasticity, repair and functional recovery after brain damage; 2) Neurosteroids in the treatment of traumatic brain injury and stroke: Advances in treatment from the laboratory to the bedside” AMN Congress, Copenhagen, May 2006
- Sex, steroids and environment affect recovery from brain injury, International Behavioral Neuroscience Society Annual Meeting, Whistler, BC, May 2006
- Progesterone in the treatment of TBI: From the laboratory bench to the patient’s bedside, Brain Injury Association of Michigan, Lansing, MI, September 2006
- The Role of Progesterone in the Treatment of Traumatic Brain Injury: From the Laboratory Bench to the Bedside. 2d Mediterranean Conference of Neurosciences, Marrakech, Morocco, December 2006
- Some Contemporary Issues in Issues in Neuroethics. Mohammed V University, Rabat, Morocco, December 2006
- Neurosteroids as protective factors. International Neuropsychological Society Annual Meeting, Portland, Oregon, February, 2007
- Neurosteroids as protective factors in TBI: From laboratory bench to the bedside.” Steroids and the Nervous System, Torino, Italy, February, 2007
- Neuroprotection and neurorepair: From pharmacology to stem cells, New Jersey Medical School, May, 2007
- Progesterone in the Treatment of Traumatic Brain Injury: Current and Future Prospects. University of Otago, Dunedin, New Zealand, April, 2007
- The trials and tribulations of progesterone in the treatment of brain injury: Was the game worth the candle? Wayne-NOXXE Award speech, 4th World Congress for NeuroRehabilitation, Rio de Janeiro, Brazil, June 2007
- Molecular Systems Pharmacology Ethics Program Retreat, Callaway Gardens, GA, October 2007
- Progesterone for Traumatic Brain Injury. American College of Neuropsychopharmacology, Boca Raton, December 2007
- Novel Treatment for TBI. Humana Military Healthcare Services/Texas A&M Health Science Center Invitational Conference on TBI, January 2008
- Neurosteroids in brain repair. University of Virginia, Department of Medical Rehabilitation, ERRIS Program, January 2008

- Panel: Factors affecting impact of early stage brain damage. Winter Conference on Brain Research, January 2008
- Progesterone in Traumatic Brain Injury. Cardiac Fellows Conference, Emory University, January 2008.
- Progesterone in TBI. Carolinas Healthcare System Research Symposium, Charlotte, NC, February 2008
- Grand Rounds, Brain Awareness Week, St Louis University School of Medicine, March 2008
- Progesterone for Traumatic Brain Injury: Experimental Clinical Treatment. Plenary address, 7th World Congress on Brain Injury, Lisbon, Portugal, April 2008
- Progesterone in the treatment of traumatic brain injury and stroke: the long road from basic research to clinical practice, Mayo Clinic Annual TBI Conference, Rochester MN, June 2008
- Progesterone and its Metabolites in the Treatment of Traumatic Brain Injury, Wyeth Therapeutic Options for Menopausal Health Consultant Meeting, Wilmington DE, July 2008
- So what do we know about sex hormones and brain injury? Luncheon speaker, 9th Annual Biomedical Research Symposium, Tuskegee Institute, Tuskegee AL, September 2008
- Progesterone in the Treatment of Brain Injuries: Research from the Laboratory Bench to the Patient's Bedside, Grand Rounds, Rush University Medical Center, Chicago, September 2008
- Swimming Against the Current: Challenges on the Way to Scientific Discovery, Distinguished Lecture Series, Singapore Management University, Singapore, October 2008
- Why sex differences in brain injury? Does progesterone have a role? IRME: 8me Congress International, Paris, December 2008
- Progesterone in the Treatment of Ischemic Stroke, The X Factor: Women and Stroke Symposium, Society for Women's Health Research, Washington DC, February 2009
- Keynote speech, Paths to Discovery: Progesterone and its Metabolites in the Treatment of Brain Injury, Brain Injury Association of Iowa, Des Moines, IA, March 2009
- Progesterone in TBI. University of British Columbia, Vancouver BC, March 2009
- Keynote address, Progesterone and the Brain. Brain Injury Association of Minnesota, St Cloud, MN, April 2009
- Are There Sex Differences in Traumatic Brain Injury? Does Progesterone Have a Role? Festschrift for Donald Stein, Association for Psychological Science Annual Meeting, San Francisco, CA, May 2009
- The Progesterone Story, Allen & Company Sun Valley Conference, Sun Valley, ID, July 2009
- Development and screening of water soluble analogues of progesterone: Potential for an innovative, safe and effective innovative approach to acute traumatic brain injury treatment. Iqbal Sayeed, Christopher J. MacNevin, Fahim Atif, Michael G. Nachus, Dennis C. Liotta, Donald G. Stein. Military Health Research Forum, Kansas City, August-September 2009
- The State of the Art: A review of the research in neuroprotection. 1ST International brain injury Conference, Athens, Greece, November 2009
- Repairing damaged brains: progesterone--a safe treatment hidden in plain sight." Van Der Veer Institute for Parkinson's and Brain Research, University of Canterbury, Christchurch, New Zealand, March 2010
- Update on progesterone in the treatment of traumatic brain injury and stroke: from the laboratory Bench to the patient's bedside. Department of Physiology, Otago School of Medical Sciences, University of Otago, Dunedin, New Zealand, March 2010

- Hidden in plain sight: the science, sociology, and politics of progesterone as a treatment for brain injury and stroke. Emory University Life of the Mind Lecture, April 2010
- Drug Therapies: Development, Treatment and Outcomes, Session Chair, Academy for Multidisciplinary Neurotraumatology, Burlington VT, May 2010
- Neurosteroids in the treatment of brain injury. Session chair, International Behavioral Neuroscience Society Annual Meeting, Villasimius, Sardinia, June 2010
- Brain Injury Foundation Webinar: Hidden In Plain Sight: How Progesterone Can Be Considered a Treatment for TBI. July 2010
- Plenary address: Hidden in Plain Sight: The story of progesterone and Brain Injury. Brain Injury Partnerships: NASHIA & NABIS, Minneapolis MN, October 2010
- R&D CoE, Atlanta VA Medical Center Dept of Ophthalmology, Atlanta GA, October 2010
- Hidden in Plain Sight: The story of progesterone in the treatment of brain injury and other CNS disorders. California Brain Injury Association, Napa CA, November 2010
- Repairing Brains: A Scientist's Story. The Howard School, Atlanta GA, November 2010
- Neuroactive Steroids Satellite Symposium, 6th International Steroids and Nervous System, Torino, Italy, February 2011
- TBI Seminar Series, Virginia Commonwealth University, Richmond, Virginia, March 2011
- Emory Congressional Staff Project Medical Education visit, March 24, 2011
- Role of Progesterone & Treatment of Traumatic Brain Injury, USAMRMC Neurotrauma Research Grand Rounds, Ft. Detrick, MD, March 2011
- Emory Board of Trustees Spring Retreat, June 2011
- International Behavioral Neuroscience Society, Steamboat, CO, June 2011
- Interagency Traumatic Brain Injury Conference, Washington, DC, June 2011
- Society for Women's Health Research (SWHR), Washington, DC, July 2011
- Medical University of South Carolina Seaside Planning Committee, Charleston, SC, September 2011
- Medical University of South Carolina, Psychiatry Department, September 2011
- Psychology Forum, St. Andrews University, Scotland, UK, March 2012
- American Society of Health Care Journalists, Atlanta, Georgia, April 2012
- Institut Fédératif de Recherche, Paris, France, April 2012
- Shock and Trauma Society, Miami Beach, Florida, June 2012
- Behavioral Endocrinology Society, Madison, Wisconsin, June 2012
- Session Chair, Clinical Data Collection and Clinical Trials, 30th Annual National Neurotrauma Symposium, Phoenix, Arizona, July 2012
- American Speech-Language-Hearing Association, Atlanta, GA, Nov 2012
- BHR Pharma SyNAPSe® Find Five Summit, Coral Gables, Florida, January 10 - 11, 2013
- BHR Pharma SyNAPSe® Find Five Summit Scottsdale, Arizona, January 24 - 25, 2013
- Neurology Grand Rounds, University of Maryland, Baltimore, Maryland, May 2013
- Neal Miller Invited Lecture, American Psychological Association, Honolulu, Hawaii, August 2013
- TBI Symposium, Neuroscience Center of Excellence, Indianapolis Indiana, September 2013
- Plenary Address, International Brain Injury Association, San Francisco, CA, March 2014
- International Scientists Lecture Series, Graduate School, Beijing University of Chinese Medicine, March 2014 (Graduate Education in the United States; Clinical Use of Progesterone in the United States)
- Neurology Hospital, Department of Neurology, Xuzhou Medical College, Xuzhou, China, March 2014

- Key note address, Center for Health and Healing, Oregon Health Sciences University, Portland, OR, May 2014
- Neurocritical Care Society, Dallas, TX, September 11-14, 2014
- Neuroscience Seminar Series, Uniformed Services University, October 2014
- Ontario Brain Injury Association, Keynote: “Clinical Trials: Can’t We Do Better?” and Concurrent Session, “Finding a Treatment for TBI: It’s Not All about the Brain.” Niagara Falls, ON, November 2015
- Keynote speaker, Michigan Society for Neuroscience and Central Michigan University, May 11, 2015
- Special Grand Rounds, St Mary’s Hospital/Saginaw Valley State University, Saginaw, MI, May 11, 2015
- Progesterone: Is There a Future for the Treatment of Nervous System Injuries?” Neurosteroid Congress, Durham, North Carolina, April 2016
- Embracing Failure: What has been learned from the progesterone clinical trials for TBI. ACRM, Atlanta, GA, October 2017
- Progesterone in CNS damage and cancer: Emerging therapeutic potentials. Tripping Over the Truth Retreat, Baltimore MD, November 2017
- The Unique Challenges Facing Pre-Clinical to Clinical Translation in TBI Research. Panel, Lost in Translation: Sex Differences in Pre-clinical and Clinical Research, “Understanding TBI in Women, NINDS workshop, December 2017
- Clinical Trials: The Valley of Death for TBI Research? Reflecting on Failures, Mapping a Way Forward. University of Tennessee Health Science Center Neuroscience Institute, Memphis, TN, April 2019
- Is There a Future for the Treatment of Nervous System Injuries? State-of-the-Art Conference on TBI, Veterans Administration Office of Research and Development, Washington DC, May 15-17, 2019
 - Update on The Clinical Trial Failures: Why aren’t things getting any better? University of Tennessee Health Science Center Neuroscience Institute, Memphis, TN, April 2019
- National Neurotrauma Society Lifetime Achievement Award Speaker Spring, 2021

PUBLISHED BOOKS AND MONOGRAPHS

Stein, D.G. and Rosen, J.J., *Basic Structure and Function in the Central Nervous System*. (Vol. 1 of a 3-volume textbook for undergraduate physiological psychology) New York: Macmillan, 1974.

Stein, D.G. and Rosen, J.J., *Motivation and Emotion*. (Vol. 2 of a 3-volume textbook for undergraduate physiological psychology) New York: Macmillan, 1974.

Stein, D.G. and Rosen, J.J., *Learning and Memory*. (Vol.3 of a 3-volume textbook for undergraduate physiological psychology) New York: Macmillan, 1974.

Stein, D.G., Rosen, J.J., and Butters, N. (eds). *Plasticity and Recovery of Function in the Central Nervous System*. New York: Academic Press, 1974.

Stein, DG, ed. (1980) *The Psychobiology of Aging: Problems and Perspectives*. New York: Elsevier.

Finger, S. and Stein, D.G., *Brain Damage and Recovery: Research and Clinical Perspectives*. New York: Academic Press, 1982.

Stein, D.G., *Plasticité Neuronale, Vieillesse et Récupération à la suite de Lésions Cérébrales*. Paris: Les Laboratoires Dausse, 1983.

Stein, D.G. and Sabel, B.A., eds., *Pharmacological Approaches to the Treatment of Brain and Spinal Cord Injuries*. New York: Plenum Publishing, 1988.

Finger, S., LeVere, T., Almlı, R. and Stein, D.G., eds., *Theoretical and Controversial Issues in Recovery from Brain Damage*. New York: Plenum Publishing, 1988.

Stein, D.G., *Development of Plasticity in the Central Nervous System: Organismic and Environmental Influences*. Heinz Werner Lecture Series, Worcester, Massachusetts: Clark University Press, 1988.

Stein, D.G. (1998). *Current Concepts in Recovery from Brain Damage*. American Psychological Association Master Lecture Series, Fall, 1987. Washington D.C.: American Psychological Association Publication, 1988.

Brailowsky, S., Stein, D.G., and Will, B., *Les Dépannages du Cerveau*. Paris: Editions Berlin, 1991.

Brailowsky, S., Stein, D.G., and Will, B., *El Cerebro Averiado*. Fondo de Cultura Economica, S.A., Mexico DF, 1992.

Stein, D.G., Brailowsky, S., and Will, B., *Brain Repair*. New York: Oxford University Press, 1995.

Brailowsky, S., Stein, D.G., and Will, B., *Lesioni Cerebrali: Le Nuove Risorse della Medicina*, Phoenix, Roma: 2000.

Stein, D.G., Brailowsky, S. and Will, B. *Brain Repair Das Selbstheilungspotential des Gehirns: oder wie das Gehirn sich selbst hilf*. Stuttgart: Thieme Verlag, 2000.

Stein, D.G., ed. *Buying in or Selling Out: The Commercialization of the American Research University*. New Brunswick, NJ: Rutgers University Press, 2004.

Stein, DG and Sayeed I (Eds). Novel Treatments for Traumatic Brain Injury, *Neuropharmacology Special Issue* 145 Part B, 2019

PUBLISHED PAPERS, ARTICLES AND REPORTS

Ratner, Stanley C., Stein, D.G. (1965) Responses of worms to light as a function of interatrial interval and ganglion removal. *J Comp Physiol Psych* 59: 301-305.

Kimble D.P., Kirkby R.J., Stein D.G. (1966) A response perseveration interpretation of passive avoidance deficits in hippocampectomized rats. *J Comp Physio Psych* 61:141-143.

Stein, D.G., Kimble, D.P. (1966) Effects of hippocampal lesions and post-trial strychnine administration on maze behavior in the rat. *J Comp Physio Psych* 62:243-249.

Brink, J.J., Stein, D.G. (1967) Pemoline levels in brain: Enhancement by dimethyl sulfoxide. *Science* 158:1479-1480.

Kirkby R.J., Stein D.G., Kimble R.J., Kimble D.P. (1967) Effects of hippocampal lesions and duration of sensory input on spontaneous alternation. *J Comp Physiol Psych* 64:342-345.

Stein, D.G., Kirkby, R.J. (1967) The effects of training on passive avoidance deficits in rats with hippocampal lesions: a reply to Isaacson, Olton, Bauer, and Swart. *Psychonomic Sci* 7: 7-8.

Brink, J.J., Stein, D.G. (1968) Facilitation of learning in rats by pemoline dissolved in 100% dimethyl sulfoxide (DMSO). *Fed Proc* 27:437.

- Brink, J.J., Stein, D.G. (1968) The metabolism and distribution of pemoline in rat brain. *Biochem Pharmacol* 17: 2365.
- Stein DG, Brink JJ (1968) Memory drugs probe the chemistry of learning. *Sci Res* 3:45-59.
- Stein, D.G., Brink, J.J., Patterson, A.H. (1968) Magnesium pemoline: Facilitation of maze learning when administered in pure dimethyl sulfoxide. *Life Sci* 7: 147-153.
- Stein, D.G., Chorover, S.L. (1968) Effects of post-trial electrical stimulation of hippocampus and caudate nucleus on maze learning in the rat. *Physiol Behav* 3(5): 787-791.
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- Rosen, J.J., Stein, D.G. (1969) Spontaneous alteration behavior in the rat. *J Comp Physio Psych* 420:6.
- Stein, D.G., Brink, J.J. (1969) Prevention of retrograde amnesia by injection of magnesium pemoline in dimethyl sulfoxide. *Psychopharmacologia* 14:240-247.
- Stein, D.G., Rosen, J.J., Graziadei, J., Mishkin, D., Brink, J. (1969) Central nervous system: recovery of function. *Science* 166:528-530.
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- Rosen, J.J., Stein, D.G., Butters, N. (1971) Recovery of function after serial ablation of prefrontal cortex in the rhesus monkey. *Science* 173: 353-355.
- Stein, D.G. (1971) Effects of strychnine during different periods of development on maze learning in adult rats. *Comm Behav Biol* 6: 335-340.
- Butters, N., Pandya, D., Stein, D.G., Rosen, J.J. (1972) A search for the spatial engram within the frontal lobes of monkeys. In J. Konorski and H.L. Teuber, eds. *The Frontal Granular Cortex and Behavior* (1971 revision), *Neurobiol Exper* 32: 1972.
- Stein, D.G. (1972) The effects of saline or blank injections during development on maze learning at maturity. *Devel Psychobiol* 5: 319-322.
- Stein, D.G., Rosen, J.J. (1972) Nonspecific behavioral effects of substances from mammalian brain. *Science* 178: 521-523.
- Butters, N., Butter, C., Rosen, J.J., and Stein, D.G. (1973) Behavioral effects of sequential and one-stage ablations of orbital prefrontal cortex in the monkey. *Exp Neurol* 39: 204-215.
- Finger, S., Walbran, B., Stein, D.G. (1973) Brain damage and recovery: Serial lesion phenomena. *Brain Res* 63: 1-18.
- McIntyre, M., Stein, D.G. (1973) Differential effects of one- vs two-stage amygdaloid lesions on activity, exploratory, and avoidance behavior in the albino rat. *Behav Biol* 9:451-465.
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Reviewer and consulting activities since retirement

Individual grant applications and programs reviewer, Veterans Administration, Traumatic Brain Injury section (2019-present)

Reviewer, Congressionally Mandated Research Programs in Traumatic Brain Injury, Department of Defense (2020-present).

Consultant in research and development: Neurotrauma Sciences, a biotechnology start-up focusing on the development of treatments for TBI and stroke. (2019-present)

Book Project: Revision of my book: “ Brain Repair” in collaboration with Dr. Gary Dunbar and under contract with Oxford University Press—estimated completion date September, 2022.

Donald G. Stein, PhD

March, 2022