

CURRICULUM VITAE

DATE: July 14, 2020

NAME: Gary S. Aston-Jones, Ph.D.

PRESENT TITLE: Director, Brain Health Institute
Distinguished Professor of Psychiatry
Charlotte and Murray Strongwater Endowed Chair in Neuroscience and
Brain Health
Rutgers Biomedical & Health Sciences
Rutgers University

HOME ADDRESS: 141 Riverview Avenue, Highland Park, NJ 08904

OFFICE ADDRESS: SPH/RWJMS Research Building
683 Hoes Lane West, Rm 259
Piscataway, NJ 08854

TELEPHONE NUMBER/ (732) 235-6074 telephone; (732) 235-5814 fax

E-MAIL ADDRESS: gsa35@ca.rutgers.edu

WEBSITE: <https://brainhealthinstitute.rutgers.edu>

CITIZENSHIP: USA

EDUCATION:

- A. Undergraduate Graduate and Professional
University of Virginia
Charlottesville, VA
B.A. with Distinction (Theology and Biological Sciences)
1973
- B. Graduate and Professional
Division of Biology
California Institute of Technology
Pasadena, CA
James Olds and Floyd Bloom, advisors
PhD in Neurobiology
1981

POSTGRADUATE TRAINING:

- A. Postdoctoral Appointments
A.V. Davis Center for Behavioral Neurobiology
Salk Institute
La Jolla, CA
Floyd Bloom and Stephen Foote, advisors
Postdoctoral Fellow
1981-1982

MILITARY: N/A

ACADEMIC APPOINTMENTS:
Department of Psychology

Center for Neurobehavioral Sciences,
State University of New York (SUNY) at Binghamton
Assistant Professor of Psychology
1982-1984

Department of Biology
New York University, NY
Assistant Professor to Associate Professor
1984 - 1988

Department of Psychiatry
Department of Physiology and Biophysics (Secondary Appointment)
Hahnemann University, Philadelphia, PA
Associate Professor to Professor
1988 - 1997

Division of Behavioral Neurobiology
Department of Psychiatry
Hahnemann University, Philadelphia, PA
Director
1988 - 1997

Department of Psychiatry
Department of Pharmacology (Secondary Appointment)
University of Pennsylvania, Philadelphia, PA
Professor
1997 – 2006

Neuroscience of Addiction Research Center
Department of Psychiatry
University of Pennsylvania, Philadelphia, PA
Director
2005 – 2006

Department of Neurosciences
Medical University of South Carolina, Charleston, SC
Professor
2006 – 2014

William E. Murray Endowed Chair of Excellence in Neuroscience
Medical University of South Carolina, Charleston, SC
2006 – 2014

Neuroscience Institute
Medical University of South Carolina, Charleston, SC
Director
2006 – 2014

Department of Psychiatry
Robert Wood Johnson Medical School
Rutgers Biomedical and Health Sciences
Professor
2014-2020

Department of Psychiatry
Robert Wood Johnson Medical School
Rutgers Biomedical and Health Sciences
Distinguished Professor
2020-present

Brain Health Institute
Rutgers Biomedical and Health Sciences, Rutgers University
Director
2014 – present

Charlotte and Murray Strongwater Endowed Chair in Neuroscience and Brain Health
Rutgers Biomedical and Health Sciences, Rutgers University
2014-present

HOSPITAL APPOINTMENTS: N/A

OTHER EMPLOYMENT OR MAJOR VISITING APPOINTMENTS:

- Visiting Scientist, Dept. Pharmacology, Karolinska Institute, Stockholm, Sweden, June-August, 1984; November, 1992.
- Visiting Scientist and INSERM Fellow, Groupe de Recherche de Neurochimie Fonctionnelle, INSERM, St Genis-Laval, France, August-September, 1987; May-August, 1989.
- Visiting Faculty, Carnegie Mellon University, Spring, 1997.
- Consultant Sanofi-Synthelabo, 2004
- Consultant, Lilly Pharmaceuticals, 2006.
- Consultant, Advisory Board Sanofi Aventis, 2009
- Consultant, Mars Health and Nutrition Pod, Mars, Inc, 2010.
- Consultant, Merck Pharmaceuticals, April 2019.
- Consultant, Idorsia Pharmaceuticals, September 2021.

PRIVATE PRACTICE: N/A

LICENSURE: N / A

DRUG LICENSURE: N/A

CERTIFICATION: N/A

MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES:

Professional Memberships:

- Society for Neuroscience, 1981 – present, Trainee Professional Development Awards Committee, 2017 – present.
- American College of Neuropsychopharmacology (ACNP) (1991 – present), Fellow (2003 – present), Animal Use Committee (2008 – 2010), Program Committee (2013 – 2015), Nominating Committee (2015).
- Collegium Internationale Neuro-Psychopharmacologicum (CINP), 2005 – present.
- American Association for the Advancement of Science, 1982 – present.
- Scientific Council, Brain and Behavior Research Foundation (NARSAD), 2013-present.
- New York Academy of Sciences, 2014 – present.

HONORS AND AWARDS:

- Finalist: Donald B. Lindsley Prize in Behavioral Neuroscience, 1981
- Fellow: The Neurosciences Institute, 1984
- Finalist: McKnight Scholars Award Program, 1985
- Smith, Kline & French Visiting Professor of Neuroscience, Australia, 1988.
- Whitehead Fellowship, New York University, 1988 (declined).
- Dissertation Opponent, Ph.D. Dissertation Defense of Mihaly Hajos, Ph.D., University of Goteborg, Sweden, January, 1988.
- Program Director and Principal Investigator, Human Frontiers Science Program International Project, “Noradrenergic Mechanisms in Cerebral Cortex”, 1993-1996.
- Grass Lecturer, Emory University, 1994.

- Wellcome Lecturer in Basic Medical Sciences, University of Oklahoma, 1995.
- Fellow, American College of Neuropsychopharmacology (ACNP), 2003.
- Pradhan Endowed Research Seminar, Howard University, March, 1996
- Keynote Speaker, Neuroscience Retreat, Vanderbilt University, Nashville, 2002.
- MERIT award, NIDA, 2003-2013.
- Chair, Neurobiology of Motivated Behavior study section, CSR, NIH, 2005-2007.
- Murray Endowed Chair of Excellence in Neuroscience, Medical University of South Carolina, 2006-2014.
- Plenary speaker, International Narcotics Research Council (INRC), Charleston, SC, July 2009.
- Keynote speaker, Motivational Neuronal Network international meeting, Wrightsville Beach, April 2010.
- Plenary speaker, Brain Plasticity Symposium, Queensland Brain Institute, University of Queensland, Brisbane, Australia, September, 2010.
- Distinguished Lecture, National Institute of Environmental Health Sciences, Raleigh, NC, November, 2010
- Keynote Speaker, 13th International Neuropsychanalysis Congress, Athens Greece, June, 2012.
- Distinguished Lecturer Award, University of North Carolina Behavioral Neuroscience Program, February, 2013.
- Behavioral and Cognitive Neuroscience New Year's Keynote Lecture, Annual New Year's Meeting, University of Groningen, The Netherlands, February 2013.
- Postdoctoral Colloquium Speaker, Behavioral and Cognitive Science Dept, MIT, Boston, September, 2013.
- Member, Scientific Council, Brain and Behavior Foundation (NARSAD), 2013-present.
- Distinguished Lecturer, University of Southern California Graduate Program, May 2014.
- Presidential Symposium Speaker, American College of Neuropsychopharmacology (ACNP), Phoenix, AZ, Dec 2014.
- Keynote speaker, Institute for Neuroscience annual symposium, University of Texas, Austin, January, 2015.
- Keynote speaker, Pierre Morell Research Day, University of North Carolina Neurobiology Curriculum, May, 2015.
- Closing Keynote speaker, Gordon Conference on Catecholamines, Newry, ME, August, 2015.
- Plenary speaker, European Behavioral Pharmacology Society, Verona, Italy, September, 2015.
- Honorary Leaton Lecture, Dartmouth University, November, 2015.
- B.F. Skinner Lecturer, Association for Behavior Analysis International meeting, Chicago, May 2016.
- Inaugural Plenary Speaker, Binghamton University, April 2018.
- Keynote speaker, Center for Substance Abuse Research, Temple University, Philadelphia, October 2018.
- Keynote speaker, Center for Behavioral and Molecular Neuroscience, Rutgers-Newark, annual symposium, Newark, NJ October 2018.

BOARDS OF DIRECTORS/TRUSTEES POSITIONS:

- Scientific Advisory Board, Alcohol Center for Translational Genetics, and Gallo Center for Alcohol Research, University of California San Francisco, 2010 – 2017.
- Scientific Advisory Committee, University of Texas San Antonio Specialized Neuroscience Research Program, 2005 – 2010.

**SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:
SERVICE ON MAJOR COMMITTEES:**

International:

- Dissertation Opponent, PhD Dissertation Defense of Mihaly Hajos, University of Goteborg, Sweden, January, 1988.
- Examiner, Dissertation of K. Baker, U. New South Wales, Sydney, Australia, 1990.
- Panel of International Referees, New Zealand Neurological Foundation, 1998 – 1999.
- Reviewer, Agence Nationale de Recherche (ANR-France), 2010-2016.
- Reviewer, AXA Research Fund, European Union, 2011-2013.

National:

- National Science Foundation review panelist, 1988.
- Member, NIMH Special Review Committees, 1985, 1987, 1990, 1994
- Member, site-visit team, NIMH Special Review Committee, 1987.
- Consultant, Merit Review Board, Department of Veterans Affairs, August, 1990-1996.
- Member, NIDA Special Review Committees, 1993, 1994.
- Member, NINDS Special Review Committee RFA-NS-93-02, 1993.
- Member, NIDA Drug Abuse Research Review Committee, Pharmacology III Subcommittee, 1993-1997.
- Consultant, Opiate Treatment Discovery Program, NIDA, March, 1996.
- Reviewer for NIDA Center proposals, February, 1998.
- Member, Advisory group to National Space Biomedical Research Initiative, Houston, 1999.
- Standing member, NIH-CSR review panel, Neurobiology of Motivated Behavior (NMB), 2003 – 2007.
- Chair, NIH-CSR review panel, Neurobiology of Motivated Behavior (NMB), 2005 – 2007.
- Consulting member, Board of Scientific Counselors, National Institute of Alcohol Abuse and Alcoholism, 2007.
- College of Reviewers for the Center of Scientific Review, NIH.
- Member, X02 NIDA Translational Avant-Garde Special Review Committee, May 2010.
- Organizer, 7th Brain Research/Elsevier Conference: “Optogenetics and Pharmacogenetics in Neuronal Function and Dysfunction”, Society for Neuroscience Satellite Meeting, New Orleans, October, 2012.
- Member, ZRG1 IFCN-C (03) CSR/NIH Special Review Committee, January 2013.
- Scientific Council, Brain and Behavior Foundation (NARSAD), 2013-present.
- Chair and member, CSR review panel, ZDA1 SXC E 16 R, December 2013.
- Chair and member, CSR Special Emphasis Panel ZMH1 ERB-L 05 S, NIMH Biobehavioral Research Awards for Innovative New Scientists (BRAINS), March 2014.
- Member, NIDA P30/P50 Centers Review Committee, March 2017.
- Member, ZRG1 IFCN-C (02) CSR/NIH Special Review Committee, November 2017.
- Member, NIDA P30/P50 Centers Review Committee, March 2018.

Medical School/University:

- Biomedical Advisory Committee, Rutgers University, 2017 – present.
- New Jersey Autism Center of Excellence Advisory Board – 2017 – present.
- Search Committee, Klein Endowed Chair in Alzheimer’s disease and neurodegeneration, 2016
- Search Committee, Targets of Opportunity, Brain Health Institute, 2015 – present.
- Search Committee, junior faculty member in Alzheimer’s disease and neurodegeneration, 2018
- Search Committee, junior faculty member in motivational neuroscience, 2015-present
- Search Committee, Director, Rutgers University Center for Autism Research, Education and Service.
- Search Committee, Director, Rutgers University Addiction Research Center.
- Search Committee, Director, Rutgers University Center for Advanced Human Brain Imaging Research, 2015-2019
- Neuroscience Graduate Program Executive Committee
- RWJBH-RBHS Affiliation Research Committee, 2019-present.
- RHG Opioid Steering Committee, 2019 – present.
- Opioid Committee, Research Task Force – 2019 – present
- Tenure Review Committee, Detlev Boison, PhD, 2019

Hospital: NA

Department: -

I direct the Rutgers Brain Health Institute. Therefore, I am responsible for all service provided by this institute, including recruiting faculty, developing centers, developing core facilities, the plenary seminar series, the pilot grant program, the annual BHI Symposium, annual Klein Symposium on Alzheimer Disease research, and the annual Strongwater Lecture.

Editorial Boards:

- Neuroscience, Editorial Board 1989-1999.
- Journal of Neural Transmission, Editorial Board 1989-2003.
- Journal of Serotonin Research, Editorial Board 1990 - 1998.
- Sleep Research Online, Editorial Board 1995-2005.
- Neuropsychopharmacology, Editorial Board 1997
- Neuropsychopharmacology, Field Editor 1998-2002.
- Brain Research, Associate Editor for Neurophysiology and Neuropharmacology, 2006 – 2010.
- Brain Research, Senior Editor for Systems Neuroscience and Behavior, 2010-2012.
- Brain Research, Deputy Editor-in-Chief, 2012 – present
- Experimental Neurology, Editorial Board 2000 – 2004.
- Faculty of 1000, 2001- 2012.
- Attention Deficit Hyperactivity Disorder, Editorial Board 2002- 2009.
- Journal of Chemical Neuroanatomy, Editorial Board 2005 – 2015.
- Journal of Addiction Medicine, Editorial Board 2006 – present.
- Brain Structure and Function, Editorial Board 2006 – 2013.
- Open Neuroscience Journal, Editorial Board 2007 – 2017.
- Brain Stimulation, Editorial Board 2007 – 2014.
- Frontiers in Neuroscience, Editorial Board Brain Stimulation 2010 – 2015.
- Journal of Alzheimer's Disease & Parkinsonism, Editorial Board 2011 – present.
- PLoS One, 2011- present.
- The Scientific World Journal, 2011 – 2015.
- Current Pharmacology Reports, Section Editor for Neuropharmacology, 2016 - present.
- Heliyon, Senior Editor, 2018 – 2019.
- Heliyon, Editorial Board 2019 – present.

SERVICE ON GRADUATE SCHOOL COMMITTEES:

Thesis committees:

PhD Thesis committees (in addition to students for whom I was primary mentor):

1. Alan Justice, PhD degree, NYU, 1985
2. K. Baker, PhD degree, University of New South Wales, Sydney Australia, 1990.
3. Michelle Page, PhD degree, Hanhemann University, 1993
4. Timothy Whitfield, PhD degree, Medical University of South Carolina, 2010
5. Khaled Moussawi, PhD degree, Medical University of South Carolina, 2010
6. Matthew Hearing, PhD degree, Medical University of South Carolina, 2010
7. Aram Parsegian, PhD degree, Medical University of South Carolina, 2012
8. Justin Taylor, PhD degree, Medical University of South Carolina, 2012
9. Michael Bienkowski, PhD degree, University of Pittsburgh, 2012
10. Amy Quinkert, PhD degree, Rockefeller University, 2012
11. Daniel Chandler, PhD degree, Drexel University, 2013
12. William Buchta, PhD degree, Medical University of South Carolina, 2014
13. Sarah Barry, PhD degree, Medical University of South Carolina, 2015
14. Juliana Kulik, PhD degree, Rutgers University, 2018

Other service to Graduate School or University:

GradFund Workshop panel, Rutgers School of Graduate Studies, Sept 2019

SERVICE ON HOSPITAL COMMITTEES: NA

SERVICE TO THE COMMUNITY:

- Sponsored and helped to organize the Herb Klein Annual Symposium on Alzheimer's Disease Research at New Jersey Medical School, 2018-present. Public invited.
- Sponsored and helped to organize the Annual Brain Health Institute Symposium, 2015 – present. All day event featuring a keynote speaker, Rutgers and industry speakers, and a poster session.

- Sponsored and helped to organize the Brain Health Institute Plenary Seminar Series each year, 2015 – present; typically includes seminars from 8-12 high-visibility neuroscientists from around the US.
- Sponsored and helped to organize the Annual Brain Health Institute Pilot Grant Program. Provides 7 – 10 \$40,000 awards to collaborative research teams conducting novel translational neuroscience research across Rutgers.
- Sponsored and helped to organize the Brain Health Institute Post-bac program. A program to support 1-2 year research experience for students between undergraduate and graduate school training (in process; first class expected Spring 2020).
- Sponsored and helped to organize the New Jersey Autism Center of Excellence at Rutgers. Organized the leadership team that submitted the successful application, now funded 2018 – 2023.
- Sponsored and helped to organize rodent behavioral core facilities at Robert Wood Johnson Medical School and at New Jersey Medical School.
- Helped to obtain philanthropic support for the Klein Endowed Chair and the Klein Endowed Center for Alzheimer’s Disease Research Center at Rutgers.
- Sponsored and helped to organize a meeting between Rutgers neuroscientists and scientists and leaders from Merck Pharmaceuticals (April 2019).

SPONSORSHIP (Primary Mentorship) OF CANDIDATES FOR POSTGRADUATE DEGREE:

1. Robert Shaver, M.A., M.D., 1982-1983. Current position: Physician, Lebanon, PA
2. Timothy Dinan, M.D., 1982-1983. Current position: Professor, Department of Psychiatry, Royal College of Surgeons, Ireland, Cork, Ireland
3. Matthew Ennis, Ph.D., 1984-1988. Current position: Professor and Chairman, Department of Anatomy & Neurobiology, University of Tennessee Health Science Center, Memphis, TN
4. Elisabeth Van Bockstaele, Ph.D., 1984-1988. Current position: Dean, Graduate School and Professor, Department of Pharmacology, Drexel University School of Medicine, Philadelphia, PA
5. Vincent Pieribone, Ph.D., 1984-1988. Current position: Professor, Department of Physiology and of Neuroscience, Director, The John B. Pierce Laboratory, Yale University, New Haven CT.
6. Randal Revay, Ph.D., 1987-1990. Current position: Research Associate, National Institutes of Health.
7. Carl Chiang, Ph.D., 1987-1992. Current position: Director of Clinical Development, Zinfandel Pharmaceuticals, Durham, NC.
8. Sheng Chen, M.D., Ph.D., 1990-1994. Current position: Associate Professor of Pathology, Department of Pathology, Long Island Jewish Medical Center.
9. Alice Luo, Ph.D., 2002-2006. Current position: Director of Research, Simons Foundation Autism Research Initiative, New York, NY.
10. Greg Carr, Ph.D., 2005-2006. Current position: Assistant Professor, Dept Pharmacology and Molecular Sciences and Lieber Institute, Johns Hopkins University, Baltimore, MD.
11. Stephen Mague, Ph.D., 2005-2006. Current position: Research Scientist, Duke University, Durham, NC.
12. Greg Sartor, Ph.D., 2006-2011. Current position: Assistant Professor of Pharmacology and Toxicology, University of Connecticut, Storrs CT
13. Aly Bourreza, M.D., 2008-2011. Current position: Medical Student, Medical University of South Carolina.
14. Noam Keren, Ph.D., 2010-2013. Current position: Associate Program Officer, National Academies of Science, Washington, DC
15. Brandon Bentzley, M.D., Ph.D., 2009-2014. Current Position: Resident, Stanford University Medical School.
16. Zackary Cope, Ph.D., 2008-2014. Current position: Postdoctoral fellow, University of California at San Diego.
17. Brittney Cox, Ph.D., 2010-2015. Current position: Postdoctoral fellow, University of California at Irvine.
18. Ellen McGlinchey, Ph.D., 2011-2016. Current position: Study Director/Research Scientist, Gilead Sciences, San Francisco CA.
19. Caroline Pantazis, Ph.D., 2015 – 2019. Current position: Postdoctoral fellow, NIDA Intramural Program, Baltimore MD.
20. Gary Kane, Ph.D., 2012 – 2018. Current position: Postdoctoral fellow, The Rowland Institute, Harvard University, Boston MA.

21. Aida Mohammadkhani, Ph.D., 2016-2018. Current position: Postdoctoral fellow, University of Calgary, Calgary Canada.
22. Mark Presker, 2019 - Present. Current PhD student.

SPONSORSHIP (Primary Mentorship) OF POSTDOCTORAL FELLOWS:

1. Steven Grant, Ph.D., 1987-1988. Current Position: Program Officer and Coordinator, National Institute on Drug Abuse, Division of Clinical Neuroscience and Behavioral Research, Bethesda, MD
2. Bernadette Astier, Ph.D., 1988-1991. Current Position: Research Faculty, Neuropharmacology and Neurochemistry, Lyon University, France.
3. Eiichi Jodo, Ph.D., 1988-1991. Current Position: Research Faculty, Department of Systems Neuroscience, Fukushima Medical University, Japan.
4. Peter Kubiak, Ph.D., 1989-1992. Current Position: Research Director, Axo-Nobec Pharmaceuticals, Summit, NJ
5. Hideo Akaoka, Ph.D., 1989-1993. Current Position: INSERM Scientist, Dept. of Neurobiology & Experimental Physiopathology, Faculty of Medicine Laennec, Lyon, France.
6. Tatiana Alexinsky, Ph.D., 1989-1993. Current Position: INSERM Scientist, Laboratory of Neurobiology and Cognition, Aix-Marseille University, France.
7. Janusz Rajkowski, Ph.D., 1989-2010. Current Position: retired.
8. Pierre Luppi, Ph.D., 1990-1993. Current Position: Director, Sleep Network Group CNRS, University of Lyon, France.
9. Ramin Sheikhattar, Ph.D., 1990-1994. Current Position: Professor, and Co-Leader, Cancer Epigenetics Research Program, University of Miami, Miami, FL.
10. Guy Drolet, Ph.D., 1990-1994. Current Position: Directeur de Recherche, Neurosciences, University of Laval, Canada
11. Harumitsu Hirata, Ph.D., 1991-1997. Current Position: Research Associate, Dept. of Surgical Research, Rhode Island Hosp/Brown University, Providence RI.
12. Svetlana Ivanova, Ph.D., 1993-1998. Current Position: Research Associate, Department of Neurosurgery, University of Maryland.
13. Alexander Ivanov, Ph.D., 1993-1998. Current Position: Senior Research Associate, Department of Neurosurgery, University of Maryland.
14. Jill Delfs, Ph.D., 1996-1999. Current Position: Secondary School Teacher, Pennsylvania.
15. Valentine Silakov, Ph.D., 1996-1998. Current Position: Research Assistant Professor, Newington VA Medical Center.
16. Henrick Majczynski, Ph.D., 1998-1999. Current Position: Assistant Professor, Department of Experimental Biology, Nencki Institute, Poland.
17. Michael Oshinsky, Ph.D., 1998-2000. Current Position: Program Director, Systems and Cognitive Neuroscience, National Institute of Neurological Disease and Stroke, NIH, Bethesda, MD.
18. Monica Gonzalez, Ph.D., 1998-2003. Current Position: Faculty Researcher, Instituto Ferrero de Neurología y Sueño, Buenos Aires, Argentina.
19. Melvi Methippara, Ph.D., 1999. Current Position: Research Associate, Department of Neurology, UCLA, VA Healthcare System, Los Angeles, CA
20. Sakineh Haamedi, Ph.D., 1999-2000. Current Position: Research Scientist, University of London, London, England.
21. Wei Lu, Ph.D., 1999-2002. Current Position: Research Associate, University of Pennsylvania, Philadelphia, PA.
22. Glenda Harris, Ph.D., 1999-2004. Current Position: Senior Acupuncturist, University of Miami, Miami, FL.
23. Francois Georges, Ph.D., 2000-2002. Current Position: Assistant Professor & INSERM Investigator, Université Bordeaux, France.
24. Edwin Clayton, Ph.D., 2000-2004. Current Position: Senior Project Manager, Princeton Neuroscience Institute, Princeton University, Princeton, NJ
25. Scott Doran, Ph.D., 2000-2004. Current Position: Senior Researcher, Sleep Pharmacology Unit, Merck Pharmaceuticals, West Point, PA.
26. Anand Rai, Ph.D., 2001-2005. Current Position: Assistant Professor, Banaras Hindu University, Varanasi, India.
27. Michiyo Iba, Ph.D., 2002-2005. Current Position: Research Scientist, Dept. Pathology, University of Pennsylvania School of Medicine, Philadelphia, PA.
28. Carlos Mejías-Aponte, Ph.D., 2002-2006. Current Position: Staff Scientist, NIDA Intramural Research Program, Baltimore, MD.

29. Rachel Smith, Ph.D., 2003-2008. Current Position: Assistant Professor, Dept Psychology, Texas A&M University, College Station, TX .
30. Michelle Hummel, Ph.D., 2004-2006. Current Position: Principal Investigator, Purdue Pharma, New York.
31. Heinrich Gompf, Ph.D., 2004-2006. Current Position: Assistant Professor University of Massachusetts Medical School, Worcester, MA.
32. Candice Drouin, Ph.D., 2005-2006. Current Position: Principal Medical Writer, Parexcel, Paris, France.
33. Jovita Randall-Thompson, Ph.D., 2005-2006. Current Position: Pharmacologist, US Food and Drug Administration, Silver Spring, MD.
34. Naohiro Saito, Ph.D., 2005-2008. Current Position: Assistant Professor, Clinical Neurosciences, Yamagata University, Japan.
35. Kimberlei Richardson, Ph.D., 2006-2010. Current Position: Assistant Professor, Dept. Pharmacology, Howard University.
36. Pouya Tahsili-Fahadan, M.D., Ph.D., 2007-2010. Current position: Neurologist, Inova Fairfax Hospital, Falls Church, VA.
37. David Moorman, Ph.D., 2006-2011. Current Position: Assistant Professor, Dept Psychology, University of Massachusetts at Amherst.
38. Angie Cason, Ph.D., 2006-2014. Current Position: Research Assistant Professor, Dept Neurosciences, Medical University of South Carolina.
39. Jennifer Kaufling, Ph.D., 2010-2012. Current position: Research Faculty, French National Centre for Scientific Research, Paris, France.
40. Andrea Bari, Ph.D., 2011-2014. Current position: Postdoctoral Fellow, MIT, Boston, MA
41. Linnea Freeman, Ph.D., 2012 – 2014. Current Position: Assistant Professor, Dept Biology, Furman University, Greenville, SC.
42. Kirsten Porter-Stransky, Ph.D., 2014. Current position: Assistant Professor, Western Michigan University Homer Stryker School of Medicine, Kalamazoo, MI
43. Stephen Mahler, Ph.D., 2009-2015. Current position: Assistant Professor, Dept Neurobiology and Anatomy, University of California, Irvine CA.
44. Matthew Riedy, Ph.D., 2009-2015. Current position: Principal Investigator, U.S. Space and Naval Warfare (SPAWAR) Systems Center Atlantic, North Charleston, SC
45. Elena Vazey, Ph.D., 2009-2015. Current position: Assistant Professor, Dept. Biology, University of Massachusetts at Amherst, Amherst, MA.
46. Benjamin Zimmer, Ph.D., 2013-2016. Current position: medical writer, Guidemark Health, Inc, Princeton, NJ
47. Morgan James, Ph.D., 2014 – present. Current Postdoctoral Fellow.
48. Amy Kohtz, Ph.D., 2014 – present. Current Postdoctoral Fellow.
49. Joost Wiskerke, Ph.D., 2015 – 2017. Current position: Postdoctoral fellow, Linköping University, Linköping, Sweden
50. Colin Stopper, Ph.D., 2015 – 2016. Current position: medical writer, Red Nucleus, Inc., Philadelphia, PA
51. Mohsen Omrani, Ph.D., 2015 – 2019. Current position: entrepreneur.
52. Hannah Bowery, Ph.D., 2015 – present. Current Postdoctoral Fellow.
53. Gina Marrone, Ph.D., 2016-2017. Current position: Instructor, Montclair State University, Montclair, NJ.
54. Jennifer Catuzzi Fragale, Ph.D., 2017 – present. Current Postdoctoral Fellow.
55. Chuhyon Corwin, Ph.D., 2019 – present.
56. Jorge Avila, Ph.D., 2020 – present.
57. David Nogueira, Ph.D., 2020 – present.

TEACHING RESPONSIBILITIES:

A. Lectures or Course Directorships:

- Provided annual lecture titled "Responsible Authorship and Publication" in the graduate course "Ethical Scientific Conduct" (SGS Course No. 16:115:556) in 2016, 2017, 2018, 2019 (Janet Alder, PhD, course director). This includes an hour-long discussion session after the lecture.
- Provided 3 sessions for the graduate course "Advanced Studies in Neuroscience" (GS Course No. 16:710:605) in 2015 (John Pintar, PhD, course director) Fall, 2015.

B. Research Training (other than Primary Mentorship)

Visiting PhD student in laboratory:

- Aida Mohammadkhani 2016 – 2018 (Institute for Research in Fundamental Sciences, Tehran, Iran)

Junior Faculty in laboratory

- David Moorman, Ph.D. Research Assistant Professor, 2011-2014. Current position: Assistant Professor of Psychology, University of Massachusetts, Amherst.
- Angie Cason, Ph.D., Research Assistant Professor, 2014. Current position: Research Assistant Professor, Dept Neuroscience, Medical University of South Carolina.
- Jamie Peters, Ph.D., Research Assistant Professor, 2014. Current position: Research Assistant Professor, Dept Neuroscience, Medical University of South Carolina.
- Linnea Freeman, Ph.D., Research Assistant Professor, 2014. Current position: Assistant Professor, Furman College, Greenville, SC.

Visiting Faculty

- Yoichiro Otsuka, 2009-2010 (Flinders Medical School, Adelaide, Australia)
- Sheng Liu, 2009-2010 (Ningbo Addiction Research and Treatment Ctr., Ningbo, China)
- Stanley Floresco, 2013 (University of British Columbia)

Faculty Recruited/Mentored

- Rita Valentino, Ph.D., 1997 (recruited as Associate Professor of Psychiatry, Hahnemann University)
- Jon Druhan, Ph.D., 1998 (recruited as Assistant Professor of Psychiatry Hahnemann University; University of Pennsylvania)
- John Lehman, Ph.D., 1998 (recruited as Associate Professor of Psychiatry, Hahnemann University Hahnemann University)
- Jane Joseph, 2010 Ph.D., (recruited as Associate Professor of Neuroscience, Medical University of South Carolina)
- Thomas Jhou, Ph.D., 2010 (recruited as Assistant Professor of Neuroscience, Medical University of South Carolina)
- Thomas Naselaris, Ph.D., 2011 (Assistant Professor of Neuroscience, Medical University of South Carolina)
- Luciano D'Adamio, Ph.D., 2017 (recruited as Klein Endowed Chair and Professor of Pharmacology, Physiology and Neuroscience, Rutgers Brain Health Institute and New Jersey Medical School)
- David Barker, Ph.D. 2018 (recruited as Assistant Professor of Psychology, Rutgers Brain Health Institute and Rutgers University New Brunswick)
- Ioana Carcea, Ph.D., 2018 (recruited as Assistant Professor of Pharmacology, Physiology and Neuroscience, Rutgers Brain Health Institute and New Jersey Medical School)
- Hyung-Jin Ahn, Ph.D., 2018 (recruited as Assistant Professor of Pharmacology, Physiology and Neuroscience, Rutgers Brain Health Institute and New Jersey Medical School)
- Anna Kanova, Ph.D., 2018 (recruited as Assistant Professor of Psychiatry, Rutgers Brain Health Institute and Robert Wood Johnson Medical School/ University Behavioral Health Center)
- Detlev Boison, Ph.D., 2019 (recruited as Professor of Neurosurgery and Vice Chair of Neurosurgery for Research, Rutgers Brain Health Institute and Robert Wood Johnson Medical School)
- Wayne Fisher, Ph.D., 2019 (recruited as Henry Rutgers Professor of Autism Research and Professor of Pediatrics, Director of the Rutgers University Center for Autism Research, Education and Service, Rutgers Brain Health Institute and Robert Wood Johnson Medical School)
- Brian Greer, Ph.D., 2019 (recruited as Assistant Professor of Pediatrics and Director of the Center for Severely Affected Children, Rutgers Brain Health Institute and Robert Wood Johnson Medical School)
- Cathleen Piazza, Ph.D., 2019 (recruited as Professor of Applied Psychology and Director of the Program in Feeding Disorders, Rutgers Brain Health Institute and Rutgers Graduate School of Applied and Professional Psychology)
- David Zald, Ph.D., 2020 (recruited as Professor of Psychiatry and Director of the Center for Advanced Human Brain Imaging Research, Rutgers Brain Health Institute and Robert Wood Johnson Medical School)
- R. Christopher Pierce, Ph.D. 2020 (recruited as Professor of Psychiatry, Rutgers Brain Health Institute and Robert Wood Johnson Medical School)

- Daniel Langleben, M.D., 2020 (recruited as Professor of Psychiatry and Director of the Treatment Research Unit in the Rutgers Addiction Research center.
- Ying-Xian Pan, Ph.D., 2020 (recruited as Professor of Anesthesiology Rutgers Brain Health Institute and New Jersey Medical School)
- Todd Mowery, Ph.D., 2020 (recruited as Assistant Professor of Otolaryngology, Rutgers Brain Health Institute and Robert Wood Johnson Medical School).
- Morgan James, Ph.D., 2020 (recruited as Assistant Professor of Psychiatry, Rutgers Brain Health Institute and Robert Wood Johnson Medical School).

CLINICAL RESPONSIBILITIES: N/A

GRANT SUPPORT:

A. Principal Investigator

1. Program Director and Principal Investigator, Human Frontiers Science Program International Project, “Noradrenergic Mechanisms in Cerebral Cortex”, 1993-1996.
2. P.I., NIH grant 5R01-NS024698, "Afferent control of locus coeruleus", 1987 - 2002, \$344,885 annual costs.
3. P.I., NIH grant 5R01-MH055309, “Locus coeruleus and attentional processing”, 1996 - 2001, \$257,000 annual costs.
4. P.I., NIH grant 5R01-MH059978, "Neurophysiological & modeling studies of locus coeruleus", 1998-2003, \$280,370 annual costs.
5. PI, Project 5 of P50 MH62196 (J. Cohen, Princeton, Center Director) “Primate locus coeruleus, cingulate cortex and conflict”, 2000-2005, \$234,422 annual costs.
6. PI, National Space Biomedical Research Institute, "Stress, performance and locus coeruleus", 2000 - 2003, \$284,873 annual costs.
7. PI, Merck Sharp & Dohme Contract (G. Aston-Jones, PI), 2000 – 2004, “The effects of alpha-5 inverse agonists on sleep and cognition in rhesus monkeys”, \$211,860 annual costs.
8. P.I., NIH grant R01-DA017289, "Alterations in reward processing during drug abstinence", 2005 – 2010, \$396,250 annual costs.
9. P.I., Project 5, “Role of locus coeruleus in decision outcome”, \$280,000 annual costs, NIH Center grant P50 MH62196, “Cognitive and neural mechanisms of decision and control”, 2005 – 2011 (J. Cohen, Center Director, Princeton University).
10. P.I., Defense Advanced Research Agency (Department of Defense) grant, “Use of vagal nerve stimulation to improve cognitive function”, 2006-2007, \$400, 841 annual costs.
11. P.I., Jazz Pharmaceuticals grant, “Effects of Xyrem on brain noradrenergic and orexinergic neurons”, \$129,892 annual costs, 2007-2009.
12. P.I., NIH grant R21-DA025837, “Gene transfer into selected brain neurons in vivo”, \$207,000 annual costs, 2009-2011.
13. PI, Project 3, “Stress circuits and sex differences in drug seeking”, \$198,777 annual costs, NIH Center grant P50 DA016511, “SCOR on sex and gender factors affecting women's health”, 2012-2018 (K. Brady, Center Director).
14. PI, Project 3, “Selective cortical networks in cocaine-seeking”, \$247,800 annual costs, NIH Center grant P50 DA015369, “Neurobiology of addiction research center”, (P. Kalivas, Center Director). 2008-2014.
15. P.I., NIH grant R21-MH099534, “Effects of locus coeruleus activation: Selective optogenetic stimulation and fMRI” (G. Aston-Jones and M. Eckert, Multi-PIs). \$205,000 annual costs, 2012-2014.
16. PI, NIH grant R01-MH092868, "Role of locus coeruleus in inhibitory control", \$420,750 annual costs, 2011-2016.
17. P.I., NIH grant 5R37-DA006214 (MERIT award, 2003-2014), "Role of Extended Amygdala in Opiate and Cocaine Abuse", 1989-2014, \$350,881 annual costs. (renewed as R01 listed above).
18. PI, NIH grant 3R01-DA006214S1, “Role of orexin in cocaine demand and addiction-Supplement”, Administrative supplement to promote Collaborative Research on Addiction at NIH (CRAN): Comorbidity-Related Research, \$224,250 annual costs, 2014 – 2016.
19. PI, Rutgers Neuro Engineering Group (RUNEG), “Designer receptor modulation of brain circuitry via nanotechnology”, \$25,000, 2017
20. Kairos Foundation. “A novel composition and method for treating neuropsychiatric disorders”, \$100,000, 2018.

21. PI, Rutgers Office of Research Development “A novel composition & method for treating neuropsychiatric disorders”, \$100,000, 2018.
 22. PI, Rutgers Brain Health Institute Pilot Award, “The hypothalamic orexin system as a novel target for binge-eating pathology”, \$40,000, 2018.
 23. PI, NIH grant 2R01-DA00614-25, “Role of orexin in cocaine demand and addiction”, 1989-2024, \$726,400 annual costs.
 24. PI, Rutgers Brain Health Institute Pilot Award, “The role of the orexin system in mild traumatic brain injury-associated opioid addiction”, \$40,000 2019.
 25. PI, NI grant 1R21MH121723-01, “Retinal Regulation of Locus Coeruleus and Mood: A Chemogenetic Approach to Treat Depression”, 2020-202, \$238,500 annual costs.
- B. Co-Investigator:**
1. Co-PI and Co-Director, NIMH grant T32 MH17168-15, “Predoctoral Training in Behavioral Neuroscience” (Steve Fluharty, PI), 1999-2004, \$244,424 annual costs.
 2. Co-PI, Project 2, “Control of Dopamine Neuron Firing by Phosphoinositide-Coupled Receptors“, (C. Paladini, PI), \$160,000 annual costs, Specialized Neuroscience Research Program U54 NS060658, “Quantitative Neurobiology at the University of Texas at San Antonio”, 2008-2013 (C. Wilson, Program Director).
 3. Co-PI, NIDA grant R01-DA10088, "Role of Nucleus Accumbens Dopamine in Drug Dependence", 1996-1999, \$205, 378 annual costs (J. Druhan, PI).
 4. Co-PI, Rutgers Brain Health Institute Pilot Award, “Designer Receptors: A Novel Therapy for Trigeminal Pain”, \$20,000 2016
 5. Co-PI, Rutgers IFNH One Nutrition Pilot Award, “Consequences of binge eating on food demand”, \$20,000 2017
 6. Co-PI, Rutgers Brain Health Institute Pilot Award, “Oxytocin neuromodulation and the hierarchy of needs”, \$20,000 2019
 7. Co-PI, NIH grant T32 DA047944-01, “Molecular Neuroscience of Alcohol and Drug Abuse Research Training”, \$285,000 annual costs, 2019-2024.
- C. Mentor/Director on Training Grant Awards**
1. Foundation Fyssen (France), “Role of adrenergic innervation of locus coeruleus”, B. Astier (PI), G. Aston-Jones (mentor), 1998-2000.
 2. INSERM (France), “Afferent Regulation of Locus Coeruleus”, P. Luppi (PI), G. Aston-Jones (mentor), 1990-1992.
 3. NIH grant F32DA005983, “Ventral Forebrain Norepinephrine and Opiate Withdrawal”, M. Oshinsky (PI), G. Aston-Jones (mentor), 1999
 4. NIH grant F32MH012817, “Role of the Primate Locus Coeruleus in Working Memory”, E. Clayton (PI), G. Aston-Jones (mentor), 2000-2002.
 5. NIH grant F32DA016877, “Norepinephrine; dopamine neurons and cocaine relapse”, C. Mejias-Aponte (PI), G. Aston-Jones (mentor), 2004-2005.
 6. NIH grant F31MH071093-01, "The SCN and Circadian Activity in the VTA", Alice Luo (PI), G. Aston-Jones (mentor), 2004-2006,
 7. NIH grant F31DA019733, “Involvement of protracted withdrawal in morphine relapse”, R. Smith (PI), G. Aston-Jones (mentor), 2005-2006.
 8. Brain and Behavioral Research Foundation/NARSAD Young Investigator Award, Candice Douin (PI), Gary Aston-Jones (mentor), 2006.
 9. NIH grant T32 DA007288 “Drug Abuse Training Program”, J. McGinty, PI, Medical University of South Carolina, Role: Training faculty, 2006-2014.
 10. NIH grant T32 AA007474, “Training in Alcohol Treatment Research”, J. Woodward, PI, Medical University of South Carolina, Role: Training faculty, 2006-2014.
 11. NIH grant T32 GM008716, “Training Program for Medical Scientists”, P. Halushka, PI, Medical University of South Carolina, Role: Training faculty, 2006-2014.
 12. NIH grant K12 HD055885, “Interdisciplinary Women's Health Research at MUSC”, K. Brady, PI, Medical University of South Carolina, Role: Training faculty, 2006-2014.
 13. NIH grant F32DA023354, “Drugs of Abuse; Gender Differences; and Protection by Sweets”, A. Cason (PI), G. Aston-Jones (mentor) 2008-2010.
 14. Australian NHMRC award “New approach to elucidate brain mechanisms regulating basal metabolism: focusing on brown adipose tissue metabolism”, Yoichiro Otsuka (PI), 2009, G. Aston-Jones (mentor).

15. NIH grant F30DA035065, “The Role of Orexin and Subthalamic Nucleus in Cocaine Demand”, B. Bentzely, (PI), G. Aston-Jones (mentor), 2009-2014.
16. NIH grant F32DA026692, “VTA Glutamate and Orexin Involvement in Cue Reinstatement of Drug Seeking” S. Mahler (PI), G. Aston-Jones (mentor) 2010-2012.
17. NIH grant F31DA035561, “The Role of the Hippocampal-Lateral Septum Circuit in Cocaine Abuse”, E. McGinchey (PI), G. Aston-Jones (mentor), 2011-2016.
18. NIH grant R25 DA033680 “Summer Undergraduate Research Program in Addiction”, A. Lavin, PI, Medical University of South Carolina, Role: Training faculty, 2012-2014.
19. NIH grant K99DA035251, “Role of Ventral Pallidum Projection to VTA in Reinstatement of Cocaine Seeking”, S. Mahler (PI), G. Aston-Jones (mentor), 2013-2014.
20. NIH grant K01DK097351, “Role of Orexin in Conditioned Responding for Saccharin: Implications for Obesity”, A. Cason (PI), G. Aston-Jones (mentor), 2013-2014.
21. Australian NHMRC CJ Martin Fellowship “The orexin system: a link between addiction and depression”, M. James (PI), G. Aston-Jones (mentor) 2013-2018.
22. NIH Grant K01DA038235, “Simulating Extinction with Infralimbic DREADDS”, J. Peters (PI), G. Aston-Jones (Mentor), 2014-2016.
23. NIH grant F32DA036995, “Role of the Orexin System in Cocaine Self-Administration”, B. Zimmer (PI), G. Aston-Jones (mentor), 2014-2015.
24. NIH grant, K12 award on TL1 RR029881, “Sex Differences in Demand for Highly Palatable Food Rewards: Role of Orexin Neurons”, L. Freeman (PI), G. Aston-Jones (mentor), 2014-2015.
25. NIH grant K99MH104, “The Role of Locus Coeruleus in Decision Execution and Adaptive Gain”, E. Vazey (PI), G. Aston-Jones (Mentor), 2014-2015.
26. NIH grant F31MH109286, “The Role of the Locus Coeruleus in Decision-Making Under Uncertainty”, G. Kane (PI), G. Aston-Jones (Co-Mentor, with Jon Cohen at Princeton University), 2016-2017.
27. NIH grant F31DA042588, “Role of Lateral Hypothalamus Orexin Circuits in Cocaine Demand”, C. Pantazis (PI), G. Aston-Jones (Mentor), 2016-2018.
28. CIHR Banting Postdoctoral Fellowship, “Neuromodulators and modification of cognitive functions; role of norepinephrine in sensory processing”, M. Omrani (PI), G. Aston-Jones (Mentor), 2017-2019.
29. Australian NHMRC CJ Martin Fellowship, “A proposed pathway for circadian regulation of mood: The retina as a chemogenic target for treatment of depression”, Hannah Bowery (PI), G. Aston-Jones (mentor), 2016 – present.
30. IPM Institute for Research in Fundamental Sciences (Iran), Predoctoral Fellowship for Aida Mohammadkhani, G. Aston-Jones (mentor), 2016-2018.
31. NIH grant 32DA044649, “Role of nucleus accumbens shell orexin in motivation for cocaine self-administration”, G. Marrone (PI), G. Aston-Jones (mentor), 2017.
32. Jennifer Catuzzi Fragale, NIH IRACDA Fellowship Awarded (ongoing), 2017 - Present
33. NIH grant K99DA045765, “Orexin/Hypocretin as a Common Mediator of Stress and Reward Behavior in Cocaine Addiction”, M. James (PI), G. Aston-Jones (mentor), 2018 – present.
34. NIH grant K99DA04575, “Sex Differences in Addiction”, A. Kohtz (PI), G. Aston-Jones (mentor), (ongoing), 2018 – present.
35. Jorge Avia, NIH IRACDA Fellowship Awarded, 2020 – Present
36. Chuhyon Corwin, T32 DA047944-01, “Molecular Neuroscience of Alcohol and Drug Abuse Research Training”, 2019 – present.

C. Pending:

1. PI, NIH grant application 1R21 DA050876-01, “Oxytocin, cocaine demand and addiction: modulation by progesterone”. This application will be reviewed in October 2019; \$238,500 annual costs requested.
2. PI, NIH grant application 1R01 DA050832-01, “Opioid Demand and Addiction: Role of Orexin Circuitry”. This application will be reviewed in October 2019; \$534,307 annual costs requested.
3. PI, NIH grant application UG3 DA053125-01, “Suvorexant: A medication to augment buprenorphine treatment of opioid use disorder”, Scored in review in July 2020, in review for possible funding.

PUBLICATIONS

(41,628 citations, Google Scholar h-index = 97; Scopus h-index = 84)

A. Refereed Original Article in Journal

1. **Aston-Jones, G.**, Segal, M. and Bloom, F. Brain aminergic axons exhibit marked variability in conduction velocity. *Brain Res.*195:215-222 (1980).
2. Foote, S.L., **Aston-Jones, G.** and Bloom, F. Impulse activity of locus coeruleus neurons in awake rats and monkeys I, 68s a function of sensory stimulation and arousal. *Proc. Natl. Acad. Sci. USA* 77: 3033-3037 (1980). [**600 citations**].
3. **Aston-Jones, G.** and Bloom, F. Activity of norepinephrine-containing locus coeruleus neurons in behaving rats anticipates fluctuations in the sleep-waking cycle. *J. Neurosci.* 1: 876-886 (1981). [**>1,300 citations**].
4. **Aston-Jones, G.** and Bloom, F. Norepinephrine-containing locus coeruleus neurons in behaving rats exhibit pronounced responses to non-noxious environmental stimuli. *J. Neurosci.* 1: 887-900 (1981). [**>800 citations**].
5. **Aston-Jones, G.**, Foote, S.L., and Bloom, F. Low doses of ethanol disrupt sensory responses of brain noradrenergic neurons. *Nature* 296: 857-860 (1982).
6. Valentino, R.J., Foote, S.L. and **Aston-Jones, G.** Corticotropin-releasing factor activates noradrenergic neurons of the locus coeruleus. *Brain Res.* 270: 363-367 (1983). [**>500 Citations**].
7. Foote, S.L., Bloom, F. and **Aston-Jones, G.** The nucleus locus coeruleus: new evidence of anatomical and physiological specificity. *Physiological Reviews* 63 (3): 844-914 (1983). [**>1,500 citations**].
8. Segal, M., Foote, S.L. and **Aston-Jones, G.** Physiological properties of ascending locus coeruleus axons in the squirrel monkey. *Brain Res.* 274: 381-387 (1983).
9. Valentino, R.J. and **Aston-Jones, G.** Activation of locus coeruleus neurons in the rat by UM 1046, a drug that mimics opiate withdrawal. *Neuropharmacology*: 22:363-368 (1983).
10. Aston-Jones, S., **Aston-Jones, G.** and Koob, G. Cocaine antagonizes anxiolytic effects of ethanol. *Psychopharmacology*: 28-31 (1984).
11. Dinan, T. and **Aston-Jones, G.** Acute haloperidol increases locus coeruleus impulse activity. *Brain Res.* 307: 359-362 (1984).
12. **Aston-Jones, G.**, Shaver, R. and Dinan, T. Cortically projecting nucleus basalis neurons in rat are physiologically heterogeneous. *Neurosci. Lett.* 46:19-24 (1984).
13. Dinan, T. and **Aston-Jones, G.** Chronic haloperidol inactivates brain noradrenergic neurons. *Brain Res.* 325: 385-388 (1985).
14. **Aston-Jones, G.**, Shaver, R. and Dinan, T. Nucleus basalis neurons exhibit axonal branching with decreased impulse conduction velocity in rat cerebrocortex. *Brain Res.* 325: 271-285 (1985).
15. **Aston-Jones, G.**, Foote, S.L. and Segal, M. Impulse conduction properties of noradrenergic locus coeruleus axons projecting to monkey cerebrocortex. *Neuroscience* 15: 765-777 (1985).
16. **Aston-Jones, G.**, Rogers, J., Shaver, R. and Dinan, T. Impaired impulse flow from nucleus basalis to cortex with age. *Nature* 318: 462-464 (1985).
17. **Aston-Jones, G.** Behavioral functions of locus coeruleus derived from cellular attributes. *Physiol. Psych.* 13: 118-126 (1985).
18. Ennis, M. and **Aston-Jones, G.** Evidence for synaptically mediated postactivation inhibition of locus coeruleus neurons. *Brain Res.* 374: 299-305 (1986).
19. **Aston-Jones, G.**, Ennis, M., Pieribone, V., Nickell, W. and Shipley, M. The nucleus locus coeruleus: restricted afferent control of a broad efferent trajectory. *Science* 234: 734-737 (1986). [**>500 citations**].
20. Grenhoff, J., **Aston-Jones, G.** and Svensson, T. H. Nicotinic effects on the firing pattern of midbrain dopamine neurons. *Acta Physiol. Scand.* 128: 351-358 (1986).
21. Ennis, M. and **Aston-Jones, G.** Potent excitatory input to nucleus locus coeruleus from rostral ventrolateral medulla. *Neurosci. Lett.* 71: 299-305 (1986).
22. Ennis, M. and **Aston-Jones, G.** Physiological evidence for two populations of ventral medullary afferents to the nucleus locus coeruleus. *Brain Res.* 425: 275-282 (1987).
23. Pieribone, V., **Aston-Jones, G.** and Bohn, M.C. Adrenergic and non-adrenergic neurons in the C1 and C3 areas project to locus coeruleus: a fluorescent double labeling study. *Neurosci. Lett.* 85: 297-303 (1988).
24. Chouvet, G., Akaoka, H. and **Aston-Jones, G.** Serotonin selectively decreases glutamate- evoked excitation of locus coeruleus neurons. *C.R. Acad. Sci. (Paris)* 306 (III): 339-344 (1988).
25. Ennis, M. and **Aston-Jones, G.** Excitatory synaptic transmission from paragigantocellularis to locus coeruleus: a new amino acid pathway in brain. *J. Neurosci.* 8: 3644-3657 (1988).
26. Pieribone, V. and **Aston-Jones, G.** The iontophoretic application of Fluoro-Gold for the study of afferents to deep brain nuclei. *Brain Res.* 475:259-271 (1988).
27. Grant, S., **Aston-Jones, G.** and Redmond, D.E. Responses of primate locus coeruleus neurons to simple and complex stimuli. *Brain Res. Bull.* 21: 401-410 (1988).

28. Ennis, M. and **Aston-Jones, G.** GABA-mediated inhibition of the locus coeruleus from the dorsomedial rostral medulla. *J. Neurosci.* 9: 2973-2981 (1989).
29. McClean, J.H., Shipley, M.T., Nickell, W.T. and **Aston-Jones, G.** Chemoanatomical organization of the noradrenergic input from locus coeruleus to the olfactory bulb of the adult rat. *J. Comp. Neurol.* 285: 339-349 (1989).
30. Ennis, M. and **Aston-Jones, G.** Potent inhibitory input to locus coeruleus from the nucleus prepositus hypoglossi. *Brain Res. Bull.* 22: 793-803 (1989).
31. Van Bockstaele, E., Pieribone, V. and **Aston-Jones, G.** Diverse afferents converge on the nucleus paragigantocellularis in the rat ventrolateral medulla: Retrograde and anterograde tracing studies. *J. Comp. Neurol.* 290: 561-584 (1989).
32. Astier, B., Van Bockstaele, E.J., **Aston-Jones, G.** and Pieribone, V.A., Anatomical evidence for multiple pathways leading from the rostral ventrolateral medulla (nucleus paragigantocellularis) to the locus coeruleus in the rat, *Neurosci. Lett.* 118: 141-146 (1990).
33. **Aston-Jones, G.**, Akaoka, H., Charley, P. and Chouvet, G. Serotonin selectively attenuates glutamate-evoked activation of locus coeruleus neurons in vivo. *J. Neurosci.* 11: 760-769 (1991).
34. Pieribone, V.A. and **Aston-Jones, G.** Adrenergic innervation of the rat nucleus locus coeruleus arises predominantly from the C1 cell group in the rostral medulla. *Neuroscience* 41: 525-542 (1991).
35. **Aston-Jones, G.**, Shipley, M.T., Chouvet, G., Ennis, M., Van Bockstaele, E.J., Pieribone, V., Shiekhattar, R. Akaoka, H., Drolet, G., Astier, B. Charley, P., Valentino, R., and Williams, J.T. Afferent regulation of locus coeruleus neurons: Anatomy, physiology and pharmacology. *Prog. Brain Res.* 88: 47-75 (1991).
36. Ennis, M., Behbehani, M.M., Van Bockstaele, E.J., Shipley, M.T. and **Aston-Jones, G.**, Projections from the periaqueductal gray to the rostromedial pericoerulear region and nucleus locus coeruleus: anatomic and physiologic studies, *J. Comp. Neurol.* 306: 480-494 (1991).
37. **Aston-Jones, G.**, Chiang, C. and Alexinsky, T., Discharge of noradrenergic locus coeruleus neurons in behaving rats and monkeys suggests a role in vigilance. *Prog. Brain Res.* 88: 501-520 (1991). [**>400 Citations**].
38. Charley, Paul J., **Aston-Jones, G.**, Akaoka, H., Buda, M. and Chouvet, G. 5-HT decreases glutamate-evoked activation of locus coeruleus neurons through 5-HT 1A receptors. *Comp. Rend. Acad. Sci.* 312: 421-426 (1991).
39. Van Bockstaele, E.J., **Aston-Jones, G.**, Ennis, M. Shipley, M.T., and Pieribone, V.A., Subregions of the periaqueductal gray topographically innervate the rostral ventrolateral medulla in the rat. *J. Comp. Neurol.* 309: 305-327 (1991).
40. Shiekhattar, R., **Aston-Jones, G.** and Chiang, C., Local infusion of calcium-free solutions activates locus coeruleus neurons. *Brain Res. Bull.* 27: 5-12 (1991).
41. Akaoka, H. and **Aston-Jones, G.**, Opiate withdrawal-induced hyperactivity of locus coeruleus neurons is substantially mediated by augmented excitatory amino acid input. *J. Neurosci.* 11: 3830-3839 (1991).
42. Shiekhattar, R. and **Aston-Jones, G.**, Local application of bicuculline enhances NMDA-receptor-mediated sensory responses of brain noradrenergic neurons, *Synapse* 10: 54-61 (1992).
43. Van Bockstaele, E.J. and **Aston-Jones, G.** Distinct populations of neurons in the ventromedial periaqueductal gray project to the rostral ventral medulla and abducens nucleus. *Brain Res.* 576: 59-67 (1992).
44. Valentino, R., Page, M., Van Bockstaele, E. and **Aston-Jones, G.**, Corticotropin-releasing factor immunoreactive cells and fibers in the locus coeruleus region: distribution and sources of input. *Neuroscience* 48: 689-705 (1992).
45. Shiekhattar, R. and **Aston-Jones, G.**, NMDA-receptor-mediated sensory responses of brain noradrenergic neurons are suppressed by *in vivo* concentrations of extracellular magnesium, *Synapse* 10: 103-109 (1992).
46. **Aston-Jones, G.**, Astier, B. and Ennis, M., Inhibition of locus coeruleus noradrenergic neurons by C1 adrenergic cells in the rostral ventral medulla. *Neuroscience* 48: 371-382 (1992).
47. Van Bockstaele, E.J. and **Aston-Jones, G.** Collateralized projections from neurons in the rostral medulla to the nucleus locus coeruleus, the nucleus of the solitary tract and the periaqueductal gray. *Neuroscience* 49: 653-668 (1992).
48. Drolet, G., Van Bockstaele, E.V. and **Aston-Jones, G.**, Prominent opioid innervation of the rat locus coeruleus from nuclei in the rostral medulla. *J. Neurosci.* 12: 3162-3174 (1992).
49. **Aston-Jones, G.**, Rajkowski, J., Kubiak, P. and Akaoka, H. Acute morphine induces oscillatory discharge of noradrenergic locus coeruleus neurons in the waking monkey. *Neurosci. Lett.* 140: 219-224 (1992).

50. Page, M., Akaoka, H., **Aston-Jones, G.**, and Valentino, R., Bladder distention activates noradrenergic locus coeruleus neurons by an excitatory amino acid mechanism, *Neuroscience* 51: 555-563 (1992).
51. Ennis, M., **Aston-Jones, G.** and Shiekhattar, R. Activation of locus coeruleus neurons by nucleus paragigantocellularis or noxious sensory stimulation is mediated by intracoerulear excitatory amino acid neurotransmission. *Brain Res.* 598: 185-195 (1992).
52. Van Bockstaele, E., Akaoka, H. and **Aston-Jones, G.**, Brainstem afferents to the rostral (juxtafacial) nucleus paragigantocellularis: Integration of exteroceptive and interoceptive sensory inputs in the ventral tegmentum. *Brain Res.* 603: 1-8 (1993).
53. Chiang, C. and **Aston-Jones, G.**, Response of locus coeruleus neurons to footshock stimulation is mediated by neurons in the ventrolateral medulla. *Neuroscience* 53: 705-715 (1993).
54. Akaoka, H. and **Aston-Jones, G.**, Indirect serotonergic agonists attenuate neuronal opiate withdrawal. *Neuroscience* 54: 561-565 (1993).
55. Chiang, C. and **Aston-Jones, G.** A serotonin-2-receptor agonist augments GABAergic and excitatory amino acid inputs to noradrenergic locus coeruleus neurons. *Neuroscience* 54: 409-420 (1993).
56. Grenhoff, J., Nisell, M., Ferre, S., **Aston-Jones, G.** and Svensson, T.H., Noradrenergic modulation of midbrain dopamine cell firing elicited by stimulation of the locus coeruleus in the rat *J. Neural Trans.* 93: 11-25 (1993).
57. Shiekhattar, R. and **Aston-Jones, G.**, Sensory responsiveness of brain noradrenergic neurons is modulated by endogenous brain serotonin. *Brain Res.* 623: 72-76 (1993).
58. Harris, G. and **Aston-Jones, G.**, Beta-adrenergic antagonists attenuate somatic and aversive signs of opiate withdrawal. *Neuropsychopharmacology* 9: 303-311 (1993).
59. Charley, P.J., Chergui, K., Akaoka, H., Saunier, C.F., Buda, M., **Aston-Jones, G.** and Chouvet, G., Serotonin differentially modulates responses mediated by specific excitatory amino acid receptors in the rat locus coeruleus in vivo. *Europ. J. Neurosci.* 5: 1024-1028 (1993).
60. Harris, G. and **Aston-Jones, G.**, Beta-adrenergic antagonists attenuate withdrawal anxiety in cocaine and morphine dependent rats. *Psychopharmacology* 113: 131-136 (1993).
61. Shiekhattar, R. and **Aston-Jones, G.**, Modulation of opiate responses in brain noradrenergic neurons by the cAMP cascade: changes with chronic morphine *Neuroscience* 57: 879-886 (1993).
62. Hirata, H. and **Aston-Jones, G.**, A novel long-latency response of locus coeruleus neurons to noxious stimuli: Mediation by peripheral C-fibers. *J. Neurophysiol.* 71: 1752 - 1761 (1994).
63. Chen, S. and **Aston-Jones, G.**, Cerebellar injury induces NADPH diaphorase in Purkinje and inferior olivary neurons in the rat. *Exp. Neurol.* 126: 270-276 (1994).
64. **Aston-Jones, G.**, Rajkowski, J., Kubiak, P. and Alexinsky, T., Locus coeruleus neurons in the monkey are selectively activated by attended stimuli in a vigilance task. *J. Neurosci.* 14: 4467-4480 (1994).
65. Harris, G. and **Aston-Jones, G.**, Involvement of D2 dopamine receptors in the nucleus accumbens in the opiate withdrawal syndrome. *Nature* 371: 154 - 157 (1994).
66. Rizvi, T.A., Ennis, M., **Aston-Jones, G.**, Maorong, J. and Shipley, M. Preoptic projections to Barrington's nucleus and the pericoerulear region: Architecture and terminal organization. *J. Comp. Neurol.* 347: 1-24 (1994).
67. Valentino, R.J., Page, M., Luppi, P.H., Zhu, Y., Van Bockstaele, E.J. and **Aston-Jones, G.**, Evidence for widespread afferents to Barrington's nucleus, a brainstem region rich in corticotropin-releasing hormone neurons. *Neuroscience* 62: 125-144 (1994).
68. Shiekhattar, R. and **Aston-Jones, G.**, Activation of adenylate cyclase attenuates the hyperpolarization following single action potentials in brain noradrenergic neurons independently of protein kinase A. *Neuroscience* 62: 523-530 (1994).
69. Rajkowski, J., Kubiak, P. and **Aston Jones, G.**, Activity of locus coeruleus neurons in monkey: Phasic and tonic changes correspond to altered vigilance. *Brain Res. Bull.* 35: 607-616 (1994).
70. Van Bockstaele, E.J. and **Aston-Jones, G.**, Integration in the ventral medulla and coordination of sympathetic, pain and arousal functions. *Clin. Exp. Hypertens.* 17: 153-165 (1995).
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Reports – N/A

PRESENTATIONS:

Scientific (*Basic Science*):

Invited Lectures at National and International Scientific Meetings

1. Invited Speaker, European Brain and Behavior Society - SFECA Workshop on Brain Plasticity, Learning and Memory, Strasbourg, France, September, 1984.
2. Invited Speaker, Gordon Conference on Catecholamines, Andover, New Hampshire, August, 1985.
3. Invited Speaker, National Down Syndrome Society Science Symposium, The Neurobiology of Down Syndrome, November, 1985.
4. Twelfth Int'l. Symposium of the Fulton Society on Brain Mechanisms of Emotion, Hamburg, Germany, September, 1985.
5. Invited Speaker, Special Interest Session: Central Cholinergic Systems and Aging, European Neurosci. Assoc., Oxford, England, September, 1985.
6. Invited Speaker, Workshop on Electrophysiological Characteristics of Aging Neurons, Winter Conference on Brain Research, Keystone, Colorado, January, 1986.
7. Invited Speaker, Workshop at the Institute for Non-linear Science, University of California at San Diego, February, 1986.
8. Invited Speaker, Office of Naval Research Contractors Meeting, Eugene, Oregon, October, 1986.

9. Invited Speaker, Symposium, Sixth International Catecholamine Symposium, Jerusalem, Israel, June, 1987.
10. Invited Speaker, ESN-IBRO Satellite Symposium on Basal Forebrain Cholinergic System, Leipzig, GDR, August, 1987.
11. Chairman and speaker, Cellular Attributes of the Noradrenergic Locus Coeruleus System, Workshop, IBRO 2nd World Congress of Neuroscience, Budapest, Hungary, August, 1987.
12. Invited Speaker, Air Force Office of Scientific Research Conference on Research in Neuroscience, San Antonio, Texas, November, 1987.
13. Chairman and speaker, Recent Developments in the Neurobiology of Locus Coeruleus Reveal Specificity in a Globally Projecting System, Workshop, Winter Conference on Brain Research, Steamboat Springs, Colorado, January, 1988.
14. Invited Speaker, International Symposium, Excitatory Amino Acids 1988, Manaus, Brazil, March, 1988.
15. Chairman and speaker, Afferent Regulation of Locus Coeruleus, Workshop, Annual Society for Neuroscience meeting, Toronto, Canada, November, 1988.
16. Symposium, Congress Internationale Neuropsychopharmacologie (CINP), Munich, W. Germany, August, 1988.
17. Invited Speaker, Symposium, Winter Conference on Brain Research, Snowbird, Utah, January, 1989.
18. Chairman and speaker, Factors Regulating Activity in the Noradrenergic Locus Coeruleus System, European Winter Conference on Brain Research, Les Arcs, France, March, 1989.
19. Invited Speaker, European Winter Conference on Brain Research, Les Arcs, France, March, 1990.
20. Invited Speaker, International Symposium on the Neurobiology of the Locus Coeruleus, Post Falls, Idaho, May, 1990.
21. Invited Speaker, XIIIth Congress of the International Primatological Society, Kyoto, Japan, July, 1990.
22. Invited Speaker, European Brain and Behavior Society Symposium, Functions of the forebrain cholinergic and noradrenergic systems, Stockholm, Sweden, September, 1990.
23. Invited Speaker, McDonnell Foundation Workshop on Emotion, Montauk, New York, September, 1990.
24. Chairman and speaker, The Ventrolateral Medulla: A Site for Integration of Pain, Sympathetic Activity and Arousal, Special Panel, Winter Conference on Brain Research, Vail, Colorado, January, 1991.
25. Chairman and speaker, The Ventrolateral Medulla: A Site for Integration of Pain, Sympathetic Activity, Respiration and Arousal, Workshop, IBRO 3rd World Congress of Neuroscience, Montreal, Canada, August, 1991.
26. Chairman and speaker, The Locus Coeruleus-Norepinephrine System: New Basic and Clinical Perspectives, Panel, American College of Neuropsychopharmacology (ACNP), San Juan, Puerto Rico, December, 1991.
27. Invited Speaker (2 presentations), Seventh International Catecholamine Symposium, Amsterdam, June, 1992.
28. Invited Speaker, International Research Conference of the American Academy of Osteopathy, on Nociception and the Neuroendocrine Immune Connection, Cincinnati, Ohio, June, 1992.
29. Invited Speaker, American College of Neuropsychopharmacology (ACNP) Panel, Neural Mechanisms of Learning and Memory: Relevance to the Consequences of Severe Psychological Trauma, San Juan, Puerto Rico, December, 1992.
30. Chairman and speaker, Catecholamines and Attention: New Basic, Clinical and Modeling Approaches, Workshop, Winter Conference on Brain Research, Whistler, British Columbia, January, 1993.
31. Invited Speaker, Second International Symposium on the Neurobiology of the Locus Coeruleus, San Juan Islands, Washington, May 1993.
32. Invited Speaker, Winter Conference on Brain Research, workshop speaker and panel speaker, Snowbird, Utah, January, 1994.
33. Invited Speaker, International Symposium, Neural Mechanisms in Hypertension, Satellite to the 15th International Society of Hypertension meeting, Ayers Rock, Australia, March, 1994.

34. Invited Speaker, International meeting, Emotional Motor System, April, 1994, Schiermonnikoog, The Netherlands.
35. Co-chair and speaker, PTSD: Current Biological and Behavioral Perspectives, symposium, American Psychiatric Association, Philadelphia, PA, May, 1994.
36. Chairman and speaker, Neurotransmitter Mechanisms in Opiate Abuse, XIXth Collegium Internationale Neuropsychopharmacologicum (CINP), Washington, DC, June, 1994.
37. Invited Special Lecture, Association of Professional Sleep Societies, 8th Annual Meeting, Boston, June, 1994
38. Invited Speaker (2 sessions), chairman of session Neurobiology of the Stress Response in Noradrenergic Systems: Relevance to PTSD, Society of Biological Psychiatry, Philadelphia, May, 1994.
39. Co-chair and speaker, Norepinephrine in the Prefrontal Cortex, Satellite Symposium to the Australian Psychological Society, Mudjimba, Queensland, September, 1994.
40. Invited Speaker, McDonnell-Pew Workshop on Mechanisms of Arousal, Eugene, Oregon, October, 1994.
41. Chairman and speaker, Norepinephrine -Dopamine Interactions: A Link in Drug Abuse?, Panel, American College of Neuropsychopharmacology (ACNP), Puerto Rico, December, 1994.
42. Invited Speaker, Harvard University Spring Symposium, Neuromodulatory Systems & Behavior, May, 1995.
43. Co-chair and speaker, Sleep and Attention: How Tight is the Connection?, Focus Group, 2nd International Congress of the World Federation of Sleep Research Societies, Nassau, September, 1995.
44. Invited Speaker, Half-day session: PTSD, Current Biological and Behavioral Perspectives, American Psychiatric Association conference, 1995 Institute on Psychiatric Services, Boston, October, 1995.
45. Invited Speaker, Catecholamines in the Prefrontal Cortex, session in symposium on association cortices, satellite to IBRO meeting, Japan, July, 1995.
46. Invited Speaker, European Behavioral Pharmacological Society 6th annual meeting, Cagliari, Italy, May, 1996.
47. Invited Speaker, NIDA Hot Topics Workshop, Bethesda, June, 1995
48. Invited Speaker, Activation of the Locus Coeruleus: From Arousal to Pathology, Winter Conference on Brain Research, Snowmass, Colorado, January, 1996.
49. Co-chair and speaker, The Neuronal Basis of Attentional State: Recent Advances in the Locus Coeruleus, Symposium, XXth Collegium Internationale Neuropsychopharmacologicum (CINP), Melbourne, Australia, June, 1996.
50. Scientific program committee, session chair, and speaker, 8th International Catecholamine Symposium, Asilomar, California, October, 1996.
51. Invited Speaker, International Symposium on NMDA Receptor Function, London, December, 1996.
52. Organizing Committee and speaker, Gordon Conference on Catecholamines, New Hampshire, July, 1997.
53. Invited Speaker, Winter Conference on Brain Research, Neurobiology of the LC: What's Old, What's New, Where Do We Go from Here? , Snowbird, Utah, January, 1998.
54. Co-Chairman and speaker, Norepinephrine and Opiate Withdrawal: From Basic Science To The Clinic, Winter Conference on Brain Research, Snowbird, Utah, January, 1998.
55. Chair and speaker, Neuropharmacology of Conditioned Craving: Responses to Psychomotor Stimulant Drug Cues, Symposium, European Behavioral Pharmacology Society Biennial Meeting, Brno, Czech Republic, September, 1998.
56. Invited Speaker, Advancing from the Ventral Striatum to the Extended Amygdala: Implications for Neuropsychiatry and Drug Abuse, New York Academy of Sciences symposium, Charlottesville, VA, October, 1998.
57. Invited Participant, Norepinephrine: New Vistas for an Old Neurotransmitter, Society of Biological Psychiatry conference, Key West, March, 1999.

58. Chair and speaker, New Insights into Neural Circuitry Underlying Circadian Regulation of Sleep and Waking, Association of Professional Sleep Societies, 13th annual meeting, Orlando, June, 1999.
59. Invited Participant-at-Large, Gordon Conference on Catecholamines, Oxford, UK, July, 1999.
60. Invited Speaker, FASEB Conference on Drug Abuse, Copper Mountain, Colorado, August, 1999.
61. Invited Speaker, International Neuroscience Summer School, Cognition, Emotion, and Autonomic Responses. The integrative role of prefrontal cortex and limbic structures, Amsterdam, August, 1999.
62. Invited Speaker, Determinants of Vigilance: Interaction Between the Sleep and Circadian Systems, satellite to Society for Neuroscience meeting, Ft. Lauderdale, October, 1999.
63. Invited Speaker, Science of Fatigue, Sleep and Vigilance, DARPA workshop, Stanford, CA, December, 1999.
64. Chair and speaker, Circadian Regulation Of Arousal: Role For An SCN-LC Link, Winter Conference on Brain Research, Breckenridge, Colorado, January, 2000.
65. Invited Speaker, Does synchronization of neuronal firing play a role in CNS catecholamine system function? , Winter Conference on Brain Research, Breckenridge, Colorado, January, 2000.
66. Invited Speaker, Stress and Relationship to Functional Visceral Diseases, Amalfi, Italy, April, 2000
67. Invited Speaker, Catecholamines and Cognition, Metropolitan Catecholamine Club, Newark, NJ, April, 2000.
68. Invited Speaker, Panel, American College of Neuropsychopharmacology (ACNP), Puerto Rico, December, 2000.
69. Speaker and co-chairman, International Catecholamine Conference, Kyoto, Japan, March-April, 2001.
70. Speaker, CREST Workshop on Metalearning and Neuromodulation, satellite to International Catecholamine Meeting, Kyoto, Japan, April, 2001.
71. Speaker and session chair, Gordon Conference on Catecholamines, Andover, New Hampshire, July 2001.
72. Organizer and chair, Mechanisms for Circadian Regulation of Arousal, Symposium, Association of Professional Sleep Societies, Seattle, June, 2002.
73. Speaker, Trainee Day, Sleep Research Society, Seattle, June, 2002.
74. Speaker, Neurobiological Mechanisms of Circadian Output, Symposium, Society for Neuroscience Annual Meeting, Orlando, November, 2002.
75. Keynote Speaker, The Human Brain Conference, Rome, Italy, October, 2002.
76. Speaker, Winter Conference on Brain Research, Snowbird, Utah, January, 2003.
77. Speaker, Cognitive Neuroscience Society, New York, March, 2003.
78. Speaker, DSRC/DARPA workshop on Ultra Training and Improving CNS Function, March 2003.
79. Speaker, Symposium, Association of Professional Sleep Societies, Chicago, June, 2003.
80. Speaker, Panel, American College of Neuropsychopharmacology (ACNP), Puerto Rico, December, 2003.
81. Speaker, 2 Panels, Winter Conference on Brain Research, Copper, Colorado, January, 2004.
82. Speaker, Workshop on Acetylcholine, Norepinephrine, Attention and Uncertainty, University College, London, February 2004
83. Speaker, Second Annual Andrew C. McInvale Neuroscience Symposium, Tulane University, April, 2004.
84. Chair and speaker, Symposium, Association of Professional Sleep Societies, Philadelphia, June, 2004.
85. Speaker, Second International Sleep Disorders Forum, Sanofi-Synthelabo, Paris, France, September, 2004.
86. Chair and speaker, Panel session, and Study Group session, American College of Neuropsychopharmacology (ACNP), Puerto Rico, December, 2004.
87. Speaker, Winter Conference on Brain Research, Breckenridge, January, 2005.
88. Speaker, Addiction Symposium, Society of Neurosciences of Africa (SONA) annual meeting, Capetown, South Africa, April, 2005.
89. Speaker, Motivation and Cognitive Control, Ameland, Netherlands, May, 2005.

90. Speaker, 2 presentations, Course: State of the Art in Addiction Medicine, American Society of Addiction Medicine, Washington, DC October, 2005.
91. Discussant, Panel session, American College of Neuropsychopharmacology (ACNP), Hawaii, December, 2005.
92. Speaker, 2 panel sessions, Winter Conference on Brain Research, Steamboat Springs, January, 2006.
93. Chairman, panel session, Winter Conference on Brain Research, Steamboat Springs, January, 2006.
94. Speaker, Invited Talk, Association of Psychological Sciences, New York, May, 2006.
95. Keynote speaker, NAASO, The Obesity Society, Boston, MA, October, 2006.
96. Speaker, NIDA Miniconvention "Frontiers in Addiction Research", Atlanta, October, 2006.
97. Speaker, 2 panel sessions, Winter Conference on Brain Research, Snowmass, January, 2007.
98. Speaker, Okinawa Institute of Science Workshop on Cognitive Neurobiology, Okinawa, Japan, March, 2007
99. Speaker, DARPA Conference on Human Performance Modification, Arlington, VA, March, 2007
100. Speaker, Eleventh International Conference on Cognitive and Neural Systems, Boston, May, 2007
101. Instructor, Cold Spring Harbor Laboratory course on the Molecular Mechanisms of Arousal and Attention, Cold Spring Harbor, N, June, 2007.
102. Speaker, Gordon Conference on Catecholamines, Oxford, England, August, 2007
103. Speaker, European Behavioral Pharmacology Society, Tübingen, Germany, September, 2007.
104. Chairman and speaker, panel session, American College of Neuropsychopharmacology (ACNP), Boca Raton, December, 2007.
105. Speaker, Keystone Symposium on Neuronal Mechanisms Controlling Food Intake, Glucose Metabolism and Body Weight, Banff, Canada, February, 2008.
106. Keynote speaker, Vigilance regulation in psychiatric disorders, University of Leipzig, Leipzig, Germany, April 2008.
107. Speaker, International meeting: Alcoholism and Stress: A Framework for Future Treatment Strategies, Volterra, Italy, May, 2008.
108. Plenary speaker, International Narcotics Research Club (INRC), Charleston, June, 2008.
109. Speaker, NIMH Workshop on the neurobiological basis of circadian rhythms and complex behaviors, July, 2008.
110. Speaker, International Symposium on Drug Addiction: Mechanisms and Therapeutic Approaches, Kunming, China, October, 2008.
111. Speaker, American College of Neuropsychopharmacology (ACNP), Scottsdale, Arizona, December, 2008.
112. Speaker, 2 panel sessions, Winter Conference on Brain Research, Copper Mountain, January, 2009.
113. Speaker, Scientific Advisory Board, Sanofi-Aventis, Paris, May, 2009.
114. Speaker, Society for the Study of Ingestive Behavior, Portland, OR, July, 2009.
115. Speaker, American Psychiatric Association, Toronto, August, 2009.
116. Chairman, panel session, American College of Neuropsychopharmacology (ACNP), Hollywood Florida, December, 2009.
117. Speaker, 2 panel sessions, Winter Conference on Brain Research, Breckenridge, January, 2010.
118. Speaker, Simons Foundation Workshop on Fever and Autism, New York, February 5, 2010.
119. Keynote speaker, Motivational Neuronal Network meeting, Wrightsville Beach, April 2010.
120. Speaker, Symposium, Coe College on Problems of Drug Dependence (CPDD), Scottsdale, AZ, June 2010.
121. Speaker, 3rd Annual Brain Plasticity Symposium, University of Queensland Brain Institute, Brisbane, Australia, September, 2010.
122. Speaker, symposium, Society for Neuroscience meeting, San Diego, November, 2010.
123. Chair, Issues in Ethics panel, American College of Neuropsychopharmacology, Miami Beach, December, 2010.
124. Speaker, Mars Inc Scientific Advisory Council Workshop on Health and Nutrition, Budd Lake, NJ, February 2011.
125. Speaker, Gordon Conference on Catecholamines, Bates College, Lewiston, Maine, August, 2011.

126. Speaker, Naito Symposium, Yamanashi, Japan, October, 2011.
127. Speaker, Riken Research Institute, Tokyo, Japan, October, 2011.
128. Speaker, Sino-American Symposium, Drug Addiction, Ningbo Addiction Research and Treatment Center, Ningbo, China, October, 2011.
129. Speaker, Stanford University Center for Mind, Brain and Computation Symposium, February 2012.
130. Speaker, Middle East Conference, Depression and Anxiety Spectrum Disorders: From Basic Science to the Clinic and Back, University of Jordan, Amman, Jordan, March 2012.
131. Keynote Speaker, 13th International Neuropsychanalysis Congress, Athens Greece, June, 2012.
132. Organizer and Chairman, 7th Brain Research/Elsevier Conference: "Optogenetics and Pharmacogenetics in Neuronal Function and Dysfunction", Society for Neuroscience Sattelite Meeting, New Orleans, October, 2012.
133. Speaker, European College of Neuropsychopharmacology, Vienna, Austria, October, 2012
134. Speaker in two sessions, American College of Neuropsychopharmacology (ACNP), Hollywood, FL, December, 2012.
135. Keynote Speaker, University of Groningen Annual New Year's Symposium, Groningen, The Netherlands, February, 2013.
136. Speaker, University of Minnesota symposium, "The Neurobiology of Drug Abuse", April 2013.
137. Speaker, Dopamine 2013 International Meeting, Sardinia, Italy, May 2013.
138. Speaker, Associated Professional Sleep Societies (APSS), Baltimore, MD May 2013.
139. Speaker, symposium, Society for Neuroscience annual meeting, San Diego, November, 2013.
140. Speaker, symposium, The Obesity Society annual meeting, Atlanta, November 2013.
141. Speaker, International Scientific Group of Circadian Rhythm Experts (INSPIRE), Tuscany, Italy, April 2014.
142. Speaker, symposium, Collegium Internationale Neuro-Psychopharmacologicum (CINP) World Congress, Vancouver, June 2014.
143. Presidential Symposium Speaker, American College of Neuropsychopharmacology (ACNP), Phoenix, AZ, Dec 2014.
144. Plenary Speaker, European Behavioral Pharmacology Society, Verona, Italy, September, 2015.
145. Plenary Speaker, Workshop "Social Motivation and Reward System", Institut de Neurosciences de la Timone, Marseille, France, September, 2015.
146. Final Keynote Speaker, Gordon Catecholamine Conference, Newry ME, August, 2015
147. Organizer and speaker, Banbury Conference "What is needed to harness chemogenetics for the treatment of human brain disorders? Cold Spring Harbor, NY, October, 2015.
148. B.F. Skinner Lecturer, Association for Behavior Analysis International meeting, Chicago, May 2016.
149. Speaker, Scientific Research Symposium, Anxiety and Depression Association of America, Philadelphia, March 2016.
150. Speaker, Scientific Research Symposium, Society of Biological Psychiatry, May 2016, Atlanta, GA.
151. Speaker, Scientific Research Symposium, Emotion and the Brain, Cell Press, New York University, October, 2016.
152. Speaker, RIKEN Brain Science Institute, February 2017.
153. Speaker, FENS-SfN Summer School, Chemical Neuromodulation: Neurobiological, Neurocomputational, Behavioural and Clinical Aspects, Bertinoro, Italy, June 2017.
154. Speaker, Neuromodulation of Neural Microcircuits, Lausanne Switzerland, September 2017.
155. Speaker, Reprogramming the Brain to Health, Center for Brain Health, U Texas Dallas, May 2018
156. Speaker, Colgate Advisory Board Meeting, Piscataway, NJ June 2018.
157. Speaker, Advances in Sleep and Circadian Science, Clearwater Beach, FL, February, 2019.
158. Speaker, International Colloquium on the Locus Coeruleus, Missillac, France, July 2019.
159. Discussion Leader, Gordon Research Seminar on Catecholamines, Newry Maine, August 2019.
160. Speaker, Okinawa Institute of Science and Technology symposium, "Neuromodulatory Systems: function and development", Okinawa, Japan, February 2020.

161. Director and speaker, Neuroscience School of Advanced Studies course “Motivational Neuroscience: Circuits for Motivational Activation and Encoding of Salience Information”, Venice, Italy, June 2020.