

CURRICULUM VITAE**GORDON S. MITCHELL**

Preeminence Professor of Neuroscience and Physical Therapy
 Director of the Breathing Research and Therapeutics Center (BREATHE)
 Director of Breathing Research and Therapeutics Training Program and
 Deputy Director of McKnight Brain Institute

Department of Physical Therapy
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RESEARCH INTERESTS

Cellular mechanisms of intermittent hypoxia induced spinal/respiratory motor plasticity
 Microglial regulation of phrenic motor plasticity; inflammation and phrenic motor plasticity
 Optimizing acute intermittent hypoxia to elicit respiratory plasticity after spinal cord injury
 Therapeutic acute intermittent hypoxia to improve breathing and limb function in people with SCI
 Compensatory and induced respiratory motor plasticity in ALS: rodent models and ALS patients
 Intermittent hypoxia and brain function (cognitive function, neuroinflammation, growth factors)
 Control of breathing in exercise
 Developmental plasticity
 Comparative respiratory physiology

EDUCATION

	<u>Degree</u>	<u>Date</u>	<u>Specialization</u>
University of California Irvine, California	B.S.	6/75	Biological Sciences
University of California Irvine, California	Ph.D.	9/78	Developmental and Cell Biology (specialization: Physiology)

HONORS, AWARDS AND SPECIAL TRAINING

- MERIT Award from the National Heart, Lung and Blood Institute (2002-2013)
- Fellow of the American Physiology Society (since 2015)
- Steenbock Professor of Behavioral & Neural Sciences, U. Wisconsin (2011-2014)
- Walter F. Renk Distinguished Professor Award, U. Wisconsin (1997)
- Pfizer/Zoetis Award for Research Excellence, U. Wisconsin (1995, 2002, 2007 and 2014)
- Norden Distinguished Teacher Award, U. Wisconsin (1995; nominated: 1988, 1989, 1994)
- Research Career Development Award from NIH (1985-1990)
- Director of NIH Institutional Training Grants: Respiratory Neurobiology (2002-2013) and Breathing Research and Therapeutics (2017-2027).
- NIH study-sections (RAP, 1995-1999; Systems Biology, 2006-08; RIBT, 2012-2018)
- NIH study-section boundary team, Pulmonary IRG (2002)
- Council of Scientific Advisors, Francis Families Foundation (2001-2005)
- Editorial Boards: *Respiratory Physiology & Neurobiology*, *J. Appl. Physiology*, *Journal of Neurophysiology*, *Experimental Neurology*.
- Editor, *Comprehensive Physiology*, Control of Breathing (2008-2014).
- Leadership training, Center for Creative Leadership, Greensboro, North Carolina (1988)
- Conference Organizer
 - American Physiological Society Conference: "Neural Control of Breathing: Molecular to Organismal Perspectives" (1996)
 - Therapeutic Intermittent Hypoxia Workshop: 2016, 2018, 2020, 2022
 - Conversations in Breathing, Swallowing, Speech and Sleep, 2019
- Program Committee, Society for Neuroscience (2002-2005).
- Councilor, American Physiological Society (2008-2011).
- Special Lecture, Society for Neuroscience, Washington, D.C. (2008).
- Julius H. Comroe Distinguished Lecture, APS, San Diego, CA (2014).
- Guyton Distinguished Lecture Award, ACDP, Panama (2014).
- Keynote Lecture, American Spinal Injury Association (ASIA), Albuquerque, NM (2017).
- Plenary Lectures, Oxford Conference for Modeling and the Control of Breathing, Oxford, UK (2017, 2023).

PROFESSIONAL POSITIONS

Current appointments:

- Preeminence Professor of Neuroscience, Department of Physical Therapy, University of Florida (November, 2014 to present).
- Founding Director, Breathing Research and Therapeutics (BREATHE) Center (2015).
- Founding Director, Breathing Research and Therapeutics Training Program (2017).
- Deputy Director, McKnight Brain Institute, University of Florida (5/2023 to present)
- Affiliate: Neuroscience, Biomedical Engineering, Neurology, Physiology & Aging
- UF Health Neuroscience & Neuromedicine Research Executive Committee

Previous appointments:

- Chair, Department of Comparative Biosciences, University of Wisconsin (1997 to 2014).
- Steenbock Professorship in Behavioral and Neural Sciences, University of Wisconsin-Madison. 10-year competitive award for research accomplishment (2011 to 2014).
- Professor, Department of Comparative Biosciences, Univ. Wisconsin (1992-2014).
- Affiliate appointments: Center for Neuroscience, Department of Neurology, Department of Pediatrics, Neuroscience Training Program and Comparative Biomedical Sciences Training Program (1992 to 2014).
- Director of Respiratory Neurobiology Training Program (2001 to 2014).
- Visiting Professor, Department of Neurobiology, UCLA (2005 to 2009).
- Visiting Professor, Department of Zoology, Univ. British Columbia (1983, 1986-1993).
- Assistant Professor (1981-1987) and Associate Professor (with tenure, 1987-1992), Department of Comparative Biosciences, University of Wisconsin.
- Visiting Scientist, Department of Physiology, School of Medicine, University of Auckland, New Zealand (1989).
- Visiting Professor, Division of Physiology, UC San Diego (1986).
- Visiting Professor, University of British Columbia, Canada (1983, 1985).
- Postdoctoral Trainee, Department of Preventive Medicine, School of Medicine, University of Wisconsin-Madison, WI (supervisor: Dr. J.A. Dempsey; 1980 to 1981).
- Postdoctoral trainee, Abteilung Physiologie, Max-Planck-Institut für experimentelle Medizin, Göttingen, Germany (supervisor: Dr. P. Scheid; 1978 to 1980).
- Graduate student (research and teaching assistantships), Departments of Physiology and Developmental and Cell Biology, University of California, Irvine, CA (supervisor: Dr. J.L. Osborne; 1975 to 1978).

TEACHING

Graduate school teaching (University of Florida):

- Neuroscience, Physical Therapy Students (Spring 2017, 2019-2021). Lectures on CNS cells, brainstem functional anatomy, autonomic nervous system, cranial nerves, spinal cord, neuroplasticity, emerging topics in neurorehabilitation.
- Respiratory Neurobiology Journal Club (Fall & Spring semesters; Fall 2016 to present). (RSD: 6930; 2-10 registered students, ~20 additional unofficial participants).
- Graduate course: *Control of Breathing and Airway Defense: Implications for Rehabilitation* (PHT 6935C; 3 credits; spring semester, 2016/2018/2020/2022).
- Facilitator for Rehabilitation Sciences Seminar Series, Spring 2015.
- Selected lectures in graduate courses in Rehabilitation Sciences Graduate Program (lecture on translation in biomedical research; motor neurons).

Professional school teaching (University of Wisconsin):

- Veterinary Physiology (4 credits): lectures in respiratory physiology (1984-2014), physiological principals, acid-base, renal, exercise and thermoregulatory physiology.

Norden Distinguished Teacher Award (1995; also nominated: 1988, 1989 and 1994). UW Distinguished Teaching Award nominee (1992, 1996).

- Physiology/Pharmacology Laboratory (1984-1990). Discontinued due to budget cuts.
- Computer software development for teaching lecture/demonstrations: 1) lung mechanics (dynamic airway compression); 2) pulmonary gas exchange (causes of arterial hypoxemia); 3) ventilatory control simulation (graduate student/postdoc teaching); 4) acid-base physiology; 5) acid-base "calculator" (classical and strong ion difference); and 6) neural deficits/therapeutic options in clinical disorders that compromise breathing.
- Avian respiratory system, guest lecturer; Special Species Medicine (1988-1994).
- Semester coordinator (1994-1995).
- Lectures in Medical Neurophysiology (sleep, neurotransmitter biology). Visiting Professor, School of Medicine, University of Auckland, New Zealand (1989).

Undergraduate teaching (UW):

- Responsibility for Vertebrate Physiology course (Comparative Biosciences 404). Lectures and laboratories for 25-50 undergraduates. Discontinued in 2010 (budget cuts).
- Sponsor for undergraduate and/or veterinary student research (1 to 5 per year).
- Lectures on brainstem function in "Demystifying the Brain" (1997-98).
- "Undergraduate Seminars in Neuroscience" (Neuroscience 675). Lectures on research; assigned papers on selected topics (2000-2013).
- Human exercise physiology demonstrations for undergraduate physiology course as Postdoctoral Fellow, School of Medicine, University of Wisconsin-Madison (1981).
- Teaching Assistant, University of California, Irvine (1975-1978).
 - Coordinator, undergraduate physiology course (administrative/academic duties for course with > 600 students).
 - Design and implementation of laboratory sessions on pulmonary function, exercise and muscle physiology (undergraduate physiology course).
 - Laboratory instructor/discussion leader-general physiology (3 quarters, 1976-78).
 - Laboratory instructor - evolutionary biology (2 quarters, 1975-76).

Graduate and Postdoctoral Education (UW & UF):

- Graduate courses: "Special Topics in Respiratory Neurobiology;" Topics: acid-base physiology, neurotransmitters in ventilatory control, control of airways, nonlinear dynamical analysis of physiological systems, neurotransmitter biology, cellular/molecular neurobiology, RNA interference (1985-2014).
- Annual coordination of weekly Respiratory Neurobiology Seminars (the "Gas Club").
- Additional seminars/journal clubs formed and/or created:
 - Respiratory Neurobiology Journal/Data Club (annual, 6 lab groups).
 - Journal Club, Spinal Neuromodulation and Plasticity (1994).
 - Neuroplasticity Seminar Series (2005).
- Organizer or Co-organizer of annual Midwest Regulation of Respiration Conference at Kemp Station, Minoqua, WI. Participants from Universities in Wisconsin, Minnesota, Illinois and Iowa (annual, 1987-2013; ~40-80 participants).

- Professional Development Course, Neuroscience Training Program: “How to give a seminar,” “How to write a grant” and “How to interview for an academic job.”
- Professional Development Course, ICTR: "The anatomy of a grant"
- Professional Ethics and Survival Skills, School of Veterinary Medicine: “Written and oral presentations of data;” and “Keeping adequate data records.”
- Presentations to the American College of Veterinary Internal Medicine Review on respiratory pathophysiology, blood gas interpretation (1992, 1994, 1996-98).
- Coordinate graduate student subgroups on “Serotonin-dependent plasticity” (1997, 2005); “Hypoxia and the Brain” (2007) and "Inflammation and Neuroplasticity" (2011).
- Lectures in Sleep Mechanisms and Sleep Disorders (NTP 675; 2007-08).
- Trainer in graduate degree programs at the University of Wisconsin: Neuroscience Training Program, Comparative Biomedical Sciences Training Program, Physiology Training Program, Clinical Investigation Training Program.
- Trainer in graduate degree programs at the University of Florida: Rehabilitation Sciences Graduate Program, Interdisciplinary Program in Neuroscience.
- Discussion leader, Rehabilitation Sciences Seminar (2014).
- Lecture on Translation in Rehabilitation Sciences Research (2015)
- Lecture, University of Sao Paulo, Brazil: Respiratory Plasticity (2020)

Graduate Students Supervised:

- Susan Schaefer, Completed: M.S., 1988 (Vet. Science Training Program); clinical professor of veterinary surgery (emeritus), University of Wisconsin.
- Josue Pizarro, Completed: M.S., 1989 (Vet. Science Training Program; URM); pharmacist, Puerto Rico
- Margaret Warner, D.V.M., Completed: M.S., 1990 (Vet. Science Training Program); regional business consultant, Elanco, California
- Mark Douse, Completed Ph.D., 1990 (Pulmonary Training Program/Vet. Science Training Program); Director for Research Committee Support, University of Colorado, Denver and Health Science Center
- Steven Lemos, Completed: M.S., 1990; M.D., 1995; Ph.D., 2003 (Vet. Science Training Program). Currently: orthopedic surgeon/team physician for Detroit Tigers and Pistons;
- Patricia Martin, Completed M.S., 1990 (Vet. Science Training Program); current position business owner.
- Karen B. Bach, Completed Ph.D., 1997 (Neuroscience Training Program). Current position: professional artist
- Darlene Konkle, D.V.M., Completed: Residency/M.S., 1997 (Vet. Science Training Program); Wisconsin State Veterinarian.
- Tracy L. Baker-Herman, M.S., Completed: Ph.D. 2001 (Neuroscience Training Program); currently: Professor, Department of Comparative Biosciences, Univ. Wisconsin.
- Rebecca Johnson, D.V.M., A.C.V.A., M.S. 1997; Ph.D. 2002 (Veterinary Science Training Program); currently: Clinical Professor, Dept. Surgical Sciences, Univ. Wisconsin.

- Julia Wilkerson (URM) Completed: Ph.D. 2006 (Neuroscience Training Program). Currently: Regulatory Analyst, University of Texas Southwestern Medical Center.
- Charity Gottfredsen, D.V.M. Completed: M.S. 2007 (Comparative Biomedical Sciences Training Program). Currently Professional Services Veterinarian, Boehringer Ingelheim.
- Mary Rachel Lovett Barr, Completed: Ph.D. 2008 (Neuroscience Training Program); current position: unknown.
- Jenny Dahlberg, Completed: M.S. 2009 (Comparative Biomedical Sciences Training Program). Currently: Research Administration Director, School of Veterinary Medicine, University of Wisconsin.
- Christine Sibigroth (Todebusch), D.V.M./M.S. Completed: M.S. 2009 (Comparative Biomedical Sciences Training Program). Currently: Assistant Professor, Surgical and Radiological Sciences, UC Davis.
- Michael Hoffman (URM) M.D./PhD Program. Completed: Ph.D. 8/2010 (MSTP/Physiology Graduate Program). Clinical Assistant Professor, Department of Medicine, University of Iowa. Currently: Pulmonologist, Iowa City, IA.
- Courtney Guenther, Ph.D. 11/2010 (Neuroscience Training Program). Assistant Professor, Winthrop University, South Carolina. Current: Business Analyst, Varian.
- Lisa Nashold, D.V.M. Completed: Ph.D. 12/2010 (Comparative Biomedical Sciences Training Program). Current: Practicing veterinarian, Wisconsin.
- Erica Dale, Completed: Ph.D. 5/2011 (Comparative Biomedical Sciences Training Program). Currently: Assistant Professor, Physiology & Aging, University of Florida.
- Michael Devinney, UW M.D./PhD Program, completed PhD in Neuroscience in 2013 and MD in 2015. Currently: Assistant Professor of Anesthesiology, Duke University.
- Angela Andrea Navarrete Opazo, M.D. PhD completed in 2014 (Neuroscience Training Program). Current: Research Authorization and Protocol Review Manager, Advocate Aurora Health, Milwaukee, WI.
- Ibis Agosto, (URM) PhD Program, completed PhD in 10/2015 (Neuroscience Training Program). Funded by NIH Underrepresented Minority Supplement to Grant HL11598. Currently: Research Scientist, Kineta Inc. Seattle.
- Daryl Fields (URM), MD/PhD program in UW Comparative Biomedical Sciences beginning 7/2012. Formally transferred to T. Baker laboratory when I left UW; continued in Mitchell UF laboratory until 4/2016. Degree completed in 6/2016. Funded by NIH F30 and a Merk/United Negro College Fund Fellowship. Currently: Neurosurgery Resident, University of Pittsburgh (since 7/2018).
- Shakeel Ahmed, DPT/PhD, 2018, Rehab Sciences, UF, Co-supervised with D. Martin. Currently: clinical assistant professor, Dept. of Physical Therapy, University of Florida.
- Juan Santiago-Moreno (URM), MS in Biomedical Science, 9/2016 to 3/2018. Currently MD/PhD (MSTP) student at the University of Colorado.
- Alec Simon, MS in Biomedical Engineering, 9/2016 to 4/2018. Currently: Engineer at Axogen, Tampa, FL.
- LaToya Allen (URM), PhD in IDP Neuroscience Program, 7/2013 to 7/2019. Currently: Study Director Manager, Covance, Madison, WI.

- Marissa Ciesla, PhD in IDP Neuroscience beginning 9/2015 to 7/2020. Neuroscience Analyst-Interventions, Linus Health.
- Elaheh Sajjadi, MS, PT, PhD in Rehabilitation Sciences, 2016-2021. Now: Scientist, Lyra Therapeutics, Boston, MA.
- Ashley Ross (URM), MS in Biomedical Sciences, 9/2019-5/2021. Currently MD/PhD student at the University of Illinois, Chicago.
- Carolina Ruiz Le-Bert (URM), DVM, PhD in Physiology and Functional Genomics completed. 1-2020 to 7-2023 (co-mentor with Dr. Leah Reznikov). Current: Veterinarian at National Marine Mammal Foundation.
- Mia Kelly, PhD in Rehabilitation Sciences beginning 9/2016. On extended medical leave.
- Kayla Burrows, PhD in Rehabilitation Sciences; 6/2021 to present.
- Alysha Michelson, PhD in Neuroscience, 3/2021 to present
- Mackenzie Berschel, MS in Biomedical Sciences/Neuroscience, 6/2022 to present.
- Edward Luca, MS student in Electrical Engineering, 1/2023 to present.

Postdoctoral Trainees:

- Harry E. Sloan, Ph.D., 1989 to 1991. (Environmental Tox. Training Program); current position: unknown.
- Molly Lutcavage, Ph.D., 1991 to 1992. (Pulmonary Training Program); Director of Large Pelagics Research Center; Research Professor, U. Mass., Boston.
- Duncan Turner, Ph.D., 1/93 to 9/94; currently: Director of Neurorehabilitation Unit, Professor of Neurorehabilitation Sciences, Univ. East London, London, U.K.
- Liming Ling, Ph.D., 8/92 to 6/98; Assistant Professor of Medicine, Harvard University until 2012. Current position: Retired.
- Stephen M Johnson, MD/PhD, 1/95 to 4/98; currently: Associate Chair for Veterinary Education and Associate Professor of Comparative Biosciences, University of Wisconsin.
- Richard Kinkead, Ph.D., 8/95 to 8/98; currently: Professor titulaire, Unite de Recherche de Pediatrie, University of Quebec, Canada.
- Danny Henderson, Ph.D., 8/95 to 8/2000, currently: Assistant Professor, Department of Kinesiology, Hendrix College, Conway, Arkansas.
- Andrea Zabka, Dr. Med. Vet., Ph.D. 7/99 to 7/2000. Study Director, Developmental Toxicology, Covance Laboratories, Madison, WI (10 years); currently: Associate Director for Clinical Trials, Imaging Duchene Muscular Dystrophy (iDMD), U. Florida.
- David Fuller, Ph.D., 1/99 to 12/02; Currently: Professor of Physical Therapy, Director of Rehabilitation Sciences Graduate Program, Director of Neuromuscular Plasticity Training Program, Associate Director of Breathing Research and Therapeutics Center, U. Florida.
- Ryan Bavis, Ph.D., 6/2000 to 8/2003; Currently: Helen A. Papaioanou Professor of Biological Sciences, Bates College, Maine.
- Rebecca Johnson, D.V.M., Ph.D., ACVA, 12/02 to 10/03; currently: Clinical Professor of Surgical Sciences, University of Wisconsin.
- Tracy Baker-Herman, Ph.D., 6/01 to 6/04; currently: Professor of Comparative Biosciences, University of Wisconsin.

- Akira Nakamura, M.D., 10/03 to 6/05; currently: Professor, Chiba University, Japan.
- Frank Golder, D.V.M., Ph.D., ACVA, 7/02 to 6/06; Formerly (2006-11): Assistant Professor of Anesthesiology, School of Veterinary Medicine, University of Pennsylvania. Last known position: Head of Biology, Galleon Pharmaceuticals, Inc. Horsham, PA.
- Julia Wilkerson, Ph.D., 5/06 to 7/07. Currently: Regulatory Analyst, University of Texas Southwestern Medical Center (URM).
- Irawan Satriotomo, M.D., Ph.D., 9/05 to 5/08 (from Kagawa Medical University, Japan). Currently: Business Owner.
- Safraaz Mahamed, Ph.D., 9/04 to 1/09 (from University of Toronto, Canada). Currently: Real Estate Management.
- Peter McFarlane, Ph.D., 3/05 to 1/2011 (from LaTrobe University, Australia). Currently Associate Professor, Department of Pediatrics, Case Western Reserve University.
- Jim Windelborn, Ph.D., 1/07 to 12/2010 (from University of Wisconsin). Currently Assistant Professor of STEM, Regis College, MA.
- Jiro Terada, M.D., Ph.D., 3/09 to 3/11 (from Chiba University, Japan). Currently Associate Professor and Chief of Respiriology, Chiba University, Japan.
- Stephane Vinit, Ph.D., 6/07 to 5/12 (from Université Paul Cézanne Aix-Marseille III, France). Currently: Associate Professor, Chair of Excellence, Universities of Paris; School of Medicine, Université de Versailles St Quentin en Yvelines.
- Faiza Ben Mabrouk, Ph.D., 6/10 to 3/12 (from University of Luminy Aix-Marseille II, France). Currently: Homemaker in the UK.
- Erica Dale-Nagle, Ph.D., 6/11 to 1/13 (from University of Wisconsin, Madison). Currently: Assistant Professor, Department of Physiology & Aging, U. Florida.
- Adrienne Huxtable, Ph.D., 5/09 to 12/14 (from University of Alberta, Canada). Currently: Associate Professor, University of Oregon.
- Nicole Nichols, Ph.D., 6/08 to 6/15 (from Wright State University). Currently: Associate Professor, University of Missouri.
- Brendan Dougherty, P.T., PhD, 3/12 to 2/2015 (University of Florida). Currently: Assistant Professor, University of Minnesota.
- Yasin Seven, PhD, 6/14 to 2019 (Mayo Clinic). Currently: Assistant Professor, U. Florida.
- Raphael Perim, PhD, 6/2015 to 2019 (University of São Paulo, Ribeirão Preto, Brazil). Currently: Acting Instructor, Department of Pharmacology, University of Washington.
- Arash Tadjalli, PhD, 3/16 to 4/2021 (University of Toronto, Canada). Currently: Assistant professor at Western Atlantic University School of Medicine..
- Elah Sajjadi, DPT/PhD, 5/21 to 8/21, temporary post-PhD postdoc (UF). Co-mentor B. Smith. Currently: Scientist, Lyra Therapeutics, Boston, MA
- Mohamed El Chami, PhD, 9/18 to 12/21 (Wayne State U), Co-mentor: E. Gonzalez-Rothi. Currently: Financial sector.
- Jay Nair, PhD/DPT, 1/2020 to 3/2022 (UF). Co-mentor E. Fox. Current position: Assistant Professor, Department of Physical Therapy, Thomas Jefferson Univ., Philadelphia, PA.
- Joe Welch, PhD, 1/19 to 9/22 (University British Columbia), Co-mentor E. Fox. Current position: Assistant Professor at the University of Birmingham, UK.

- Alicia Vose, SLP-CCCP/PhD, 5/19 to 5/23 (UF). Co-mentor E. Fox. Current position: Assistant Professor, Department of Neurology, UFHealth-Jacksonville, FL.
- Alexandra Marcianti, PhD, 5/19 to present (U. North Texas).
- Michaela Mir, SLP-CCP/PhD, 6/22 to present (UF). Co-mentor E. Fox.
- Tommy Sutor, PhD, 12/22 to present (UF). Co-mentor E. Fox.
- Alec Butenas, PhD, 6/23 to present (Kansas State University).
- Aaron Jones, PhD, 7/23 to present (Marquette University).

Scientists and Research Assistant Professors sponsored:

- Liming Ling, Ph.D. Asst Scientist, 7/98 to 12/98. Formerly: Asst. Professor, Department of Medicine, Harvard University; Retired.
- Steve Johnson, M.D., Ph.D. Assistant Scientist 4/98 to 7/99; Associate Scientist, 7/99 to 12/02. Currently: Associate Professor, University of Wisconsin.
- David Fuller, Ph.D., Asst. Scientist, 12/02 to 12/2003. Currently: Professor, U. Florida.
- Tracy Baker-Herman, Ph.D., Asst. Scientist, 4/05 to 6/06 and 7/08 to 1/09 (6/06 to 6/08: 2 years part-time while living in New York). Currently: Professor, U. Wisconsin).
- Gillian Muir, DVM/Ph.D., Visiting Professor, University of Saskatchewan, 7/06 to 6/07. Current: Dean, College of Veterinary Medicine, University of Saskatchewan.
- Irawan Satriotomo, MD/Ph.D., Asst. Scientist, U. Wisconsin, 5/08 to 3/12. 7/15 to 9/17. Currently: business owner.
- Elisa Gonzalez Rothi (URM) DPT/Ph.D., Research Asst. Professor, 9/2015 to 8/2018.
- Raphael Perim, Ph.D., Research Assistant Scientist, 2019-6/2021. Current position, Acting Instructor, University of Washington, Seattle, WA.
- Yasin Seven, Ph.D., Assistant Research Scientist, 2019-2023. Current: Assistant Professor, Department of Physiological Sciences, University of Florida.
- Maria Nikodemova, Ph.D., Research Associate Scientist, 8/2021-present.

Honors and Awards to laboratory trainees:

- Karen Birgit Bach, Ph.D. Student: Travel Award, American Thoracic Society, 1996.
- Karen Birgit Bach, Ph.D. Graduate Student Award for an Outstanding Abstract, American Physiological Society, 1996.
- Rebecca Pipo Johnson, D.V.M.; ANESCO Resident Research Award; American College of Veterinary Anesthesiologists, 1996.
- Tracy Baker, Ph.D Student, WARF Fellowship, University of Wisconsin, 1997.
- Steve Johnson, M.D./Ph.D.; Invited participant in symposium on “Comparative perspectives on ventilatory control,” Experimental Biology Meeting, 1998.
- Steve Johnson, M.D./Ph.D.; Giles Filley Award for Excellence in Respiratory Research; American Physiological Society, 1999.
- Rebecca Pipo Johnson, D.V.M.; Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 1999.
- Julia Rives Wilkerson, Pre-doctoral fellowship, National Science Foundation, 2000.

- Tracy Baker, Ph.D. Student, Invited participant in symposium on “Intermittent Hypoxia: Cell to System,” Experimental Biology Meeting, 2001.
- Julia Rives Wilkerson, Ph.D. Student, American Physiological Society Minority Travel Award, 2001.
- Tracy Baker, Ph.D. Student, Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2001.
- Rebecca Pipo Johnson, D.V.M.; Ph.D. Student, Young Investigator Award, Central Nervous System Section, American Physiological Society, 2001.
- David Fuller, Ph.D. Invited speaker in symposium on “Plasticity and repair of the phrenic motor system following cervical spinal injury: current concepts.” Experimental Biology Meeting, 2001.
- Ryan Bavis, Ph.D. Travel Award, Comparative Section, American Physiol. Society, 2002.
- Jessica Gruenwald, D.V.M. Student, U.W. School of Veterinary Medicine Student Research Award, April 2002.
- Ryan Bavis, Ph.D. Invited participant in symposium on “Acclimatization to hypoxia: supply vs. demand strategies.” APS Intersociety Meeting, San Diego, CA, August, 2002.
- Ryan Bavis, Ph.D. Invited speaker in symposium on “Ontogeny of cardiorespiratory mechanisms: an evolutionary perspective.” Experimental Biology Meeting, 2002.
- Ryan Bavis, Ph.D. Invited speaker in symposium on “Central and peripheral mechanisms of oxygen sensing.” Experimental Biology Meeting, 2002.
- Ryan Bavis, Ph.D. Invited speaker in symposium at 6th International Congress of Comparative Physiology and Biochemistry. “Developmental plasticity in ventilatory chemosensitivity: comparative aspects.” Mt. Buller, Australia. February, 2003.
- Ryan Bavis, Ph.D. Organizer and chair of mini-symposium on “Developmental Plasticity of Respiratory Control.” Experimental Biology Meeting, San Diego, CA, April, 2003.
- Frank Golder, BVSc; Ph.D. Young Investigator Award, Central Nervous System Section, American Physiological Society, 2003.
- Tracy Baker-Herman, Ph.D. Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2003.
- Ryan Bavis, Ph.D. Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2003.
- Julia Rives Wilkerson, Ph.D. Student, American Physiological Society Minority Travel Award, 2003.
- Tracy Baker-Herman, Ph.D., Young Investigator Award, Respiration Section, American Physiological Society, 2003.
- Charity Gottfredsen, Young Investigator Award, Respiration Section, American Physiological Society, 2003.
- Ryan Bavis, Ph.D., Chair and organizer of featured topic session on Developmental Plasticity in Ventilatory Control at EB meeting, San Diego, 2003.
- David Fuller, Ph.D., Chair and organizer of EB Symposium on “Breathing and walking after spinal cord injury.” Washington D.C., 2004.

- Tracy Baker-Herman, Ph.D. Young Investigator Award, Central Nervous System Section, American Physiological Society, 2004.
- Frank Golder, BVSc, Ph.D. Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2004.
- Jenny Dahlberg, B.S., 3rd Wisconsin Biotechnology and Medical Device Association (undergraduate) Poster Competition, University of Wisconsin, 2004.
- Tracy Baker-Herman, PhD. JE Rose Award for excellence in research, Neuroscience Training Program, University of Wisconsin, 2004.
- Julia Wilkerson, PhD Student/postdoc, American Physiological Society Minority Travel Award, 2004, 2005, 2006, 2007.
- Julia Wilkerson, PhD Student, Neuroscience Training Program Travel Award, 2005/2006.
- Tracy Baker-Herman, PhD. Invited speaker at international symposium on Brainstem and Spinal Cord Mechanisms, Madison, WI, 2005.
- Frank Golder, D.V.M./Ph.D. Organizer, Featured Topic, EB Meeting, San Francisco, 2006.
- Safraaz Mahamed, Ph.D. Excellence in Research Award, CNS Section of American Physiological Society, 2006.
- Julia Wilkerson, PhD Student, Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2006.
- Julia Wilkerson, invited speaker at symposium on “Respiratory plasticity after changes in oxygen supply and demand” at the International Congress of Respiratory Biology, Bonn, Germany, August, 2006.
- Julia Wilkerson, Young Investigator Award, Respiration Section, American Physiological Society, 2006.
- Safraaz Mahamed, Ph.D., Young Investigator Award, CNS Section, American Physiological Society, 2007.
- Michael Hoffman, M.D./Ph.D. student, Respiration Section Research Recognition Award, Experimental Biology Meeting, American Physiological Society, 2007,
- Michael Hoffman, M.D./Ph.D. student, Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Soc., 2007.
- Michael Hoffman, M.D./Ph.D. student, American Physiological Society/NIDDK Minority Travel Fellowship Award, 2007.
- Erica Dale, Ph.D. student, Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2007.
- Michael Hoffman, M.D./Ph.D. student, American Physiological Society Minority Travel Award, 2007.
- Julia Wilkerson, Ph.D., American Physiological Society/NIDDK Minority Travel Fellowship Award, 2007.
- Michael Hoffman, M.D./Ph.D. student, American Physiological Society/NIDDK Minority Travel Fellowship Award, 2008.
- James Windelborn, PhD., Postdoctoral Poster Award Finalist, Experimental Biology Meeting, American Association of Anatomists, 2008.

- Courtney Guenther, Ph.D. student, Respiration Section Research Recognition Award, Experimental Biology Meeting, American Physiological Society, 2008.
- James Windelborn, PhD., American Association of Anatomists Postdoctoral Poster Presentation Award, 2009.
- Courtney H. Guenther, Ph.D. student, Graduate Student Poster Award, Experimental Biology Meeting, American Association of Anatomists, 2010.
- Peter M. MacFarlane, Ph.D., Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2010.
- Stephane Vinit, Ph.D., Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2010.
- Nicole L. Nichols, Ph.D., Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2010.
- James Windelborn, PhD., Respiration Section Research Recognition Award, Experimental Biology Meeting, American Physiological Society, 2010.
- Nicole Nichols, PhD., CNS Section Research Recognition Award, Experimental Biology Meeting, American Physiological Society, 2011.
- Nicole Nichols, PhD., APS Physiologists in Industry Committee Postdoctoral Novel Disease Model Award, 2011.
- Michael Devinney, M.D./Ph.D. student, Graduate Student Award: Cellular and Network Functions in the Spinal Cord 2012, Madison, Wisconsin.
- Michael Devinney, Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2012.
- Nicole Nichols, Ph.D., Respiration Section Research Recognition Award, American Physiological Society, San Diego, CA. 2012.
- Nicole Nichols, Ph.D., Travel award, 5th SFN Satellite Symposium on Motor Systems, Bethesda, MD, 2012.
- Timothy Peterson, APS Undergraduate Summer Research Fellow, 2012.
- Brendan Dougherty, P.T., Ph.D., travel award to the 15th International Symposium on Neural Regeneration, Asilomar, CA, December 2013.
- Latoya Allen, Ph.D. student, APS minority travel award to attend Experimental Biology Meeting in San Diego, CA, April, 2014.
- Ibis Agosto, Respiration Section Research Recognition Award, American Physiological Society, San Diego, CA. 2014.
- Daryl P. Fields, Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2016.
- Latoya Allen, Ph.D. student, APS minority travel award to attend Experimental Biology Meeting in Chicago, IL, April, 2017.
- Juan Santiago-Moreno, MS student, APS minority travel award to attend Experimental Biology Meeting in Chicago, IL, April, 2017.
- Raphael Perim, Postdoctoral Fellow, Respiration Section Research Recognition Award, April, 2017.
- Raphael Perim, Postdoctoral Fellow, McKnight Brain Institute Travel Award, 2017

- Mia Kelly, Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2019.
- Marissa Ciesla, Caroline Tum Suden/Francis B. Hellenbrandt Professional Opportunity Award; American Physiological Society, 2020.
- Ashley Ross, MS student, Martin Frank APS minority travel award to attend Experimental Biology Meeting in San Diego, CA April, 2020 (cancelled due to Covid-19).
- Mia Kelly, graduate student, symposium speaker, virtual EB meeting, 2021.
- Jay Nair, postdoc, Respiration Section Research Recognition Award, virtual EB, 2021.
- Arash Tadjalli, postdoc research award, Respiration Section, APS, 2021.
- Jay Nair, Postdoctoral Associate, 2022, Physiological Reports Abstract Award; Experimental Biology, Philadelphia, PA.
- Kayla Burrowes, PhD student, 2023, Poster Award; Neuromuscular Plasticity symposium.
- Alex Marciante, Postdoctoral Associate, 2023, Junior Investigator Award, XVII Symposium on Sleep and Breathing, Auckland, NZ; *March 2023*
- Alex Marciante, Postdoctoral Associate, 2023, Poster Presentation Award, American Physiological Society Respiration Section, APS Summit, Long Beach, CA.
- Alex Marciante, Postdoctoral Associate, 2023, Abstract of Distinction, American Physiological Society Respiration Section, APS Summit, Long Beach, CA.
- Alex Marciante, Postdoctoral Associate, 2023, Abstract of Distinction, American Physiological Society Central Nervous System Section, APS Summit, Long Beach, CA
- Alex Marciante, Postdoctoral Associate, 2023, Abstract of Distinction, American Physiological Society Central Nervous System Section, APS Summit, Long Beach, CA
- Eight former post-doctoral trainees awarded the Giles Filley Award for Excellence in Respiratory Research from the American Physiological Society. All are now tenured or tenure track faculty (S. Johnson, 1999; D. Fuller, 2005; R. Bavis, 2006; F. Golder, 2007; T. Baker-Herman, 2012; N. Nichols, 2015; A. Huxtable, 2018; E.A. Dale, 2023).

Other Graduate Committees:

- Michael Rua, PhD program, Appl. Physiology & Kinesiology, Supervisor: Wei Lan-Pierre
- Hannah Rose Johnson, PhD program, Biomedical Engineering, Northwestern U, Supervisor: M. Bright.
- Jesús David Peñaloza Aponte, PhD program, Neuroscience, Supervisor: E.A. Dale.
- Alyssa Mickel, PhD program, Neuroscience, Supervisor: E.A. Dale.
- May Smith-Hublou, PhD program. Rehabilitation Sciences, Supervisor: K. Hegland.
- Ethan Benevides, PhD program, Rehabilitation Sciences, Supervisor: D. Fuller
- Avery Engelbrecht, PhD Program, Genetics, Supervisor: L. Ranum
- Jeremy Prieto, MS completed 2023. Electrical and Computer Engr., Supervisor: N. Napoli
- Justine Dallal-York, PhD Completed in 2022. Rehab. Sciences, Supervisor E. Plowman
- Michela Mir, PhD Completed in 2022. Rehabilitation Sciences, Supervisor: K. Hegland.
- Jordan Bateman, PhD Completed in 2022, Pharm & Therapeutics, Supervisor: E. Levitt
- Ian Malone, PhD Completed in 2022, Electrical & Computer Engr, Supervisor: K. Otto
- Sarah Skinner, PhD Completed in 2022, Rehabilitation Sciences, Supervisor: R. Hepple.

- Michelle Singer, PhD Completed in 2022, Rehabilitation Sciences, Supervisor: D. Fuller.
- Gerard Robinson, PhD Completed in 2021, App Phys & Kines, Supervisor: T. Clanton
- Douglas Miller, PhD Completed in 2021, IDP Neuroscience, UF, Supervisor H. Koshbouei
- Michael Sunshine, PhD Completed 2020. Rehabilitation Sciences, Supervisor D. Fuller.
- Tommy Sutor, PhD Program, Completed, 2020, Rehab. Sciences, Supervisor E. Fox.
- Brendan Doyle, PhD Completed 2019, Rehabilitation Sciences, Supervisor D. Fuller.
- Katie Butera, DPT, PhD Completed in 2020, Rehab. Sci, Supervisor, E. Fox.
- Jonathan Griffin, PhD program, Biomed Engr, UF, Supervisor, C. Schmidt (Withdrew).
- Caitlin Banks, Ph.D. Program, Rehab Sci, Supervisor C. Patten (moved to UC Davis).
- Lauren Tabor, PhD, Completed in 2017, Rehabilitation Sciences, Supervisor E. Plowman.
- Qian Ding, PhD Completed in 2018, Rehabilitation Sciences, UF, Supervisor C. Patten.
- Elizabeth Kiernen, Ph.D. Program (Neuroscience Training Program, Supervisor J. Watters; withdrew when left UW).
- Kendra Braegelman, Ph.D. Program (Comp. Biomedical Sci., supervisor: T. Baker; withdrew when left UW).
- Kate Sprecher, Ph.D. Program, Neuroscience Training Program, Supervisor R. Benca (withdrew when left UW).
- Gary C. Mouradian, Ph.D. Completed in 2014; Physiology, Medical College of Wisconsin, Milwaukee, WI (Supervisor: M. Hodges).
- Nathan Baertsch, PhD Completed in 2014 (Comp. Biomedical Sci., supervisor: T. Baker).
- Stephanie Smith, Completed Ph.D. in 2014 (Comp. Biomed Sci., supervisor: J. Watters).
- Justin Miller, PhD Completed in 2013; Physiology, Medical College of Wisconsin, Milwaukee, WI (supervisor: H.V. Forster).
- Elisa Gonzalez-Rothi, PhD Completed in 2013, Rehab Sci, UF (supervisor: D.D. Fuller).
- Kristi Streeter, PhD Completed in 2013 (Comp. Biomedical Sci.; supervisor: T. Baker).
- Sara M.F. Turner, completed Ph.D. in 2013 (Comp. Biomed. Sci.; supervisor: S. Johnson).
- Tao (Dan) Xing, Ph.D. External Examiner, 2010. McQuarry University, Sidney, Australia (supervisor: P. Pilowsky).
- Wyatt Potter, Ph.D. completed 2012 (Neuro. Training Program, supervisor: A. Roopra).
- Maria Nikodemova, MPH program completed (Department of Public Health, 2011, supervisor: P. Peppard).
- Robert Krencik, Ph.D. completed (Neuro. Training Prog., 2010, supervisor: S.C. Zhang)
- Keith Hengen, Ph.D. completed (Neuro. Training Program, 2010, supervisor: M. Behan)
- Scott Friedle, Ph.D. completed (Cell/Molecular Bio., 2010, supervisor: J. Watters)
- Noah Marcus, Ph.D. completed (Kinesiology, 2009, supervisor: B. Morgan)
- Richard Chen, Ph.D. completed (Neuro. Training Prog., 2009, supervisor: D. Sun)
- S. Klein, Ph.D. completed (Physiology Program, 2008, supervisor: C. Svendsen)
- C. Hai, Ph.D. completed (Neuro. Training Program, 2007, supervisor: D. Sun)
- J. Teng; Ph.D. completed (Comp. Biomedical Sci., 2007, supervisor: D. Bjorling)
- A. Nelson, Ph.D. completed (NTP, 2006, supervisor: C. Svendsen)
- E. Hanlon, Ph.D. completed (NTP, 2005, supervisor: R. Benca)

- E. Bua; Ph.D. completed, (Comp. Biomedical Sci., 2004, supervisor: J. Aiken)
- R. Prichard; Ph.D. completed (NTP, 2004; supervisors: M. Behan and R. Benca)
- C. Mantilla; M.D./Ph.D. completed, Mayo Clinic, Rochester, MN (Physiology, 2003, supervisor: G. Sieck).
- J. Rhodes; Ph.D. completed (Zoology; 2002, supervisor: T. Garland).
- A. Serra, Ph.D. completed, Medical College of Wisconsin (Physiology, 2001, supervisor: H.V. Forster).
- A. Alexander, D.V.M.; Ph.D. completed (Vet. Sci., 2000; supervisor: H. Carey).
- D. Johnson, Ph.D. completed (NTP, 1999; supervisor: M. Behan and L. Haberly).
- T. Lowery, Ph.D. completed; Medical College Wisconsin (Physiology, 1998, supervisor: H.V. Forster).
- A. Elliott-Zaiser, Ph.D. completed (Env. Tox., 1997; supervisor: V. Miletic).
- P. Janssen, M.S.; Ph.D. completed (Vet. Science, 1997; supervisor: G. Bisgard).
- K. Lunn, D.V.M.; Ph.D. completed (NTP, 1996; supervisor: I. Duncan).
- M. Ryan Dwinel; Ph.D. completed (Vet. Sci., 1996; supervisor: G. Bisgard).
- T. Curro, D.V.M.; M.S. completed (Vet. Sci., 1994; supervisor: D. Brunson).
- C. Saupe, M.S.; Ph.D. completed (Physiology, 1994; supervisor: J. Dempsey).
- K. Morris; Ph.D. completed, Dept. of Physiology, Univ. South Florida (External Examiner, 1993; supervisor: B. Lindsey).
- B. Johnson; Ph.D. completed (Kinesiology, 1991; supervisor: J. Dempsey).
- L. Daristotle, D.V.M.; M.S. and Ph.D. (Vet. Sci., 1990; supervisor: G. Bisgard).
- J. Nelson; Ph.D. completed (Zoology, 1987; supervisor: J. Magnusson).
- K. Hinchcliff, D.V.M.; M.S. completed (Vet. Sci., 1986; supervisor: S. McGuirk).
- R. Sorkness; Ph.D. completed (Physiology, 1986; supervisor E. Vidruk).

K Award Mentoring

- Rebecca A. Johnson, D.V.M./Ph.D., Now Clinical Professor, Department of Surgical Sciences, University of Wisconsin. 7/2010 to 6/2013.
- Michael Wilhelm, M.D., Now Associate Professor, Department of Pediatrics, School of Medicine and Public Health, University of Wisconsin. 7/2012 to 11/2014.
- Pelin Cingez, M.D., Now Professor, Department of Pediatrics, School of Medicine and Public Health, University of Wisconsin. 1/2013 to 11/2014.
- Randy Trumbower, P.T., PhD, Now Assistant Professor, Department of Rehabilitation Medicine, Harvard University, ~2010 to 2015.
- Nicole, Nichols, Ph.D., Postdoctoral Fellow/Research Associate, Department of Comparative Biosciences, University of Wisconsin, K99/R00 award, 2/2014 to 2/2015. Now Associate Professor, Department of Biomedical Sciences, University of Missouri.
- Elisa Gonzalez-Rothi (URM), DPT/Ph.D., Research Assistant Professor, K12 mentor in Rehabilitation Sciences, 9/1/2015 to 8/31/2018. Continuing in the Department of Physical Therapy, UF.
- Angela McCall, PhD, Postdoctoral Fellow/Research Assistant Professor, Department of Pediatrics, Duke University, Durham, NC, 2/1/2022 to present (mentoring committee).

- Aline Olivera, PhD, Postdoctoral Fellow/Assistant Research Scientist, Department of Medicine (PCCM), University of Florida, 5/2023 to present (mentoring committee).

Other Mentoring

- Faculty mentoring of junior faculty in the UF School of Public Health and Health Professions, Departments of Physical Therapy (D. Rose, B. Smith, D. Lott, S. Forbes, E. Fox, J. Beneciuk, E. Gonzalez Rothi, H. Ross, M. Alappattu, R. Wilcox, F. Pozi, R. Studer-Byrnes), Occupational Therapy (C. Kreider), Speech Language and Hearing Sciences (E. Plowman, K. Hegland), College of Veterinary Medicine (D. Baekey), College of Medicine (C. Maciel; E. Dale; P Chakrabarty; D. Maurer) and College of Engineering (N. Napoli).
- Faculty mentor committees at UW:
 - *School of Veterinary Medicine*: Depts. of Comparative Biosciences, Surgical Sciences, Medical Sciences, Animal Health and Biomedical Sciences. Mentoring committees of: V. Miletic, H. Carey, R. Broadstone, B. Derion, L. Smith, R. Stepien, D. Brunson, L. Trepanier, F. Adamo, N. Perna, J. Bach and R. Johnson.
 - *School of Medicine and Public Health*: Departments of Neurology, Neuroscience, Neurosurgery, and Pediatrics. Mentoring committees of: R. Vemuganti (Neurological Surgery), A. Roopra (Neurology/Neuroscience), M. Wilhelm (Pediatrics), P. Cingez (Pediatrics), C. Burger (Neurology).

ADMINISTRATIVE AND ACADEMIC SERVICE

University Service:

- Founding Director of Breathing Research and Therapeutics (BREATHE) Center, U. Florida. Created July 2015 as Center for Respiratory Research & Rehabilitation).
- Founding Director of Breathing Research and Therapeutics Training Program, U. Florida; funded by NIH T32 training grant and College of Public Health and Health Professions.
- Deputy Director, UF McKnight Brain Institute (2023-present).
- UF Health Neuroscience and Neuromedicine Executive Committee (2016-present)
- Director of Gator NeuroScholars Enhanced Postdoctoral Recruitment Program (2022)
- PPHP Dean Search Committee, 2021
- Chair, McKnight Neuromedicine Scholars (Seminar) Program (2017-present)
- McKnight Brain Institute Outreach Committee (2017-present)
- Public Health and Health Professions Research Committee (2016-2022)
- Search Committee, Director of the McKnight Brain Institute (2015-2016).
- Rehabilitation Sciences Graduate Recruitment Committee (2019).
- Rehabilitation Sciences Seminar Committee (2017-2018).
- Search Committee, UF Department of Neurology, Neuromuscular Disease (2015-2017).
- Search Committee, UF Health Sciences Center, McKnight Brain Institute Director (2016).
- Search Committees, UF Department of Physical Therapy, Neurorehabilitation (chair) and Teacher Scholar searches (2016-2018); 2 other faculty search committees (2018).
- Search Committee, UF Department of Physiological Sciences, Preeminence position in Regenerative Medicine (2017-2018).

- Chairman, Department of Comparative Biosciences (7/1997-6/2014).
- Administrative Advisory Council, School of Veterinary Medicine (1997-2014).
- Chairman of Space Committee, School of Veterinary Medicine (1992-1997). Member (1985-86; 1987-88; 1990-91; 1997). Space task force, proposal to State of Wisconsin.
- Graduate Faculty Executive Committee, University of Wisconsin (Elected terms: 1997-2001; 2003-2007).
- Graduate School Academic Planning Council (2000-01, 2006-07).
- Neuroscience Planning and Search Committee; appointment by the Council of Bio-Deans to: 1) create strategic plan for Center for Neuroscience; and 2) conduct search for new Center Director (1997-2001). Committee on future of Center for Neuroscience (2012).
- Academic Planning Council (Dean's faculty advisory committee) (1993-96).
- Scientific Advisory Committee, Lilly's Fund for Epilepsy Research, 2010-2012.
- Founding Chair of Admissions Committee, School of Veterinary Medicine (1982-84). *Post hoc* statistical analysis of admissions process for School of Veterinary Medicine (special request of Committee, 1988, 1994, 1996, 2000, 2002). Advisory Committee (1981-82).
- Faculty search committees: Biochemistry (1982), director of Physical Therapy Program (1993), Veterinary Anesthesiology (1996-7), Microbial Genomics (2001-02), Director of Center for Neuroscience (2000-2001), Cluster Hires on Zebra Fish Biology (1999-2000) and Brain Plasticity (2001-02), Chair of new Department of Neuroscience (2011), Endowed Chair in Veterinary Oncology (2011).
- Committee on Teaching Assistant Policies and Procedures (1984-1985).
- Information and Technology Advisory Committee, (1984-85; chairman, 1985-88).
- Student/Faculty Liaison Committee, School of Vet. Medicine (1984-85; 1987-88).
- Chairman of Department committees:
 - To investigate feasibility of initiating a graduate degree program (1987).
 - To establish policies for equitable distribution of departmental teaching and research assistantships (1987-88).
 - Salary committee (1988, 97-present).
 - To conduct departmental self-evaluation (1990).
 - To implement School of Veterinary Medicine Research Day (1991-93).
 - To reassign departmental teaching support staff (1992).
- Educational Policy Committee (1991-1992).
- Task Force on Learning and Education. Task force to investigate teaching strategies that utilize active student learning (eg. Problem Based Learning) (1993-95). Semester coordinator to implement integrative teaching strategies (1994).
- Promotions and Tenure Committee (2002 – present; chair 2004 to 2007).
- Center for Neuroscience and Neuroscience Training Program, UW Madison:
 - Member of Training Committee
 - Seminar Topics Committee (1992-1995).
 - Admissions Committee (1993-1995).
 - First Year Committee (chairman, 1995; Member, 1996-98, 2005 to present)
 - Steering Committee of Neuroscience Training Program (2004 to 2008)

- Executive Committee, Center for Neuroscience (1996-2012).
- Steering Committee, Center for Neuroscience (2006 to 2012).
- Advisory Committee, Center for Women's Health, UW Madison (2005 to 2008).
- External Review Committees for the College of Letters and Sciences (Zoology), University of Wisconsin System (Chair, Population Health Graduate Program) and Medical School (Physiology Graduate Training Program).
- Review Committee, Dean of the Graduate School (2007-08).
- Chair of Clinical Practice Committee (2000-2001). Charge to review and revise school policies concerning clinical consulting by faculty.
- Futures Committee, Department of Animal Health and Biomedical Sciences, University of Wisconsin (2000-2001).
- Veterinary Medical Teaching Hospital Advisory Board (1997-2014). *Ad hoc* Committee on Clinical Programs, School of Veterinary Medicine.
- Long Range Planning Committee, School of Veterinary Medicine (2001). *Ad hoc* committee to develop School vision statement (2001). Research Resources Committee (2001). Assist fundraising efforts by making presentations. Strategic Planning Committee, School of Veterinary Medicine, 2006.
- *Ad hoc* committee for post-budget reduction planning (2002-2003). Associated committee to evaluate School policies regarding salaries on grants.
- Search Committee: Associate Vice Chancellor, University of Wisconsin (2004) and Associate Dean for Biological Sciences (2005).
- Search Committee: Chair, Department of Neuroscience, U. Wisconsin (2012-2014).
- Teaching evaluations for clinical/basic science faculty: P. Lunn, A. Kiorpes, P. Miller, S. West, J. MacAnulty, R. Pinckney.

National/International Service:

- Organizer of International Online Seminars in Control of Breathing and Airway Defense (CoBAD), originated during the pandemic (June, 2020). Over 3000 individuals from North America, Europe, Australia and Asia have participated in this series.
- Journal editorial service
 - Editor, Control of Breathing sections, *Comprehensive Physiology*, American Physiological Society, 2011 to 2017.
 - Editorial Boards of *Respiratory Physiology & Neurobiology*, *Journal of Applied Physiology*, *Journal of Neurophysiology*, *Experimental Neurology*, *Current Respiratory Medicine Reviews*.
 - Guest editor, special editions of professional journals:
 - *Experimental Neurology*
 - Respiratory Plasticity (Co-Guest Editor with D. Fuller) 2017.
 - Intermittent Hypoxia (Guest Editor with G. Muir & R. Trumbower) 2020-2021.
 - *Respiratory Physiology and Neurobiology*
 - *Neural Control of breathing: Molecular to Organismal Perspectives*; Vol. 110, November, 1997

- *Mechanisms and variables determining the cardiopulmonary responses to hypoxia*; Vol. 121, July, 2000).
- *Lessons from comparative respiratory physiology*, 2004 & 2006.
- *CNS neurochemicals in the neural control of breathing*.
- Guest editor, *Highlighted Topics: Respiratory Plasticity*, *J. Appl. Physiol.* (2002).
- Guest editor, Neuromodulation, *Frontiers in Neuroscience* (2016 to 2019).
- Search Committee for Editor in Chief of the new journal, *Function*; American Physiological Society (planned as a new, high impact journal).
- *Ad hoc* reviewer for professional journals including:
 - American Journal of Physiology*
 - American Journal of Veterinary Research*
 - American Review of Pulmonary and Critical Care Medicine*
 - Brain Research*
 - Comparative Biochemistry and Physiology*
 - Comprehensive Physiology*
 - Croatian Medical Journal*
 - ELife*
 - European Journal of Neuroscience*
 - Experimental Neurology*
 - Frontiers in Neuroscience*
 - Frontiers in Exercise Science*
 - Frontiers in Physiology*
 - Function*
 - Journal of Applied Physiology*
 - Journal of Comparative Physiology*
 - Journal of Experimental Biology*
 - Journal of Neuroscience*
 - Journal of Neurophysiology*
 - Journal of Physiology (London)*
 - Life Sciences*
 - Nature*
 - Nature Neuroscience*
 - Neuroscience*
 - Physiological Genomics*
 - PNAS*
 - Pflügers Archiv*
 - Respiratory Physiology and Neurobiology*
 - Science*
- Reviewer for grant agencies including:
 - NIH Respiratory Integrative Biology and Translational Research (RIBT) study section member: 10/2012 to 6/2018 (6-year term).
 - NIH Respiratory and Applied Physiology study section member: 7/95 to 6/99.

- NIH *Ad hoc* study sections: 2/92, 3/92, 3/93, 2/94; 3/2000; 5/02; 11/02; 2/03 (chair); 3/03 (chair); 7/03 (chair); 2/05 (chair); 6/06; 6/07; Program project grant site visitor: 10/93, 5/94; multiple others).
- Reviews for NIH Pioneer Awards (3 occasions).
- NIH Systems Biology Special Emphasis Panel, NHLBI, 2006-08.
- Francis Family Foundation, Scientific Advisory Board; 1/01 to 1/05.
- Spinal Cord Injury Research Program, State of New York; 6/05.
- National Science Foundation
- American Heart Association
- C.I.H.R., Canada
- N.S.E.R.C., Canada
- Alberta Heritage Foundation (Canada)
- Veterans Administration
- B.A.R.D. (Binational U.S./Israel research support)
- Auckland Medical Research Foundation
- Health Research Council of New Zealand
- Health Research Board of Ireland
- Neurological Foundation, New Zealand
- Kansas Biomedical Research Infrastructure Network
- Service to Professional Scientific Organizations:
 - American Physiological Society
 - Councilor (2008-2011).
 - Editor of *Comprehensive Physiology*, Control of Breathing.
 - Organizer of multiple symposia and featured topics at EB meeting.
 - Organizer, International Conference of the American Physiological Society on "Neural control of breathing: molecular to organismal perspectives." (Madison, WI, 1996).
 - Nominations Committee, Comparative Section (1992).
 - Treasurer of Comparative Section (1993-99)
 - Programming Committee, Comparative Section (1993-99).
 - *Ad hoc* committee to program respiratory control abstracts at the EB Meeting (1997-2000).
 - Programming committee, Respiration Section (1998-2001; 2005-present).
 - FASEB Summer Research Conferences Advisory Committee (2011-2014)
 - Society for Neuroscience
 - Programming Committee (2002-05). Chair of Theme D Subcommittee (Homeostatic and Neuroendocrine Systems, 2004-05).
- Other service:
 - Scientific Advisory Committees (NIH): Special Neuroscience Emphasis Research Program (SNERP) advisory board, University of Texas at San Antonio; Center of Biomedical Research Excellence (COBRE) advisory board, University of South Dakota. Additional efforts with SNERP program at Howard University.

- NIH Study Section Boundary Team. Pulmonary Sciences Integrated Review Group (10/02). Team leader for proposed Respiratory Integrative Biology and Translational Research (RIBT) study section.
- NHLBI/NIH workshops on “Development of the upper airway” (March 5-6, 2009) and “Division of Lung Diseases Specialized Centers of Clinically Oriented Research (SCCOR) programs” (September 9-10, 2009). Pending workshop on Contributions of Sleep Disturbances to Chronic Pain (May, 2014).
- Data and Safety Monitoring Boards (DSMB): 1) airway defense in people with Parkinson’s disease (PI Karen Hegland, University of Florida); 2) epidural stimulation to restore arm/hand function in people living with stroke and spinal muscular atrophy (PI Marco Capogrosso, University of Pittsburgh).
- Observational Safety Monitoring Board: Post-Ventilation Sequelae: Personalized Prognostic Modeling for Consequences of Neonatal Intermittent Hypoxemia in Preterm Infants at Pre-School Age (National Heart Lung and Blood Institute).

RESEARCH AWARDS, GRANT SUPPORT AND CONTRACTS

Currently Active Extramural Research Awards:

1. NIH R01 HL147554-A0 (PI: G. Mitchell). “Optimizing respiratory plasticity with chronic cervical SCI.” \$455,212 annual direct, \$694,198 total annual; 4/2019-3/2023. (Funded first submission).
2. NIH R01 HL148030-A0 (PI: G. Mitchell). “Regulation of intermittent hypoxia-induced respiratory motor plasticity.” \$389,481 annual direct, \$593,959 total annual; 7/19-6/23 (Funded first submission).
3. NIH R01 HL149800-A0 (PI: G. Mitchell). “Microglial regulation of intermittent hypoxia-induced phrenic motor plasticity.” \$443,661 annual direct, \$672,090 total annual; 1/2020-12/2023. (Funded first submission).
4. DoD CDMRP, Spinal cord injury expansion award (PD/PI: E. Fox; co-PI G.S. Mitchell). Genetic biomarkers of intermittent hypoxia-induced respiratory motor plasticity in chronic SCI. 9/2022-9/2026; total funds: \$3,613,707. (W81XWH-21-SCIRP-CTA) (Mitchell 10% effort; funded first submission).
5. ALSA Clinical Trial Award (PD/PI: B. Smith; co-I G.S. Mitchell). “Acute adenosine receptor antagonism to promote breathing plasticity in ALS.” 1/2022 - 12/2024; total: \$880,826 (Mitchell 4% effort; funded first submission).
6. Department of Defense SCIRP, Clinical Trial Award. (PD/PI: E. Fox; co-PI G.S. Mitchell). “Combined intermittent hypoxia and respiratory strength training to improve breathing function after SCI.” 8/18 to 7/22. Budget: \$2,400,000 total direct (Mitchell 10% effort; Funded first submission). In NCE until 9/23.
7. NINDS R21 NS119862-01 (Co-I; PI: Y. Seven). Nanoparticle-Based Drug Delivery Targeting the Respiratory Neural Network. 7/2021 to 6/2023; requested budget: \$275,000 direct, \$423,540 total (score 2%ile); currently in NCE.

Currently Active Training Grants and Fellowships:

1. NHLBI Institutional Training Grant (Director GS Mitchell). "Breathing Research and Therapeutics." 5/2022 to 4/27 (T32 HL134621). Competitive Renewal. 3 predoctoral and 4 postdoctoral slots funded (impact score: 10; GS Mitchell 10% effort).

Pending/Planned Grant Applications:

1. Anticipated: NIH/NHLBI P01 Program Project Grant (PI/program director: G.S. Mitchell) entitled: "Oxygen Therapeutics to Preserve & Restore Breathing after Cervical Spinal Cord Injury (OxyCord)." Planned submission September 25, 2023.
2. Anticipated: NIH R01 application (PI, competitive renewal): R01 HL147554; "Optimizing respiratory plasticity with chronic cervical SCI." Planned submission November 5, 2023.
3. Anticipated: NIH R01 application (co-PI; contact PI: M. Nikodemova). "Persistent post-inflammation impairment of intermittent hypoxia induced phrenic motor plasticity." Planned submission October 5, 2023.
4. Anticipated: DoD CDMRP, Spinal cord injury expansion award (PD/PI: R. Trumbower; consultant G. Mitchell). "Breathing low oxygen to enhance spinal stimulation training and functional recovery in persons chronic spinal cord injury: the BO₂ST Trial." Planned submission: 9/5/2023.

Completed Extramural Research Awards:

1. N.A.T.O. Postdoctoral Fellowship in Science (1978, declined).
2. Postdoctoral Fellowship from National Institutes of Health (1980-1981; 3 year award).
3. American Lung Association (Principal Investigator): "Mechanoreceptor-chemoreceptor interactions in modulating respiratory activity." 7/82 to 7/84; \$29,668.
4. N.I.H. (Principal Investigator): "Sensory interactions in respiratory control." 1/83 to 12/85, direct costs: \$131,021 (total costs: \$188,670); (RO1-HL29607).
5. Natural Sciences and Engineering Research Council of Canada. "Effects of temperature and maintained lung inflation on pulmonary receptor discharge." International Scientific Exchange Award to work in the laboratory of Dr. W.K. Milsom, Dept. of Zoology, University of British Columbia; 1985; \$1,800.
6. N.I.H. Research Career Development Award; "Interactions in respiratory control." 7/85 to 6/90; direct costs \$248,086 (total: \$267,933); (HL01494).
7. Morris Foundation. (Co-investigator). "Inhalation anesthesia of avian species: minimum effective dose of halothane in birds." 7/85 to 6/86; \$6,800.
8. N.I.H. (Principal investigator). "Interactions in ventilatory control during exercise." 7/87 to 6/91; direct costs: \$348,552; (RO1-HL36780).
9. N.I.H. (Co-investigator). "Neurotransmitters and ventilatory control in awake rats." 7/88 to 6/91; direct costs: \$322,000; (RO1-HL31430).
10. N.I.H. (Principal investigator). "Interactions in ventilatory control during exercise." 7/91 to 6/95; direct costs: \$348,962 (total: \$499,016); (RO1-HL36780; funded on first submission).
11. N.I.H. (Principal Investigator). "Developmental plasticity in ventilatory control." 12/94 to 11/97; direct costs: \$389,879 (total: \$557,527); (RO1-HL53319; funded on first submission; 5th percentile).

12. NIH (Principal Investigator). "Interactions in ventilatory control during exercise." 7/95 to 6/2000; direct costs: \$546,911 (total: \$782,083); (R01-HL36780; funded on first submission; 3rd percentile).
13. N.I.H. (Principal Investigator). "Developmental plasticity in ventilatory control." 12/97 to 11/02; direct costs: \$812,256 (total: \$1,169,649); (R01-HL53319; funded on first submission; 12th percentile).
14. N.I.H. (P.I.: G.E. Bisgard; co-I. G.S. Mitchell). "Perinatal hyperoxia and adult arterial chemoreception." 1/01 to 12/05. Direct costs: \$1,250,000 (R01-HL68255).
15. Christopher Reeves Paralysis Foundation (P.I.: D. Fuller; co-I: G.S. Mitchell). "Plasticity in spinal respiratory pathways following treadmill exercise." \$75,000 per year (\$150,000 total), 7/03 to 7/2005.
16. N.I.H. (Principal Investigator). "Plasticity in respiratory motor control." 7/2000 to 6/2005; annual direct costs: \$200,000; total direct costs: \$1,000,000 (total costs: \$1,440,000). (R01-HL65383; funded on first submission with a 4th percentile).
17. N.I.H. (P.I. M. Behan; co-I.: G.S. Mitchell). "Age, gender and respiratory control." 7/01 to 6/06; direct costs: \$175,000 per year (Total costs: \$1,260,000). (R01-AG18760).
18. A.L.S. Association (co-PI with C. Svendsen). "Combined delivery of growth factors and astrocytes as potential ALS treatment." 2/05 to 1/08; Annual direct costs: \$150,000 (total costs: \$450,000).
19. N.I.H. (Principal Investigator). "Mechanisms of respiratory long-term facilitation." 7/05 to 6/09; annual direct costs: \$250,000 (approx. total costs: \$1,470,000). (R01 HL80209; funded first submission).
20. N.I.H. Program Project Grant (Director of Project 1 and Animal and Behavior Core: G.S. Mitchell): "Respiratory plasticity in the SOD1^{G93A} Rat;" Program Grant: "Stem cell and growth factor therapy for ALS." (PI: C. Svendsen). 9/07 to 4/2012; Annual direct costs, Project 1: \$215,000. Total annual costs: \$1,177,171 (P01 NS057778).
21. N.I.H. (P.I. M. Behan; Co-I.: G.S. Mitchell). "Age, gender and respiratory control." 3/2007 to 5/2012. Annual direct costs: \$225,000 (approximate total costs: \$1,653,750). (R01-AG18760).
22. N.I.H. MERIT Award (Principal Investigator). "Respiratory plasticity and spinal cord injury." 12/01 to 12/12; annual direct costs: \$275,000 (approx. total costs: \$3,858,750). (R37 HL69064; funded on first submission with a 2nd percentile).
23. Department of Defense (Principal Investigator). Translational Research Partnership Award: "Intermittent hypoxia elicits prolonged restoration of motor function in human SCI." Multi-center grant with components at the University of Wisconsin (G.S. Mitchell), University of Saskatchewan (G. Muir), Rehabilitation Institute of Chicago (W.Z. Rymer) and Emory University (R. Trumbower). 9/2010 to 10/2013. Annual direct costs: \$375,000 (~total costs: \$1,113,750). (SC090355P2).
24. N.I.H. (Principal Investigator, 20% effort). "Mechanisms of respiratory long-term facilitation." 1/10 to 12/14; annual direct costs: \$250,000 (approx. total costs: \$1,470,000). (R01 HL80209; competitive renewal, priority score: 1.0).
25. NIH/NIDDK U24 DK76169-08 (Co-I, 5% effort; PI C.Vezina). DiaComp Pilot and Feasibility Study: "Intermittent Hypoxia and Urologic Complications of Diabetes." 10/2013 to 9/2014. \$65,001 total costs (UW Sub-award from University of Georgia).

26. AKC Canine Health Foundation (PI). "Reversing Paresis and Paralysis after Intervertebral Disc Disease with Therapeutic Intermittent Hypoxia." \$11,903 (returned due to change of institutions).
27. Craig H Neilsen Foundation (PI, 1% effort). Funds provided to support workshop on: "Therapeutic intermittent hypoxia and functional recovery of respiratory and non-respiratory motor function with chronic incomplete SCI: a road map to clinical translation." This workshop will be held July 27 to 29, 2016 in Jacksonville, FL. Total funding: \$37,000. Additional funding provided by Wings For Life Foundation (Austria) to support trainee participation in the workshop (€4000).
28. DoD SCIRP (P.I. G. Mitchell, 10% effort; Co-P.I. T. Baker-Herman). "Respiratory Plasticity Following Spinal Injury: Role of Chloride-Dependent Inhibitory Neurotransmission." 9/2013 to 8/2016. Annual direct costs: \$225,000 (SC120226).
29. N.I.H. (P.I. G.S. Mitchell, 18% effort; Co-P.I. J.J. Watters). "Intermittent Hypoxia-Induced Inflammation Modulates Respiratory Plasticity." 1/15/12 to 12/31/17. Annual direct costs: \$345,115 (total costs: \$2,686,679). (R01 HL111598; priority score on first submission: 1.0; sub-award to University of Florida).
30. DoD SCIRP (PI Mitchell, 8% effort; co-I G. Muir). "Recovery of Breathing and Forelimb Function after Prolonged Exposure to Repetitive Acute Intermittent Hypoxia." 8/2015 to 11/2018; \$250,000 annual direct costs (SC130298).
31. NIH R01 HL69064 (PI Mitchell). "Respiratory plasticity and spinal cord injury;" 2/2014 to 1/2020; annual direct costs: ~\$267,000; total project direct: \$1,500,466 (R37 MERIT renewal, 4 percentile score).
32. NIH R01 HD081274 (Co-I, 3% effort; PI R. Trumbower, Emory University). "Mechanisms of intermittent hypoxia-induced motor recovery in persons with chronic SCI." 9/14 to 8/19.
33. NIH R01 NS091540 (Co-I Mitchell; PI Suzuki, UW-Madison). "Muscle stem cells: new ALS therapy and disease model." 1/2015 to 12/2020.
34. Florida Department of Health, Ed & Ethel Moore Alzheimer's Research Program (PI Mitchell). "Two faces of hypoxia in Alzheimer's Disease." 2/2019-1/202; Budget: \$217,390 total direct (Funded first submission).
35. NIH SPARC OT2OD023854; Directors Commons Fund (Project PI, Mitchell; Program PI Bolser). "Functional mapping of peripheral and central circuits for airway protection and breathing." 9/2016 to 8/2019 (annual contracts). \$2,654,317 total annual; ~\$297,000 direct to Mitchell laboratory in 2019/2020; no cost extension until 7/2021.
36. Craig H. Neilsen Foundation, SCIRTS Pilot Research Grant (Co-PI Mitchell; PI Gonzalez-Rothi). "Combinatorial Therapies to Treat Breathing Impairments After Cervical SCI." 5/2017-4/2020 \$300,000 total direct.
37. Department of Defense CDMRP SCIRP (Co-PI Mitchell; PI Gonzalez-Rothi). "Chronic Intermittent Hypoxia-Induced Neuroinflammation Undermine Respiratory Motor Plasticity after Chronic Incomplete Cervical Spinal Cord Injury." 7/01/17-6/30/19. \$450,000 total directs (W81XWH-16-SCIRP-IIRA).
38. NIH R01 HL139708 (Co-I Mitchell; PI D Fuller, University of Florida). "Ampakines and respiratory function after spinal cord injury." 8/2018 to 7/2022.

Completed Intramural Research Awards:

1. Postdoctoral Fellowship from the Max-Planck-Gesellschaft (1978-1980).
2. N.I.H. Biomedical Research Support Grant, University of Wisconsin (Principal Investigator): "Chemical control of ventilation: CO₂-temperature interactions in reptiles." 4/82 to 4/83; \$5,400.
3. University of Wisconsin Graduate School (Principal Investigator): "Interactions in respiratory control." 7/85 to 6/86; \$17,920.
4. School of Veterinary Medicine (Co-investigator; P.I.: J. Ludders). "Inhalation anesthesia in avian species: Minimal anesthetic dose of halothane in birds." 8/85 to 6/87; \$2,393.
5. University of Wisconsin Graduate School (Principal Investigator) "Interactions in ventilatory control." 7/86 to 6/87; \$15,800.
6. N.I.H. Biomedical Research Support Grant. (Co-investigator; P.I.: J. Ludders). "Effects of halothane on the chemical control of ventilation in birds." 7/87 to 6/88, \$6,465.
7. School of Veterinary Medicine Hilldale Award (Co-Investigator; award for collaboration between clinician & basic scientist). "Cardiorespiratory adjustments to exercise with acute pulmonary arterial obstruction: a model of pulmonary embolism." 7/95 to 6/96; \$10,000.
8. School of Veterinary Medicine, Veterinary Summer Research Fellowship (Sponsor, trainee: J. Gruenwald). 7/01 to 9/01.
9. UW Institute for Clinical and Translational Research (ICTR), "Phrenic Motor Neuron Derivation and Transplantation." \$50,000 (at UW).

Completed Contracts and Gifts:

1. Meridian Medical Corporation, Seattle, WA (Principal Investigator). "Accurate alcohol breath testing." 7/88 to 6/89; Total costs \$23,150.
2. Anaquest (Madison, WI). (Co-investigator; P.I.: J. Ludders), Gift to support research. "Avian anesthesia: a comparison of the cardiovascular effects of halothane and isoflurane." 1987; \$5,000.

Completed Training Grants and Fellowships:

1. N.I.H. Training Grant (one of 5 trainers; director: J.A. Dempsey). "Pulmonary Physiology and Pathophysiology." 9/87 to 8/92; (T32-HL07654).
2. N.I.H. Training Grant (one of 5 trainers; director: J.A. Dempsey). "Pulmonary Physiology and Pathophysiology." 9/92 to 8/97; direct costs: \$545,910; (T32-HL07654).
3. N.I.H. National Research Service Award (Sponsor; postdoctoral fellow: L. Ling). "Developmental plasticity in the hypoxic ventilatory response." 7/94 to 6/97. Declined.
4. Medical Research Council of Canada (Sponsor; postdoctoral fellow: R. Kinkead). "Neuromodulation of respiratory motor output." 8/95 to 12/98.
5. Parker B. Francis Foundation (Sponsor; postdoctoral fellow: S. Johnson). "Cellular mechanisms of opioid-induced respiratory depression." 7/95 to 6/98; Direct costs: \$108,000.
6. N.I.H. Conference Grant (Chair of the Organizing Committee; P.I.: Martin Frank, Executive Director, American Physiological Society). "Conference on the Neural Control of Breathing." Direct costs: \$22,000, 7/96 (HL 56682).

7. Wellcome Trust, Research Travel Grant (Sponsor; Visiting Scientist: D. Turner); 7/96 to 9/96; Direct costs: \$4656.
8. N.I.H. Training Grant (one of 5 trainers; director: J.A. Dempsey). "Pulmonary Physiology and Pathophysiology." 9/97 to 8/02; (T32-HL07654).
9. N.I.H. National Research Service Award (Sponsor; postdoctoral fellow: D. Henderson). "Spinal modulation of the exercise ventilatory response." 12/97 to 11/2000.
10. N.I.H. K08 (Sponsor; Mentored Clinician Scientist Award; post-doctoral graduate student: R. Johnson). "Dopamine and plasticity in respiratory control." 8/98 to 7/03; Direct costs: \$347,250 (Total costs: \$375,030).
11. Parker B. Francis Fellowship in Pulmonary Research (Sponsor; postdoctoral fellow: D. Fuller). "Spinal cord injury and plasticity in respiratory motor control." 3/01 to 6/04; Direct costs: \$120,000.
12. N.I.H. National Research Service Award (Sponsor; postdoctoral fellow: D. Fuller). "Spinal cord injury and plasticity in respiratory motor control." 7/01 to 6/04. (HL67648; 0.2 percentile; Declined).
13. N.I.H. National Research Service Award (Sponsor; postdoctoral fellow: R. Bavis). "Evoked recovery of impaired respiratory control." \$44,212, 6/02 to 6/03 (HL70506; funded on first submission).
14. Christopher Reeves Paralysis Foundation Postdoctoral Fellowship (Trainee: F. Golder; Sponsor: G.S. Mitchell). "Respiratory functional recovery after cervical spinal cord injury: strengthening existing synaptic pathways." 7/03 to 7/2005. Annual direct costs: \$75,000 (Total: \$150,000).
15. Parker B. Francis Fellowship in Pulmonary Research (Sponsor; postdoctoral fellow: T.L. Baker-Herman). "Roles of BDNF and ERK in phrenic long-term facilitation following intermittent hypoxia." 3/04 to 7/06; Total direct costs: \$126,000.
16. NRSA (mentor committee; Trainee: S. Reeves, M.D./Ph.D. Student; Supervisor: D. Gozal, University of Louisville). "Postnatal intermittent hypoxia and respiration."
17. N.I.H. Institutional Training Grant (Director: G.S. Mitchell). "Respiratory Neurobiology." (T32 HL07654). 4 pre-doctoral and 4 post-doctoral stipends; total costs: \$2,389,084 (\$464,125 direct per year); 2002-2007.
18. CIHR Postdoctoral Fellowship, Canada (Sponsor for postdoctoral fellow: S. Mahamed). "Does simulated apnea elicit respiratory long-term facilitation?" 7/05 to 6/08.
19. Ruth Kirschstein National Research Service Award (Sponsor of MD/PhD student M.S. Hoffman). "Enhancement of phrenic long-term facilitation following intermittent hypoxia." (F31HL092785-01); 4 years awarded to fund Ph.D. thesis research followed by M.D. clinical years.
20. Francis Families Foundation, Parker B. Francis Fellowship (Sponsor of postdoctoral fellow: P. MacFarlane). "Serotonergic modulation of spinal NADPH Oxidase is necessary and sufficient for intermittent hypoxia-induced phrenic long-term facilitation." 7/08 to 6/11. Annual direct costs: \$50,000.
21. Craig H. Neilsen Foundation (Sponsor of postdoctoral fellow: S. Vinit). "Intermittent hypoxia elicits respiratory recovery after spinal cord injury." 7/09 to 6/11. Annual direct costs: \$60,000.
22. American Physiological Soc. Summer Research Fellowship, Tim Peterson, 2012. ~\$5000.

22. NIH Institutional Training Grant (Director: G.S. Mitchell). "Respiratory Neurobiology." (T32 HL07654-21). 4 predoctoral and 4 postdoctoral stipends plus institutional allowances; total costs: \$2,308,162 (\$421,750 direct per year); 2007-2013.
23. Merck-Mariel Summer Fellowships to support research by DVM students S. Springborn and L. Bauernschmidt. ~\$4000 per student.
24. Francis Families Foundation, Parker B. Francis Fellowship (Sponsor of postdoctoral fellow: N. Nichols). "Novel strategies to improve respiratory function in a rat model of ALS." 7/2011 to 6/2014. Annual direct costs: \$52,000.
25. NIH NHLBI Research Supplement to Promote Diversity in Health-Related Research (Sponsor of MD/PhD candidate D. Fields). "Cross-talk inhibition in phrenic motor facilitation: role of NADPH oxidase." 1/13 to 12/13. Total award: \$61,172.
26. Fullbright Scholarship to M.D. graduate student A. Navarette Opazo. 6/2010 to 6/2014. Currently a postdoc at the Medical College of Wisconsin.
27. Parker B. Francis Postdoctoral Fellowship (Sponsor of postdoctoral trainee: A. Huxtable). "Inflammation impairs respiratory plasticity." 7/2013 to 6/2016. Annual direct costs: \$52,000. Transferred to University of Oregon, 12/14. Currently an assistant professor at the University of Oregon.
28. NIH Pathway to Independence Award (K99/R00; Sponsor of postdoctoral trainee: N. Nichols). "Enhanced respiratory plasticity in models of respiratory motor neuron death." February 1, 2014 to January 31, 2019. Total costs: \$957,904. Currently an assistant professor at the University of Missouri.
29. Craig H. Neilsen Foundation (Sponsor of postdoctoral fellow: B. Dougherty). "Mechanisms of intermittent hypoxia induced recovery following cervical SCI." 7/13 to 6/15. Annual direct costs: \$60,000. Currently an Assistant Professor, U. of Minnesota.
30. NIH NHLBI Research Supplement to Promote Diversity in Health-Related Research (Sponsor of PhD candidate I. Agosto). "Intermittent Hypoxia-Induced Inflammation Modulates Respiratory Plasticity." 7/13 to 6/16. Total direct costs: \$156,374. Currently a Scientist at Kineta Inc., Seattle, WA.
31. NIH F30 to Daryl P. Fields, MD/PhD student (URM). "Repetitive acute intermittent hypoxia elicits respiratory metaplasticity." 7/2015 to 6/2017 (HL126351). Total funds: \$221,622. Currently Neurosurgery Intern, University of Pittsburgh.
32. Parker B. Francis Fellowship in Pulmonary Research (Sponsor; postdoctoral fellow: A. Tadjalli). "Modulation of respiratory motor plasticity through neuron-microglia interactions." 7/2019 to 6/2022; Total direct: \$156,000 (terminated in 4/2021).
33. R01 HL147554 02S1; Diversity Supplement, Ashley Ross (PI GS Mitchell) "Optimizing respiratory plasticity with chronic cervical SCI." 6/2020 to 5/2021; \$63,581 total annual (terminated 4/2021).
34. NHLBI Institutional Training Grant (Director GS Mitchell). "Breathing Research and Therapeutics." 4/2017 to 4/22; \$366,961 total annual; \$2,082,823 total (T32 HL134621).
35. Craig H. Neilsen Foundation (Co-Sponsor of postdoctoral fellow: J. Welch). "Acute Intermittent Hypoxia to Improve Breathing in Humans with SCI." 9/30/2020 to 8/31/2022. Annual direct costs: \$75,000.

Grant Awards Sponsored (primary or other mentorship role):

1. N.I.H. (assistant scientist: S. Johnson). "Plasticity of spinal respiratory synaptic transmission." 4/98 to 3/02; direct costs: \$280,000 (Total costs: \$400,400) (funded on first submission, 16th percentile; RO1- HL60028).
2. N.I.H. (assistant scientist: L. Ling). "Intermittent hypoxia induces ventilatory plasticity." 7/98 to 6/03; direct costs: \$350,000 (Total costs: \$500,500) (funded on first submission, 4.7 percentile). Transferred to Harvard University, 1/99.
3. Re-entry supplement awarded to fund Tracy Baker-Herman (supplement to MERIT Award R37 HL69064); "Respiratory plasticity following spinal cord injury." 7/08 to 6/11; annual direct costs: \$92,636 (approx. total costs: \$422,331).
4. NIH Pathway to Independence Award (K99/R00; Sponsor of postdoctoral trainee: N. Nichols). "Enhanced respiratory plasticity in models of respiratory motor neuron death." February 1, 2014 to January 31, 2019. Total costs: \$957,904.
5. NIH Pathway to Independence Award (K99/R00); Mentor for postdoctoral trainee A. McCall (Duke University; Sponsor M. Elmallah, MD). "Novel Adjunctive Therapies for Pompe disease." Awarded January 1, 2022.
6. NIH K25 application; "Modeling of respiratory flow dynamics for discriminative biomarkers of ventilatory compromise." Applicant: N. Napoli (Department of Electrical and Computer Engineering, UF); Primary mentor: G.S. Mitchell (application pending).
7. NIH Pathway to Independence Award (K99/R00); Co-Mentor for postdoctoral trainee A. Oliveira (Department of Medicine, UF; Sponsor: A. Bryant, MD); "Neuroimmune axis contribution to the pathophysiology of pulmonary hypertension."
8. NIH pathway to Independence Award (K99/R00); Primary mentor for postdoctoral trainee J. Welch (Department of Physical Therapy, UF; co-mentor E. Fox). "Acute Intermittent Hypercapnic-Hypoxia and Task-Specific Respiratory Training to Induce Respiratory Motor Plasticity in Humans." (application received fundable score; declined in order to accept overseas faculty position).
9. NIH pathway to Independence Award (K99/R00); Primary mentor for postdoctoral trainee A. Marciante (Dept. Physical Therapy, UF). Planned submission: October 12, 2023.
10. NIH pathway to Independence Award (K99/R00); mentor for neurosurgical resident D.P. Fields (Department of Neurosurgery, University of Pittsburgh). Application pending.

Consultant for Research Grants:

1. N.I.H. NS24742 (P.I.: J.L. Feldman, UCLA). "Transmission of respiratory drive to phrenic motoneurons;" 4/94 to 3/99.
2. N.I.H. (P.I.: C.A. Smith, Dept. of Preventive Medicine). "Chemo- and baroreceptors' role in apnea and hyperpnea;" 7/95 to 6/2000.
3. N.I.H. HL25739 (P.I.: H.V. Forster, Medical College of Wisconsin). "Control of breathing during physiologic conditions." 7/01 to 6/06.
4. N.I.H. HL25739 (P.I.: H.V. Forster, Medical College of Wisconsin). "Control of breathing during physiologic conditions." 7/06 to 6/11. (Renewal pending).
5. N.I.H. R01 NS24742 (PI: Dr. J. Feldman, UCLA). "Functional plasticity in hypoglossal motoneurons;" 7/05 to 6/09.

6. N.I.H. R01 NS049033 (PI: Dr. J. Watters). "Microglia, adenine nucleotides and hypoxia;" 7/05 to 6/10.
7. N.I.H. R01 HL105511 (PI: Dr. T. Baker-Herman). "Mechanisms of inactivity-induced respiratory plasticity" 1/11 to 12/16.
8. Wings for Life (PI: R. Trumbower, Emory University). "Repetitive exposure of intermittent hypoxia to enhance walking recovery in persons with chronic spinal cord injury." 2014 to 2016.
9. DOD Joint Warfighter Medical Research Program (PI: R. Trumbower, Emory University). "Intermittent Hypoxia-Induced Recovery of Overground Walking in Persons with Subacute SCI." 2015 to 2019; requested direct costs: \$436,341 in year 1.
10. N.I.H. HL081823 (PI: F.L. Powell, UCSD). Neural plasticity during acclimatization to hypoxia 8/05 – 2/20. \$258,708 annual direct costs.
11. DOD CDMRP SCIRP. (PI: M. Oudega, U. Miami). Combinatorial Treatment for Reach and-Grasp Recovery in Chronic Contusive Cervical SCI. 7/2018-6/2021.
12. DOD CDMRP SCIRP (SC160072) (PI: W.Z. Rymer; Shirley Ryan Ability Lab, Chicago). Effect of a Novel Intervention Using Daily Intermittent Hypoxia and High-Intensity Training on Upper-Limb Function in Individuals with Spinal Cord Injury. 9/01/2017 - 8/31/2021. \$2,000,000 total direct.
13. DoD CDMRP, Spinal cord injury expansion award (PD/PI: R. Trumbower; consultant G. Mitchell). Breathing Low Oxygen to Enhance Stimulation Training and Functional Behavior in Persons with SCI: BO2ST Trial. 9/2022-9/2026; total funds: \$3,940,955. (W81XWH-21-SCIRP-CTA).

INVITED RESEARCH PRESENTATIONS SINCE 1999

(Job interviews, "in-house" seminars and 45 seminars prior to 1999 not listed)

46. Department of Pharmacology, University of Texas, San Antonio. Seminar: "Serotonin, plasticity and respiratory motor control." Host: S. Mifflin. February 24, 1999.
47. Department of Anesthesiology, Medical College of Wisconsin. Seminars on: "Developmental plasticity in ventilatory control" and "Serotonin, plasticity and respiratory motor control." Host: E. Zuperku. March 21-22, 1999.
48. 32nd Winter Conference on Brain Research, Snowmass, CO, session on: "Heavy breathing in Snowmass: Serotonin and the respiratory response to altitude." Organizer: G. Richerson. January 26, 1999.
49. Experimental Biology Meeting, Washington D.C. session entitled "Time domains of the hypoxic ventilatory response: adaptive mechanisms in short- and long-term responses." Organizer: T. Dick. April 18, 1999.
50. Association of Professional Sleep Societies, Orlando, FL. Plenary talk entitled: "Plasticity in respiratory motor control: serotonin-dependent mechanisms elicited by intermittent hypoxia." June 23, 1999.
51. Department of Physiology and Biophysics, SUNY Buffalo. "Serotonin-induced plasticity in respiratory motor control." Host: J. Krasney. October 11, 1999.
52. Respiratory Neurobiology and Sleep Center, University of Pennsylvania "Serotonin-dependent plasticity in respiratory motor control" Host: A. Pack, March 3, 2000.

53. Experimental Biology Meeting, San Diego, CA, "Serotonin-dependent plasticity in respiratory control" in symposium entitled: "Plasticity and redundancy in ventilatory control." Organizers D. Gozal and H.V. Forster. April 16, 2000.
54. International Symposium on "Central Chemosensitivity 2000," Bochum, Germany. Continuous versus intermittent chemoreceptor stimulation: differential roles in respiratory plasticity." Organizer: P. Scheid. August, 2000.
55. Department of Biology, Georgia State University, "Continuous versus intermittent chemoreceptor stimulation: differential roles in respiratory plasticity." Host: C. Jiang, September 19, 2000.
56. Department of Biology, Section of Neuroscience, University of Texas at San Antonio, "Serotonin-dependent plasticity in respiratory motor control," Host: M. Gdovin, October 19, 2000.
57. Autonomic Mixer, Society for Neuroscience Meeting, New Orleans, LA, November, 2000. Data presentation on "Serotonin Dependent Plasticity in Respiratory Control." Organizer: G. Nattie.
58. Spring Brain Conference, session on: "Chemosensation and Breathing," Sedona, Arizona, March, 2001 ("Serotonin-dependent plasticity in respiratory control"); Organizers J. Feldman and R. Fregosi.
59. Physiological Society, session on "Development and plasticity of respiratory control," Oxford, UK, March, 2001 ("Plasticity in central respiratory control"). Organizer: D. Corfield.
60. Specialized Neuroscience Research Program, Department of Physiology, Howard University School of Medicine, Washington, D.C., Hosts: B. Coleman and M. Haxhiu (4/01).
61. American Thoracic Society, session on "Neuroplasticity and control of breathing," ("Central serotonergic mechanisms involved in long-term facilitation"). San Francisco, CA, Organizer: E. Gauda (5/01).
62. Departments of Pediatrics and Neurosurgery, University of Louisville, Louisville, KY. "Spinal serotonin-dependent respiratory plasticity following intermittent hypoxia" and "Exercise-induced neurotrophin expression in the spinal cord." Hosts: D. and E. Gozal (5/01).
63. Association of Professional Sleep Societies session on "Intermittent Hypoxia" ("Serotonin-dependent respiratory plasticity following intermittent hypoxia.") Chicago, IL, Organizer: D. Gozal (6/01).
64. International Symposium: "Central Neural Control of Breathing," Rotorua, New Zealand. "Spinal serotonin-dependent respiratory plasticity." Organizer: G. Funk, 9/2001.
65. Organizer of symposium on "Serotonin-induced neuroplasticity" at the Society for Neuroscience Meeting, San Diego, CA, November 12, 2001. Individual talk: "Spinal, serotonin-dependent plasticity in respiratory motor control."
66. Department of Anatomy and Cell Biology, Wayne State University, Detroit, MI. "Spinal, serotonin-dependent plasticity in respiratory motor control," Host: H. Goshgarian, December 4-5, 2001.
67. Neurochemistry Winter Symposium, "Spinal serotonin-dependent respiratory plasticity," Soelden, Austria, April 7-10, 2002. Organizer: S. Schwarzacher.

68. Department of Medicine, Robert Wood Johnson School of Medicine and Dentistry of New Jersey, Michael S Dekin Memorial Lecture, “Serotonin-dependent plasticity in respiratory motor control.” March 14, 2003. Host: J. Neubauer.
69. Co-organizer of International Conference to honor the career of Peter Scheid: Respiratory Physiology and Neurobiology. San Diego, CA, April 9-10, 2003.
70. American Thoracic Society, “Hyperoxia induced neuroplasticity: early development—a vulnerable period.” Seattle, WA, May, 2003. Organizers: E. Gauda and D. Gozal.
71. Wenner-Gren Symposium, Neurobiological Control of Breathing, "Effects of developmental hyperoxia and hypoxia on adult hypoxic ventilatory responses," May 24-27, 2003. Stockholm, Sweden. Organizer: H. Lagercrantz.
72. International Society of the Autonomic Nervous System, “Hypoxia and respiratory control: role in plasticity.” Calgary, Canada, July 5-9, 2003. Organizer: R. Wilson.
73. Rehabilitation Institute of Chicago, Northwestern University, "Spinal plasticity following intermittent hypoxia: implications for spinal cord injury." August 18-19, 2004. Host, Z. Rymer.
74. FASEB Summer Research Conference: Neural Mechanisms in Cardiovascular Regulation. Session on: Sleep Apnea and Central Cardio-Respiratory Integration. Talk: “Respiratory plasticity following intermittent hypoxia: cellular/synaptic mechanisms.” Snowmass, CO, July 24-29, 2004. Organizer: N. Prabhakar.
75. Eighth International Sleep & Breathing Meeting, “Cellular and synaptic mechanisms of respiratory long-term facilitation following intermittent hypoxia.” October 13-16, 2004. Newport, Rhode Island. Organizer: W. Weiss
76. National Neurotrauma Society, 22nd annual meeting. Session on Gene and Cell Based Therapies. “Manipulation of spinal plasticity with RNA interference.” San Diego, CA, October 20-22, 2004. Organizer: C. Hulsebosch (Society President).
77. Department of Physiology, University of Arizona, Tucson, AZ. “Respiratory plasticity following intermittent hypoxia: cellular/synaptic mechanisms *in vivo*”. Host: R. Fregosi, February 25, 2005.
78. IUPS/EB Meeting. Organizer and speaker in Featured Topic Session on: Respiratory Long-Term Facilitation: Mechanisms and Implications. Presented sequential talks: “Introduction to long-term facilitation” and “Cellular mechanisms of long-term facilitation *in vivo*.” April, 2005.
79. International Society for Autonomic Neuroscience, Marseilles, France. July 12-16, 2005. “Mechanisms of respiratory long-term facilitation following intermittent hypoxia.” Organizer of session: R. Monteau.
80. Rankin Memorial Symposium, “RNAi: Potential therapeutic approach to sleep disordered breathing?” Madison, WI, November 3, 2005.
81. Biomedical Sciences Graduate Program, “Mechanisms of serotonin-dependent respiratory plasticity in the mammalian spinal cord.” Marquette University, November 28, 2005.
82. Canadian Physiological Society. Symposium: models of synaptic plasticity. “Mechanisms of respiratory plasticity in the mammalian spinal cord.” Lake Louise, Canada, February 1-4, 2006.

83. Department of Medicine, University of Toronto, "Mechanisms of respiratory plasticity following intermittent hypoxia: suggestions for novel strategies to treat sleep apnea?" Toronto, Canada, March 8, 2006.
84. Department of Zoology, University of Toronto, "Mechanisms and implications of serotonin-dependent respiratory plasticity in the mammalian spinal cord." Toronto, Canada, March 9, 2006.
85. ALS Association Workshop: Invited Lecture: 'Respiratory Plasticity in the SOD1^{G93A} Rat,' Boston, MA, March 30, 2006.
86. Experimental Biology Meeting. Featured speaker in session on: Modulation and Plasticity in the Exercise Ventilatory Response. "Layers of exercise hyperpnea: modulation and plasticity." San Francisco, April 5, 2006.
87. Interdisciplinary Neuroscience Program, University of Missouri, "Spinal Respiratory Plasticity following Intermittent Hypoxia: Mechanisms and Implications." April 27, 2006.
88. Plenary Lecture, Respiratory Research, Société de Pneumologie de Langue Française, "Respiratory Plasticity Following Intermittent Hypoxia: Implications for Ventilatory Control Disorders." Tours, France, October 27, 2006.
89. Department of Pediatrics, Laval University, "Spinal serotonin-dependent respiratory plasticity: mechanisms and implications." Quebec City, Canada, September 11, 2006.
90. Winter Conference for Brain Research, panel discussion: "Pattern-sensitivity of hypoxia-induced respiratory plasticity." Snowmass, Colorado, February 1, 2007.
91. Experimental Biology Meeting, Symposium: What Have We Learned about Respiratory Control from the Use of Transgenic Models? Talk on: "Respiratory plasticity in a rat model of amyotrophic lateral sclerosis (ALS)." Washington D.C. May 2, 2007.
92. Department of Physiology, Northwestern University Medical School. "Respiratory plasticity following intermittent hypoxia: implications for spinal cord injury and ALS." Chicago, IL April 6, 2007.
93. International Conference on Cellular and Network Functions in the Spinal Cord. "Compensatory respiratory plasticity in a rodent model of ALS: the SOD1^{G93A} rat." Madison, WI, June 12-15, 2007.
94. Life Sciences 2007, Symposium: Mechanisms and modulators of respiratory neurogenesis. Talk on "Respiratory plasticity induced by intermittent hypoxia: roles of phosphatases and reactive oxygen species." Glasgow, Scotland, July 12, 2007.
95. 7th International Congress of Comparative Physiology and Biochemistry, Symposium: Control of breathing in vertebrates. "Respiratory neuroplasticity: life-long adjustments of a critical homeostatic system." Salvador, Bahia, Brazil, August 12-16, 2007.
96. "Meet the Experts" session at the Society for Neuroscience Meeting in San Diego, CA, November, 2007.
97. Barshop Institute Seminar Series, The San Antonio Comparative Biology of Aging Center. "Motor neuron plasticity following intermittent hypoxia: implications for sleep apnea." University of Texas Health Sciences Center, San Antonio, February 20, 2008.
98. Spring Conference for Brain Research, Palm Springs, CA, March 12-15. Symposium speaker: Respiratory plasticity induced by intermittent hypoxia: roles of phosphatases and reactive oxygen species." In symposium entitled: "To breathe, perchance to exhale - ay, there's the rub."

99. Safety Pharmacology Society. Speaker in session: "Sleep Disordered Breathing: Pathological Consequences and Potential Therapeutic Approaches." Madison, Wisconsin, September, 2008.
100. Society for Neuroscience, Special Lecture, "Plasticity in brainstem and spinal cord: implications for spinal injury, ALS and sleep apnea." Washington, D.C., Nov., 2008.
101. Experimental Biology, Organizer, Symposium on: "Ventilatory control disorders." New Orleans, LA, April, 2009.
102. American Thoracic Society, Symposium: "Hypoxia and hypercapnia in sleep: the good and the bad." San Diego, CA, May, 2009.
103. American College of Sports Medicine, Symposium: "Modulation and plasticity of the exercise ventilatory response." Seattle, WA, May, 2009.
104. Conference on "Cellular and network functions in the spinal cord." Madison, WI, 6/23 to 6/26, 2009.
105. Symposium on "Physiological and pathophysiological effects of intermittent hypoxia on cardiorespiratory function: implications for sleep-disordered breathing." Physiological Society Main Meeting, Dublin, Ireland, July 6-10, 2009.
106. Invited speaker and chair of session on Respiratory Plasticity, 11th Oxford Conference on Modeling and Control of Breathing, Nara, Japan, 7/23 to 7/26, 2009.
107. Division of Neonatology, Rainbow Babies & Children's Hospital, Case Western Reserve University, seminar entitled "Respiratory (and somatic) motor plasticity following intermittent hypoxia: surprising lessons from sleep apnea." 10/1, 2009.
108. 3rd Annual Pre-Neuroscience Motor Control Meeting. Talk entitled: "Spinal plasticity following spinal injury: implications for spinal cord injury." 10/16, 2009.
109. Institute for Exercise and Environmental Medicine, Presbyterian Hospital of Dallas; Seminar: "Modulation and Plasticity in Respiratory Motor Control." March, 2010.
110. Faculty of Neuroscience Seminar, Texas A&M University; Seminar title: "Intermittent hypoxia improves respiratory and somatic motor function following spinal injury." March, 2010.
111. Caymanian IX: Peptides in Health and Disease, Barbados. Presentation and discussion of "Functional peptide biology: Gasping for air--peptide modulation of respiratory networks." October, 2010.
112. Symposium on Neuromotor Plasticity, University of Florida; Plenary talk entitled: "Respiratory and Somatic Motor Plasticity Following Intermittent Hypoxia: Implications for Spinal Injury." Gainesville, FL, March, 2011.
113. American Society for Neurochemistry, Symposium chair: Neurochemical Mechanisms of Spinal Plasticity; Talk entitled: "Spinal plasticity following intermittent hypoxia: implications for spinal injury and ALS. St. Louis, MO, March, 2011.
114. Association of Professional Sleep Societies, Symposium on "Advances in the basic science and clinical understanding of sleep related breathing disorders;" Talk entitled: "Mechanisms and implications of intermittent hypoxia induced respiratory motor plasticity." Minneapolis, MN, June, 2011.
115. Seminar at Pennsylvania State University, Department of Kinesiology. Seminar titled: "Modulation and Plasticity in Respiratory Control," October, 2011. Host: J. Pawelczyk.

116. Seminar at the University of Chicago, Center for Integrative Physiology. Seminar titled: "Respiratory and somatic motor plasticity following intermittent hypoxia: a guide to new treatments for spinal injury." December, 2011. Host: N. Prabhakar.
117. Gilboe Memorial Lecture, Department of Neurological Surgery, University of Wisconsin. "Respiratory and somatic motor plasticity following intermittent hypoxia: a guide to novel treatments for spinal injury." December, 2011. Host: R. Dempsey.
118. Seminar at Medical College of Wisconsin, Department of Cell Biology, Neurobiology and Anatomy. "Respiratory and somatic motor plasticity following intermittent hypoxia: implications for spinal injury." January, 2012. Host: M. Wong-Riley.
119. Cellular and Network Functions in the Spinal Cord 2012. Talk entitled: "Multiple pathways to spinal respiratory motor facilitation: functional implications." Symposium in Madison, Wisconsin, May 22-25, 2012. Organizer: L. Ziskind-Conhaim.
120. Conference on Risks, Benefits, and Challenges of Human Research in Sleep Apnea, Johns Hopkins University, Baltimore, MD. Talk entitled: "Beneficial effects of intermittent hypoxia in animal models." March, 2012. Organizer: N. Punjabi.
121. American Physical Therapy Association - Section on Research; Regenerative Medicine and Rehabilitation; Beaver Hollow, New York. August, 2012; Host: C. Patten.
122. Oxford Conference, Arnhem, Netherlands. "Multiple pathways to phrenic motor facilitation: functional implications." August, 2012; Organizers: H. Subramanian.
123. Reeve-Irvine Center for Spinal Cord Injury Research. Seminar entitled: "Spinal motor plasticity following intermittent hypoxia: implication for spinal cord injury." October 8, 2012. Host: O. Steward.
124. Cayman X: Peptides in Health and Disease. Lead session entitled: "Neuronal plasticity: what starts the ball rolling?" Turks and Caicos, November 6-10, 2012. Organizers: R. Salmon and A. Ferguson.
125. Seminar at The Ohio State University, Neuroscience Seminar, "Spinal plasticity following intermittent hypoxia: implications for spinal injury." January, 2013. Host: P. Popovich.
126. Seminar at Case Western Reserve University, Department of Physiology Seminar, "Spinal plasticity following intermittent hypoxia: implications for spinal injury." February, 2013. Host: C. Smith.
127. Seminar at University of Kentucky, Spinal Cord Injury and Brain Injury Center, "Spinal plasticity following intermittent hypoxia: implications for spinal injury." March 13, 2013. Host: A. Rabchevski.
128. Spring Conference for Brain Research, Sedona, AZ, March 20-23, 2013. Symposium speaker: "Learning to breathe (and walk) after spinal cord injury." Symposium: New insights into the control of breathing.
129. Grand Rounds, Pulmonary and Critical Care Medicine, University of California, San Diego. "Respiratory motor plasticity following intermittent hypoxia: time to translate." August 22, 2013, Host: A. Malhotra.
130. Seminar at University of Florida, Department of Physical Therapy, "Breathing and walking after spinal cord injury: translating novel therapeutic approaches." December, 2013, Host: D. Fuller.

131. International Symposium on Neural Regeneration, Asilomar, CA, December, 11-15, 2013. "Intermittent hypoxia improves respiratory (and non-respiratory) motor function with chronic, incomplete cervical injury."
129. Seminar: Department of Neuroscience, Baylor College of Medicine. "Intermittent hypoxia induces spinal motor plasticity, implications for spinal cord injury." January, 2014. Host: R. Ray.
130. Seminar: Department of Physiology, Northwestern University, "Intermittent hypoxia induces spinal motor plasticity: implications for spinal cord injury." January, 2014. Host: D. McCrimmon.
131. Julius H. Comroe, Jr. Distinguished Lecturer of the Respiration Section. Experimental Biology Meeting, San Diego, CA. April 29, 2014.
132. Plenary talk: "Inspiration from Victoria and Louise: "Time domains of the hypoxic ventilatory response and what we can do with them!" SEB satellite conference on "Fueling the Fire of Life: A tribute to the Career of Prof. Bill Milsom," June 24-27th, 2014, Scotland.
133. Keynote speaker: "Spinal plasticity following intermittent hypoxia: breathing and walking after spinal injury." Pan American Conference of Physiology, Iguassu Falls, Brazil, August 2-6, 2014.
134. Spinal Research Network Meeting, International Spinal Research Trust. "Mechanisms of intermittent hypoxia-induced functional recovery after spinal cord injury," London, UK, September 5, 2014.
135. LifeScience Svedberg Seminar Series, "Intermittent hypoxia induced motor facilitation: implications for spinal injury and motor neuron disease," Upsala University, Sweden, September 8, 2014, host: Elena Kozlova.
136. Arthur C. Guyton Distinguished Lectureship Awardee, Gamboa Rainforest Resort, Panama, December 4-7, 2014. Host: N. Delamere, President of Association of Chairs of Departments of Physiology (ACDP).
137. Experimental Biology, Featured speaker: "Diverse cellular mechanisms of respiratory motor plasticity: functional implications," Session on "Spinal Plasticity," Boston, April, 2015.
138. Experimental Biology, Lecture: "The brain and respiratory system," Session on "It's all in your head - A refresher course on the brain and systems control," Boston, April, 2015.
139. Society for the Neural Control of Movement satellite meeting: Neural Mechanisms of Rehabilitation. "Harnessing intermittent hypoxia-induced spinal motor plasticity: breathing and walking after spinal injury," Charlston, S.C. April, 2015.
140. Center for Integrative Brain Research, Seattle Children's Research Institute; "Intermittent hypoxia induced spinal plasticity: breathing and walking after spinal injury. Seattle, WA September, 2015.
141. Miami Project to Cure Paralysis, "Intermittent hypoxia induced spinal plasticity: breathing and walking after spinal injury." Miami, FL, October 2015, Host: D. Dieterich.
142. Alley Memorial Lecture, Department of Health and Human Physiology, University of Iowa, "Intermittent hypoxia induced spinal plasticity: implications for spinal injury." February, 2016. Host. M. Bates.

143. Organizer, symposium on “Neurostimulation to Restore Breathing with Neuromuscular Disorders,” Experimental Biology, San Diego, CA, April, 2016
144. Conference on: Preconditioning: Adaptive Responses in Biology and Medicine, “Intermittent hypoxia induced spinal motor plasticity: implications for spinal injury.” University of Massachusetts, April, 2016.
145. FASEB Conference on Neural Mechanisms in Cardiovascular Regulation: Novel Research and Disease Treatment Strategies, “Intermittent hypoxia and spinal plasticity: implications for spinal cord injury.” Saxton’s River, VT, July 2016.
146. Organizer and Speaker, Workshop on Therapeutic intermittent hypoxia and functional recovery of respiratory and non-respiratory motor function with chronic, incomplete SCI: a “road map” to clinical translation. Atlantic Beach, FL, July, 2016.
147. Symposium speaker at Annual meeting of the Paralyzed Veterans of America, “Sleep Disorders in Spinal Cord Injury: Challenges and Opportunities.” “Intermittent hypoxia induced motor plasticity: walking and breathing after spinal injury.” Orlando, FL, August, 2016.
148. Invited Seminar at the University of Versailles, U1176 INSERM, France. “Intermittent hypoxia and spinal plasticity: walking and breathing after spinal injury.” September 13, 2016. Host: S. Vinit, PhD.
149. Invited speaker, 3rd International Neurosciences Conference: in tribute to Laurent Vinay, Spinal cord research from bench to bedside. Talk entitled: “Doing more with less: harnessing plasticity to treat spinal injury.” Marseilles, France, September, 16, 2016. Host: Professor F. Brocard
150. Featured Speaker, Annual meeting of the Veterinary Comparative Respiratory Society, Michigan State University, E. Lansing, MI, September, 2016. Host: S. Carey, DVM/PhD.
151. Invited speaker, 1st Annual Neuroengineering Symposium, “Intermittent hypoxia induced spinal plasticity and functional recovery from spinal injury.” University of Miami, FL. October, 2016. Hosts: M. Perez and D. Dieterich.
152. Cayman XI: Peptides in Health and Disease. “Tricking the transcriptome.” Turks and Caicos, November, 2016. Organizers: R. Samson and A. Ferguson.
153. Invited seminar, Department of Physiology and Pharmacology, University of South Florida, "Intermittent hypoxia and spinal plasticity: breathing and walking after spinal injury;" January 2017. Hosts: K. Morris and T. Taylor-Clark.
154. Symposium, Combined Sections Meeting, Am. Physical Therapy Association, “Intermittent hypoxia and spinal plasticity: breathing and walking after spinal injury.” February 2017. Organizer: M. Eastlack
155. Featured speaker, Center for Physiological Genomics of Low Oxygen, University of California at San Diego; “Intermittent hypoxia induced neuroplasticity: restoring breathing and walking after spinal injury,” March, 2017; Organizer: T. Simonson.
156. Symposium, “Bench to Bedside: central neuromodulation in the control of breathing in animals and humans.” Exp. Biology, Chicago, IL, April 2017. Co-chair with F. Garcia.
158. Keynote Lecture, Association of Spinal Injury of America (ASIA), “Can we harness spinal plasticity triggered by intermittent hypoxia to improve breathing and walking after spinal cord injury? Albuquerque, NM, April 2017.

159. Discussion Facilitator, Association of Spinal Injury of America (ASIA), round-table discussion: “Bench to Bedside and Back: Barriers to Clinical Translation;” Albuquerque, NM, April, 2017.
160. Seminar, Department of Physiology, Emory University. “Compensatory respiratory plasticity in motor neuron disease: the trick is to keep breathing.” May, 2017. Host, S. Garraway.
161. Two symposia organized, Oxford Conference on Modeling and the Control of Breathing, Oxford, UK, September 2017. Speaking in session on: “Breathing with neuromuscular disease: causes and compensation” on “Compensatory respiratory plasticity in ALS: the trick is to keep breathing.” Oxford, UK. September, 2017.
162. Plenary Lecture, Oxford Conference on Modeling and the Control of Breathing, Oxford, UK, September 2017. “Intermittent hypoxia induced respiratory plasticity: mechanisms and applications.”
163. Plenary Lecture Canadian Spinal Cord Injury Rehabilitation Association, Niagra Falls, Ontario, Canada, November, 2017.
164. Speaker and Organizer, Therapeutic Intermittent Hypoxia Retreat, an international conference held in Gainesville, FL. April 15-17, 2018.
165. Plenary speaker, International Collaboration for Repair Discoveries (ICORD), ICORD Trainee Symposium, Vancouver, Canada. May 7-11, 2018.
166. Speaker for Spinal Cord Injury Special Interest Group, Canadian Association of Physical Medicine & Rehabilitation, Whitehorse, Yukon, Canada, May 31, 2018.
167. Seminar at the Department of Physiology, University College-Cork, June 23, 2018.
168. Symposium speaker, International Spinal Research Trust, London, UK, Sept. 7-8, 2018.
169. Featured Speaker, International Society for the Advancement of Respiratory Psychophysiology, Gainesville, FL, October 12-14, 2018.
170. Speaker, SFN Satellite Symposium, Spinal Cord Plasticity in Motor Control, San Diego, November 2, 2018.
171. Seminar, University of North Texas Health Science Center, Host: S. Mifflin, January 18, 2019.
172. Organizer of Conference: Conversations in Breathing, Swallowing, Speech and Sleep, Jacksonville, FL, February 10-14, 2019.
173. Speaker in symposium on “Modulation and Plasticity of Breathing,” Physiology Without Borders: Panam-2019. May 27-31, Havana, Cuba (organized by J. Feldman).
174. Featured speaker, Neurotherapeutics Symposium, Rochester, NY, July 15-17, 2019.
175. Workshop speaker; Therapeutic Intermittent Hypoxia, Rehabilitation Week, Toronto, Canada. June 24-28 (organized by M. Perez and W.Z. Rymer).
176. Seminar, Hotchkiss Brain Institute, University of Calgary, Host: R. Wilson and P. Whelan, September, 2019.
177. Speaker in symposium on therapeutic intermittent hypoxia, Combined Sections Meeting, American Physical Therapy Association, February 12-15, 2020.
178. Organizer, Neurotherapeutic Intermittent Hypoxia Workshop, Jacksonville, FL, February 9-12, 2020. An international gathering of scientists devoted to translation of “low dose” intermittent hypoxia as a therapeutic modality.

179. Online seminar for i-OSCIRS (international online spinal cord injury research seminars). Neurotherapeutic intermittent hypoxia after SCI: optimizing protocols through mechanistic understanding. April 30, 2020.
180. Seminar at the University of Louisville (Neuroscience), “Mechanisms and Implications of Intermittent Hypoxia Induced Spinal Motor Plasticity: Breathing and Walking after Spinal Cord Injury,” October, 2020 (virtual).
181. Lecturer, University of Sao Paulo, Brazil, “Plasticity in Respiratory Motor Control,” November 11, 2020 (Hosts: L. Gargaglioni and D. Zoccal).
182. Speaker, American Spinal Injury Association Annual Meeting (virtual). “Predictive value of animal research experiments for emerging clinical studies in spinal cord injury, October 5, 2020 (Moderator: K. Fouad).
183. Seminar, Erciyes University Genome and Stem Cell Institute/Neuroscience Programme, Kayseri, Turkey. Host: K. Erdem Basaran. April, 2021.
184. Panel discussion: International Online Spinal Cord Injury Seminars (I-OSCIRS). A panel on science communication and engagement. April 6, 2021.
185. Seminar, Burke Neurological Institute, Weil Cornell Medical Center, White Plains, NY. Host: R. Ratan. May, 2021.
186. Keynote Speaker, Research Day, Department of Pharmacology and Physiology, University of South Florida, December 15, 2021.
187. Organizer of international, online “Neurotherapeutic intermittent hypoxia workshop;” January 7 and January 14, 2022. Organizer, Moderator and Discussion Leader in workshop to accelerate translation of “low dose” intermittent hypoxia as a therapeutic modality.
188. Speaker: “Therapeutic acute intermittent hypoxia to restore breathing (and non-respiratory function) with spinal injury and ALS.” In: Symposium on “Novel therapeutics to target respiratory compromise in neuromuscular and neurodegenerative disease”, International Union of Physiological Sciences: “Marvels of Life – Integration and Translation”. Beijing, China (virtual), May 11, 2022.
189. Subject matter expert and moderator, Neuroplasticity of Respiration, Decoding Neuroplasticity and Volitional Respiratory Control: Highlighting Future Warfighter Performance Virtual Workshop. July 6, 2022
190. Speaker, International Online Seminars on the Control of Breathing and Airway Defense (CoBAD). “Respiratory motor plasticity following acute intermittent hypoxia: the yin (serotonin) and the yang (adenosine).” July 8, 2022.
191. Seminar speaker, “Respiratory motor plasticity following acute intermittent hypoxia: the yin (serotonin) and the yang (adenosine).” Shirley Ryan Ability Lab, Chicago, IL; host Monica Perez. August 25-26, 2022.
192. Seminar speaker, Spinal Cord Injury Lecture Series “Therapeutic acute intermittent hypoxia and spinal cord injury: in the translational “flywheel”. Spaulding Rehabilitation Hospital/Harvard, Boston, MA. Host R. Trumbower. September 14-17, 2022.
193. Plenary Speaker. “Mechanisms and implications of phrenic motor plasticity: the “translational flywheel.” Oxford Conference for Modeling and Control of Breathing, Odawara, Japan (10/15 to 10/22, 2022).
194. SFN Satellite on “Neuromodulation for engaging and enhancing spinal cord plasticity;” Sponsor: National Center of Neuromodulation and Rehabilitation. San Diego, CA (11/22).

195. Keynote Speaker, XVII International Symposium on Sleep and Breathing, Auckland, NZ March 12-15, 2023.
195. TRIP Session, American Spinal Injury Association (ASIA). Combinatorial treatments for spinal cord injury; ‘Combinatorial treatments to enhance therapeutic acute intermittent hypoxia; Atlanta, GA. April 12-16, 2023 (organizer: M. Perez).
196. TRIP Session, American Spinal Injury Association (ASIA). Physiological targets of therapeutic acute intermittent hypoxia; Introduction. Atlanta, GA, April 12-16, 2023 (organizers: C. West and R. Trumbower).
197. Seminar, Department of Anesthesiology & Physiology, CVR group. University of Toronto & Thornhill Medical, Toronto, Canada. May 10, 2023 (Host: Joe Fischer).
198. Keynote Speaker, “In the Translational Flywheel: Therapeutic Acute Intermittent Hypoxia and Spinal Cord Injury;” Kentucky Congress on Spinal Cord Injury (KSCHIRT), Lexington, KY; May 2023.
199. Seminar, Neuroscience Cluster Seminar, University of Warwick, UK; Host: Robert Huckstepp. June 15th, 2023 (virtual).

Pending lectures/conference organization:

- Congenital Central Hypoventilation Disorder Conference, Orlando, FL, September 2023.
- Seminar, Department of Cellular and Physiological Sciences, University of British Columbia, Okanagan, Kelowna. Host: Chris West (pending).
- Seminar, Department of Pharmacology, University of Michigan; Host: Erica Levitt (December 13, 2023).

PATENTS

1. P04058US “Trophic Factor Cocktails for Nervous System Treatment.” August, 2005 (co-inventors: G. Mitchell, C. Murphy, J. McAnulty).
2. P150330US01 “The use of trans-retinoic acid to treat central neural apneas and impaired breathing capacity.” (co-inventors: D. Fields, T. Baker, G. Mitchell), 2021.

PUBLICATIONS

- **H index: 77**
 - **H index in past 5 years: 45**
 - **i10 index: 268**
 - **i10 index in past 5 years: 155**
1. Osborne, J.L., G.S. Mitchell and F.L. Powell (1977). Ventilatory responses to CO₂ in the chicken: Intrapulmonary and systemic chemoreceptors. *Respir. Physiol.* 30: 369-382.
 2. Osborne, J.L. and G.S. Mitchell (1977). Regulation of arterial PCO₂ during inhalation of CO₂ in chickens. *Respir. Physiol.* 31: 357-364.
 3. Osborne, J.L. and G.S. Mitchell (1978). Ventilatory responses during arterial homeostasis of PCO₂ at low levels of inspired carbon dioxide. In: *Respiratory Function in Birds, Adult and Embryonic*. Ed. J. Piiper. Berlin: Springer-Verlag, p. 168-174.

4. Mitchell, G.S. and J.L. Osborne (1978). Avian intrapulmonary chemoreceptors: respiratory response to a step decrease in PCO₂. *Respir. Physiol.* 33: 251-261.
5. Osborne, J.L. and G.S. Mitchell (1978). Intrapulmonary and systemic CO₂-chemoreceptor interaction in the control of avian respiration. *Respir. Physiol.* 33: 349-57.
6. Mitchell, G.S. (1978). Regulation of the Arterial Carbon Dioxide Tension During Inhalation of Carbon Dioxide in Birds and Mammals. Ph.D. Dissertation, University of California, Irvine.
7. Mitchell, G.S. and J.L. Osborne (1979). Ventilatory responses to carbon dioxide inhalation after vagotomy in chickens. *Respir. Physiol.* 36: 81-88.
8. Mitchell, G.S. and J.L. Osborne (1980). A comparison between carbon dioxide inhalation and increased dead space ventilation in chickens. *Respir. Physiol.* 40: 227-239.
9. Gleeson, T., G.S. Mitchell and A.F. Bennett (1980). Cardiovascular responses to graded activity in the lizards *Varanus* and *Iguana*. *Am. J. Physiol.* 239: R174-R179.
10. Mitchell, G.S., B.A. Cross, T. Hiramoto and P. Scheid (1980). Effects of intrapulmonary CO₂ and airway pressure on phrenic activity and pulmonary stretch receptor discharge in dogs. *Respir. Physiol.* 41: 29-48.
11. Mitchell, G.S., T.T. Gleeson and A.F. Bennett (1981). Ventilation and acid-base balance during graded activity in lizards. *Am. J. Physiol.* 240: R29-R37.
12. Mitchell, G.S., T.T. Gleeson and A.F. Bennett (1981). Pulmonary oxygen transport during activity in lizards. *Respir. Physiol.* 43: 365-375.
13. Mitchell, G.S., B.A. Cross, T. Hiramoto and P. Scheid (1982). Interactions between lung stretch and PaCO₂ in modulating ventilatory activity in dogs. *J. Appl. Physiol.* 53: 185-191.
14. Mitchell, G.S., C.A. Smith, L.C. Jameson, E.H. Vidruk and J.A. Dempsey (1983). The effects of p-chlorophenylalanine on ventilatory control in goats. *J. Appl. Physiol.* 54: 277-283.
15. Smith, C.A., G.S. Mitchell, L.C. Jameson, T.I. Musch and J.A. Dempsey (1983). Ventilatory response of goats to treadmill exercise: grade effects. *Respir. Physiol.* 54: 331-341.
16. Musch, T.I., J.A. Dempsey, C.A. Smith, G.S. Mitchell and N.T. Bateman (1983). Metabolic acid production and pH regulation in brain tissue during acclimatization to chronic hypoxia. *J. Appl. Physiol.* 55: 1486-1495.
17. Dempsey, J.A., G.S. Mitchell and C.A. Smith (1984). Exercise and chemoreception. *Am. Rev. Respir. Dis.* 129: 531-534.
18. Smith, C.A., L.C. Jameson, G.S. Mitchell, T.I. Musch and J.A. Dempsey (1984). Central-peripheral chemoreceptor interaction in the awake CSF-perfused goat. *J. Appl. Physiol.* 56: 1541-1549.
19. Mitchell, G.S., C.A. Smith and J.A. Dempsey (1984). Changes in the V_I:VCO₂ relationship during exercise: Role of carotid bodies. *J. Appl. Physiol.* 57: 1894-1900.
20. Dempsey, J.A., E.H. Vidruk and G.S. Mitchell (1985). Pulmonary control systems in exercise: Update. *Federation Proc.* 44: 2260-2270.
21. Mitchell, G.S. and T.T. Gleeson (1985). Acid-base balance during lactic acid infusion in the lizard *Varanus salvator*. *Respir. Physiol.* 60: 253-266.

22. Mitchell, G.S. and E.H. Vidruk (1985). Neural and humoral factors in the control of tracheal caliber. *J. Appl. Physiol.* 59: 198-204.
23. Nielsen, A., G. E. Bisgard and G.S. Mitchell (1986). Phrenic nerve responses to hypoxia and CO₂ in decerebrate dogs. *Respir. Physiol.* 65: 267-283.
24. Mitchell, G.S. (1987). Effects of hypoxemia on phrenic nerve responses to static lung inflation in anesthetized dogs. *Respir. Physiol.* 67: 183-195.
25. Mitchell, G.S. and B.D. Selby (1987). Effects of carotid denervation on interactions between lung inflation and PaCO₂ in modulating phrenic activity. *Respir. Physiol.* 67: 367-378.
26. Mitchell G.S. and E. H. Vidruk (1987). Effects of hypercapnia on phrenic and stretch receptor responses to lung inflation. *Respir. Physiol.* 68: 319-330.
27. Ludders, J.W., G.S. Mitchell and S.L. Schaefer (1988). Minimum anesthetic dose and cardiopulmonary response for halothane in chickens. *Am. J. Vet. Res.* 49: 929-932.
28. Mitchell, G.S. and B.D. Selby (1988). Ventilatory responses to lung inflation and arterial CO₂ in halothane anesthetized dogs. *J. Appl. Physiol.* 64: 1433-1438.
29. Douse, M.A. and G.S. Mitchell (1988). Temperature effects on CO₂-sensitive intrapulmonary chemoreceptors in the lizard, *Tupinambis nigropunctatus*. *Respir. Physiol.* 72: 327-342.
30. Powell, F.L., W.K. Milsom and G.S. Mitchell (1988). Effects of intrapulmonary CO₂ and airway pressure on pulmonary vagal afferent activity in the alligator. *Respir. Physiol.* 74: 285-298.
31. McLean, H.A., G.S. Mitchell, and W.K. Milsom (1989). Effects of prolonged inflation on pulmonary stretch receptor discharge in turtles. *Respir. Physiol.* 75: 75-88.
32. Ludders, J.W., J. Rode and G.S. Mitchell (1989). Isoflurane anesthesia in Sandhill cranes (*Grus canadensis*): Minimum anesthetic level and cardiopulmonary dose response during spontaneous and controlled breathing. *Anesthesia and Analgesia* 68: 511-516.
33. Ludders, J.L., J.A. Rhode, G.S. Mitchell and E.V. Nordheim (1989). Effects of ketamine, xylazine and a combination of ketamine and xylazine in Pekin ducks. *Am. J. Vet. Res.* 50: 245-249.
34. Schaefer, S.L. and G.S. Mitchell (1989). Ventilatory control during exercise with peripheral chemoreceptor stimulation: hypoxia versus domperidone. *J. Appl. Physiol.* 67: 2438-2446.
35. Douse, M.A., F.L. Powell, W.K. Milsom, and G.S. Mitchell (1989). Temperature effects on pulmonary receptor responses to airway pressure and CO₂ in *Alligator mississippiensis*. *Respir. Physiol.* 78: 331-343.
36. Ludders, J.W., G.S. Mitchell and J. Rode (1990). Minimal anesthetic dose (MAD) and cardiopulmonary dose-response of isoflurane in ducks. *Vet. Surgery* 19: 304-307.
37. Mitchell, G.S. (1990). Phrenic responses to lung inflation and hypercapnia in decerebrate dogs. *Pflügers Archiv.* 416: 580-585.
38. Mitchell, G.S., M.A. Douse and K.T. Foley (1990). Receptor interactions in modulating ventilatory activity. *Am. J. Physiol.* 259: R911-R920.
39. Mitchell, G.S. (1990). Ventilatory control during exercise with increased respiratory dead space in goats. *J. Appl. Physiol.* 69: 718-727.

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41. Warner, M.M. and G.S. Mitchell (1990). Ventilatory responses to hyperkalemia and exercise in normoxic and hypoxic goats. *Respir. Physiol.* 82: 239-249.
42. Douse, M.A. and G.S. Mitchell (1990). Episodic respiratory related discharge in turtle cranial motoneurons: *in vivo* and *in vitro* studies. *Brain Res.* 536: 297-300.
43. Jiang, C., G.S. Mitchell and J. Lipski (1991). Prolonged augmentation of respiratory discharge in hypoglossal motoneurons following superior laryngeal nerve stimulation. *Brain Res.* 538: 215-225.
44. Douse, M.A. and G.S. Mitchell (1991). Time course of temperature effects on arterial acid-base status in *Alligator mississippiensis*. *Respir. Physiol.* 83: 87-102.
45. Warner, M.M. and G.S. Mitchell (1991). Role of catecholamines and alpha-receptors in the ventilatory response during hypoxic exercise. *Respir. Physiol.* 85: 41-53.
46. Douse, M.A. and G.S. Mitchell (1992). Episodic breathing in alligators: role of sensory feedback. *Respir. Physiol.* 87: 77-90.
47. Douse, M.A. and G.S. Mitchell (1992). Effects of vagotomy on ventilatory responses to CO₂ in alligators. *Respir. Physiol.* 87: 63-76.
48. Nelson, J.A. and G.S. Mitchell (1992). Blood chemistry response to acid-exposure in yellow perch (*Perca flavescens*): Comparison of populations from naturally acidic and neutral environments. *Physiol. Zool.* 65: 493-514.
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MANUSCRIPTS SUBMITTED

- Gonzalez-Rothi EJ*, LL Allen*, YB Seven, MC Ciesla, AE Holland, JV Santiago and GS Mitchell. Prolonged intermittent hypoxia differentially regulates phrenic motor neuron serotonin receptor expression in rats following chronic cervical spinal cord injury. *Neurosci.* (submitted).
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- Sajjadi, E, Y.B. Seven, J.G. Ehrbar, N.J. Napoli, J. Wymer, G.S. Mitchell and B.K. Smith. Differential Recruitment Patterns of Respiratory Muscles in People with ALS.
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