

RANU JUNG, PHD

ADDRESS

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EDUCATION

1993-1995 Postdoctoral fellow of National Institute of Neurological Disorders and Stroke at University of Maryland, College Park, MD, USA
Postdoctoral Mentor: Avis Cohen, PhD; Field of Study: Neuroscience

Jan. 1991 PhD, Case Western Reserve University, Cleveland, OH.
Advisor: Peter G. Katona, ScD; Field of Study: Biomedical Engineering
Thesis title: *Ventral Medullary Organization for Cardio-Respiratory Control*

May 1986 MS, Case Western Reserve University, Cleveland, OH.
Advisor: Peter G. Katona, ScD; Field of Study: Biomedical Engineering
Thesis title: *Arterial Pressure and Respiratory Responses to Slow Ramp Carotid Sinus Pressures in the Dog.*

April 1982 Bachelor of Technology with Distinction, National Institute of Technology (Previously REC), Warangal, Andhra Pradesh, India. Field of Study: Electronics and Communication Engineering

EXPERIENCE

ACADEMIC

University of Arkansas, Fayetteville, AR

2021-present Founding Executive Director and Endowed Chair, Institute for Integrative and Innovative Research (I³R)
Distinguished Professor of Biomedical Engineering | Associate Vice Chancellor

Florida International University, Miami, FL

2011-2021 Wallace H. Coulter Eminent Scholars Endowed Chair in Biomedical Engineering.
2011-15; 2017-2021 Professor and Chair, Department of Biomedical Engineering, College of Engineering and Computing.
<https://cec.fiu.edu/about/annual-reports/annual-report-2014/biomedical-engineering/>
<https://bme.fiu.edu/wp-content/uploads/2018/01/2014-2015-BME-Annual-Report.pdf>

2015-2017 Interim Dean, College of Engineering and Computing (07/01/15-07/27/17)
<https://cec.fiu.edu/wp-content/uploads/2017/08/2015-2017-performance-review-annual-report-080917.pdf>

Arizona State University, Tempe, AZ

2011-2013 Adjunct Faculty, Center for Adaptive Neural Systems, School of Biological and Health Systems Engineering.

2002-2010 Co-Founder & Director, Center for Adaptive Neural Systems, ASU (Previously, Center for Rehabilitation Neuroscience and Rehabilitation Engineering, The Biodesign Institute); Reportable to Arizona Board of Regents, January 2008).
Associate Professor (with tenure), Harrington Department of Bioengineering / School of Biological and Health Systems Engineering.

2005-2010 Affiliated Associate Professor, Department of Electrical Engineering / School of Electrical, Computer and Energy Engineering.

2008-2010 | Member of Graduate Faculty of Mathematics, Bioengineering, Electrical Engineering and Neuroscience.

University of Kentucky, Lexington, KY

2002-2004 | Adjunct Associate Professor, Center for Biomedical Engineering
2001-2002 | Associate Professor (with tenure), Center for Biomedical Engineering
Joint appointment in Dept. of Electrical and Computer Engineering
Joint appointment in Department of Physiology
2000-2002 | Affiliated Faculty, Spinal Cord and Brain Injury Research Center
1997-2001 | Assistant Professor, Center for Biomedical Engineering
Joint appointment in Department of Electrical Engineering
Joint appointment in Department of Physiology
1995-1997 | Assistant Research Professor, Center for Biomedical Engineering
Joint appointment in Department of Physiology

University of Maryland, College Park, MD

1993-1995 | Research Associate, Department of Zoology
NIH Individual National Research Service Award Fellow

Case Western Reserve University, Cleveland, OH

1991-1992 | Research Associate and Technical Director, Small-Animal Lab. Dept. of Medicine (Cardiology)
N.E. Ohio American Heart Association Research Fellow
1989-1990 | Research Assistant, Department of Medicine (Cardiology)
1983-1989 | Graduate Research Assistant, Department of Biomedical Engineering
1985-86,88 | Instructor, Integrated Human Biology (cardiovascular laboratory), School of Medicine
1985-1986 | Instructor, Undergraduate Biomedical Engineering Lab. (cardiovascular physiology), Department of Biomedical Engineering

INDUSTRIAL AND NON-PROFIT

2015-2017 | Vice President, FIU Research Foundation Inc.
2004-present | Co-Founder and President, Advensys LLC, Scottsdale, AZ.
2006-2009 | President, Organization for Computational Neurosciences, Inc. 501(c)(3) with International Board and Executive Committee.
1988-1989 | Consultant, Gensia Pharmaceuticals Inc., San Diego, CA.

TRAINEE

1992 | Trainee in Computational Neuroscience, Marine Biological Laboratory, Woods Hole, MA.
NIH National Research Training Award Fellow (Summer)
1980 | Summer trainee, Instrument Techniques Private Limited, Hyderabad, AP, India.

LEADERSHIP TRAINING

Oct-Dec 2020 | “Oxford Women’s Leadership Development Programme”, University of Oxford, Saïd Business School. Online course. Certificate of completion.
October 2018 | “Bystander Leadership Workshop”, Office to Advance Women, Equity & Diversity, Florida International University.
October 2017 | 2017 NSF ADVANCE|GSE Program Workshop, Broadening Participation: *Intersectionality*, to “discuss the role intersectionality plays in driving systemic change and fostering gender equity in the academy.” Sponsored by Association for Women in Science (AWIS)
March 2016 | ENGgender Workshop 2016; Sponsored by the Leona M. and Harry B. Helmsley Charitable Trust in cooperation with the American Society for Engineering Education, to “explore pathways for institutional cultural shifts needed to increase the number of undergraduate women in engineering, and propose a platform to implement this transformation”.

Sep 2014	Institute for Academic Leadership, Department Chairs Workshops. Howey-in-the-Hills, FL.
Jan-May 2010	“Leadership Development Initiative” of the “Office for Developing Transformational Leaders”, Arizona State University (1 of 13 faculty selected from 6 colleges by University Provost).
Oct ‘04-Feb ‘05	“Executives Leading Sustainable Change”, 4-day on-site training followed by 4 months of personal coach training provided by the “Institute for Women’s Leadership” (1 of 2 women chosen for training by Director of the Biodesign Institute at Arizona State University).

RESEARCH and TEACHING INTERESTS

Neural Engineering
 Computational Neuroscience
 Neurophysiological control of sensorimotor and autonomic systems
 Neurotrauma
 Dynamical Systems
 Signal Processing

AWARDS – ACADEMIC RECOGNITION and DISTINCTION

2022	Lifetime Fellow , American Association for the Advancement of Science (AAAS), Class of 2021. <i>“for distinguished contributions in inspired technologies for humans for recovery and restoration of lost function, and development of the first wireless, implantable, intraneural-interface system for haptic restoration on upper-limb amputation.”</i>
2021	Doctor Technices Honoris Causa, Aalborg University, Denmark. April 15, 2021 <i>“For Her Distinguished Efforts in The Field of Biomedical Engineering, Neural Engineering and Neurophysiological Control For Rehabilitation”</i>
2020	Fellow , Biomedical Engineering Society (BMES), Class of 2020.
2017	Fellow , National Academy of Inventors (NAI), Class of 2017. <i>“have demonstrated a highly prolific spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on quality of life, economic development, and the welfare of society.”</i>
2013	Fellow , American Institute for Medical and Biological Engineering (AIMBE), Class of 2013. <i>“for outstanding contributions to developing novel physiology-based orthopedic devices, and for fostering academic and industrial interactions to advance neuro-engineering”.</i>
2020	Cade Prize for Innovation , 3 rd place for lab team, September 30, 2020. (Out of 21 finalists) https://www.cademuseum.org/cade-museum-prize.html Full Member, Sigma Xi , July 2020. Laboratory team selected for eC3i and C3i Concept to Clinic: Commercializing Innovation Programs of the National Institutes of Health. June (eC3i) and August (C3i) 2020.
2019	National Advisory Council for Biomedical Imaging and Bioengineering of the National Institutes of Health , Appointed by the Secretary of Health and Human Services, USA. (Nov. 2019; 3-year term)
2019	“Giving Thanks for Biomedical Research” - Research featured by Dr. Francis Collins, Director, National Institutes of Health, in his Thanksgiving Blog. https://directorsblog.nih.gov/2019/11/26/giving-thanks-for-biomedical-research/
2019	2019 Health Care Heroes® Award , Finalist - Health Care Professional category. Greater Miami Chamber of Commerce, Miami, FL. May 21, 2019.
2019	Science and Technology Award , 31 st annual <i>In the Company of Women Awards</i> , Miami-Dade County Commission for Women; for “South Florida women being recognized for their service, leadership and contributions to women”. March 7, 2019.

2019	Featured by National Institute of Biomedical Imaging and Bioengineering as an exceptional woman grantee on “International Day of Women and Girls in Science”, Feb 11, 2019. https://www.nibib.nih.gov/news-events/women-and-girls-in-science
2018	2018 Health Care Heroes® Award , Finalist - Health Care Professional category. Greater Miami Chamber of Commerce, Miami, FL. May 15, 2018.
2017	Certificate of Appreciation , Faculty Council of Governance, College of Engineering and Computing, Florida International University, April, 2017.
2016	Stetten Museum, National Institutes of Health exhibits the Neural Enabled Prosthesis in a permanent collection on “Rehabilitation with Bioengineering”, Building 31 (NIBIB), Bethesda, MD. Sept 2016.
2016	Torch Award , Outstanding Faculty Award presented to a faculty member who has made a lasting impression on the lives of FIU alumni, Florida International University. April 2016.
2016	Outstanding Support and Leadership Award , Society for Aerospace Engineering Student Chapter, College of Engineering and Computing, Florida International University. May 2016.
2015	Invited and Selected to be Member of the International Women’s Forum, (June 2015).
2013	Start-up company Advensys LLC, selected as one of four EARLY stage finalists to present at 2013 Southeast BIO Investor & Partnering Forum, Richmond, VA
2012	2012 Top Scholar , Florida International University.
2011	Endowed Chair - “WH Coulter Eminent Scholars Chair in Biomedical Engineering” , Florida International University, FL (Jan 2011-present).
2011	New Florida 2010 Scholars Boost Award , Board of Governors, FL.
2007	Faculty Honoree , Ira A. Fulton School of Engineering 2006-2007. Arizona State University, Tempe, AZ.
2006	Senior Member (elected); Institute of Electrical and Electronics Engineers (IEEE), Inc.
2002	2002 Science and Engineering Award , <i>Governor’s Certificate of Recognition</i> , Commonwealth of Kentucky
1997	Whitaker Foundation Young Investigator Research Award .
1995	Senior Member (elected); Society of Women Engineers (SWE).
1993- 1995	Individual National Research Service Award (F32) ; National Institutes of Health (National Institutes of Neurological Disorders and Stroke).
1992	National Research Trainee Award ; National Institutes of Health; for training in <i>Methods in Computational Neuroscience</i> , Marine Biological Laboratory, Woods Hole, MA 02543.
1991-1992	N.E. Ohio Research Fellow . American Heart Association
1988	Award for slide and poster presentation, Biomedical Engineering Research Day, Case Western Reserve University, Cleveland, Ohio.
1977-1982	Gandhi Memorial Centenary Merit Scholarship (for five-years), Bhilai Steel Plant; Steel Authority of India, Ltd.
1981	Finalist ; All India student seminar and paper contest in electronics, held at Dept. of Electronics Engineering, Osmania University, Hyderabad, India.
1981	First prize , Technical talk. Competition held by Electronics and Communication Engineering Association, Regional Eng. College, Warangal, India.
1981	First prize , Technical Quiz. Competition held by Electronics and Communication Engineering Association, Regional Eng. College, Warangal, India.

HONORS – LEADERSHIP in ACADEMICS

2018 -2020	Chair of Academic Council, American Institute for Medical and Biological Engineering.
2019	Chair, National Institute of Biomedical Imaging and Bioengineering, Special Emphasis Panel/Scientific Review Group 2019 ZEB1 OSR-E-(O1) P41 Biomedical Technology Research Centers. 07/02/2019.

2018	Chair, National Institute of Biomedical Imaging and Bioengineering, Special Emphasis Panel/Scientific Review Group 2018 ZEB1 OSR-E-(O2) P41 Biomedical Technology Research Centers. 06/19/2018-06/21/2018.
2016-2017	Chair, 2017 Engineering Deans Institute Planning Committee.
2016-2018	Vice-Chair of Academic Council, American Institute for Medical and Biological Engineering. April 2016.
2015-2016	Planning Committee Member “ <i>Rehabilitation Research at NIH: Moving the Field Forward.</i> ” Trans NIH Rehabilitation Research Coordinating Committee initiative.
2014-2015	Chair, Research Advisory Committee, Division of Research, Florida International University.
2014	Chair, National Institute of Biomedical Imaging and Bioengineering, Special Emphasis Panel/Scientific Review Group 2014/05 ZEB1 OSR-C (M2) P41 Biomedical Technology Research Centers, 03/06/2014-03/07/2014.
2012	Chair, National Institute of Child Health and Human Development. Concept Review panel (Neural Interfaces: Improving Functional Outcomes), ZHD1-DSR-K (61), Mar 22, 2012

HONORS – BOARDS & COMMITTEES (INVITED)

2021	Scientific Advisory Board, Neuroscience and Mental Health Institute, University of Alberta, Canada.
2019-2020	Strategic Planning Working Group: <i>2021-2026 Strategic Plan: “Engineering the Future of Health”</i> . National Institute of Biomedical Imaging and Bioengineering, National Institutes of Health, Washington DC.
2020	External Advisory Board Member, Engineering for Professionals Applied Biomedical Engineering Program, Whiting School of Engineering, Johns Hopkins University, Baltimore, MD (July 24, 2020)
2019-present	External Advisory Board Member, NIH T32 Training Grant in Computational Neural Engineering, Georgia Tech - Emory University, Atlanta, GA.
2018-2020	Board of Directors, American Institute for Medical and Biological Engineering
2016-2017	Board of Directors, Society of Brain Mapping and Therapeutics
2016-2019	Executive Board Member, STEM Transformation Institute, Florida International University.
2013-2015	Board of Directors, Florida International University Research Foundation, Inc.
2011-present	Scientific Advisory Board Member, NSF Engineering Research Center for Sensorimotor Neural Engineering, University of Washington.
2011-2016	External Advisory Board Member, NIH Blueprint Computational Neuroscience Training Program, Emory University, Atlanta, GA.
2011	Scientific Advisory Board Member, 3rd International Conference on Neuroprosthetic Devices, 25-26 Nov, 2011, Sydney, Australia.
2009-2011	Commissioner: <i>Biomedical Research Commission</i> , Office of Boards & Commissions, State of Arizona, Phoenix, AZ. Appointed by Governor Jan Brewer and confirmed by the State Senate. (3-yr term)
2008	Technical Advisory Board Member, Arkansas Science & Technology Authority, Little Rock, AR.
2006-2010	Member, President Michael Crow’s Academic Advisory Council, Office of the President, Arizona State University
2002	Founding Board of Directors, Organization for Computational Neurosciences, Inc. 501(c)(3) with International Board and Executive Committee.
1997-2002	Board of Directors, Rocky Mountain Bioengineering Symposium, Inc.
2018	Member, External Graduate Program Review Site Visit Team, Department of Bioengineering, Clemson University, April 24-26, 2018
2018	Member, External Graduate Program Review Site Visit Team, Department of Biomedical Engineering, University of Texas, Dallas, March 28-29, 2018.
2017	Member, External Review Committee, Department of Engineering Science and Mechanics, Pennsylvania State University, November 2017.

2017	Member, NSF-NICT Workshop: US-Japan Collaboration in Computational Neuroscience. Invited participant (1 of 10 US and 10 Japanese members) to guide establishment of a joint US-Japan program for Collaborative Research in Computational Neuroscience (National Institute of Information and Communications Technology (NICT, Japan) - National Science Foundation (NSF, USA), Osaka, Japan. January 2017.
2016	Member, Review Committee, European Research Commission, June 2016.
2016	Invited Panel Organizer, Moderator, and Speaker. "Rehabilitation Research at NIH: Moving the Field Forward (Day 1): Technology in Rehabilitation". May 25, 2016, Bethesda, MD https://videocast.nih.gov/launch.asp?19712
2015	Member, International Program Committee, 7 th International IEEE EMBS Neural Engineering Conference. 22 nd -24 th April 2015, Montpellier, France.
2015	Founding Faculty Fellow, STEM Transformation Institute, FIU, January 27, 2015
2014	Member of President's Steering Committee, FIU-Embrace, Florida International University
2014-2016	Member, American Institute for Medical and Biological Engineering (AIMBE) Scholars Program Selection Committee
2014-2016	Member, American Institute for Medical and Biological Engineering (AIMBE) "Neuroengineering and Physiological Engineering" committee for reviewing nominations of Fellows to the AIMBE College of Fellows.
2014	Member, Scientific Program Committee, ICNR2014 (The International Conference on NeuroRehabilitation), 24-26 June, Aalborg, Denmark.
2013	Invited Participant, NSF workshop "Mapping and Engineering the Brain", August, 2013, Washington DC. https://ieeexplore.ieee.org/document/6615987
2010	Invited Participant; US-EU workshop "Informatics for Bio-Inspired Design: Reverse Engineering of the Human Brain" (1 of 20 US participants; total 40), 23-26 May, 2010, Dubrovnik, Croatia.
2007	Invited to participate and prepare report on "Future Challenges for the Science and Engineering of Learning" by the US National Science Foundation, July 23-25, 2007, Washington, D.C. https://cnl.salk.edu/Media/NSFWorkshopReport.v4.pdf
2006	Selected Participant, 4th Annual National Academies Keck Futures Initiative Conference on "Smart Prosthetics: Exploring Assistive Devices for the Body and Mind".
2005	Invited Participant, Integrated Research Team meeting "NeuroProsthetics: Emerging Solutions for the Soldier and Society", U.S. Army Medical Research & Materiel Command's (USAMRMC) Telemedicine & Advanced Technology Research Center (TATRC), Oct 10-12, Marina del Rey, CA
2005	Invited Participant, DARPA Advanced Prostheses Workshop, January 10-11, 2005, Ellicott City, Maryland
1998	Invited participant, Institute for Mathematics and its Applications: <i>Computational Neuroscience</i> , University of Minnesota, Minnesota, MN.

PROFESSIONAL/CIVIC SOCIETY MEMBERSHIPS and OFFICES HELD

2020-present	Fellow (Elected 2020): Biomedical Engineering Society
2017-present	Fellow (Elected 2017): National Academy of Inventors
2013-present	Fellow (Elected 2013): American Institute for Medical and Biological Engineering (Approx. 1000 fellows, representing top 2% of the medical and biological engineering community worldwide)
2020	Full Member: Sigma Xi (by nomination)
2015-present	Member: IEEE Engineering in Medicine and Biology Society.
2015-present	Member (by invitation and selection only): International Women's Forum
2015-present	Member: American Society for Engineering Education
2012-present	Charter Member: National Academy of Inventors (Nov 14, 2012)

2002-present	Member: Organization for Computational Neurosciences (President 2006-2009; Board of Directors 2003-2005);
1987-present	Senior Member (Elected 2006): Institute of Electrical and Electronics Engineers Inc (Only 7% of the approx. 380,000 members are elected to this rank); Student member ('81-'82 (India), '87-'91); Member 1992, Senior Member 2006
1995-present	Senior Member: Society of Women Engineers
Since 1980's	Member: Biomedical Engineering Society
1991-present	Member: American Association for the Advancement of Science
1992-present	Member: Society for Neuroscience

AWARDS TO MENTORED STUDENTS

FLORIDA INTERNATIONAL UNIVERSITY (FIU)

Graduate

2021	Aliyah Shell, NSF, Honorable Mention, Graduate Research Fellowship Program. National Science Foundation, USA.
2020	Aliyah Shell, McKnight Fellowship, Florida Education Fund (starting Fall 2021). Md. Ashfaq Ahmed, Dissertation Year Fellowship, FIU.
2019	Aliyah Shell, NSF Bridge to Doctorate Fellowship, FIU Andres Pena, Dissertation Year Fellowship, FIU. Ricardo Siu, 3MT Thesis, College Finalist, College of Engineering and Computing Ricardo Siu, First Place (Oral Presentation), 9 th Annual Graduate Research Day, Dept. of Biomedical Engineering.
2018	Iian Black, Dissertation Year Fellowship, FIU. Ricardo Siu, Dissertation Year Fellowship, FIU. Iian Black, First Place, 8 th Annual Graduate Research Day, Dept. of Biomedical Engineering Ricardo Siu, First Place (Oral), FIU Graduate Student Symposium
2017-2018	Caitlyn Myland, Bridge to Doctorate Fellowship, FIU.
2017	Ricardo Siu, Third Place, FIU Graduate Student Appreciation Week Poster presentation
2017	Andres Pena, Graduate & Professional Student Committee travel award, FIU.
2016	Ricardo Siu, First Place, 6 th Annual Graduate Research Day, Dept. of Biomedical Engineering
2016	Andres Pena, Graduate & Professional Student Committee travel award, FIU.
2015	Ricardo Siu, First Place, 5 th Annual Graduate Research Day, Dept. of Biomedical Engineering
2015	Andres Pena, Second Place, 5 th Annual Graduate Research Day, Dept. of Biomedical Engineering
2013-2015	Iian Black, Presidential Fellowship, FIU.
2013-2014	Andres Pena, NSF Florida-Georgia Louis Stokes Alliance for Minority Participation Bridge to Doctorate Fellowship, FIU.

Undergraduate

2021	Heriberto (Andy) Nieves, Awarded (5-year Fellowship), Graduate Research Fellowship Program. National Science Foundation, USA.
2020	Heriberto (Andy) Nieves, Coulter Undergraduate Research Excellence scholarship, Department of Biomedical Engineering, FIU.
2019	Brigitte Manohar, Coulter Undergraduate Research Excellence scholarship, Department of Biomedical Engineering, FIU.

	Luis Herran, First Place, 2019 Conference for Undergraduate Research at FIU. Sepeher Soroushiani, Norman R. Weldon Scholarship, Department of Biomedical Engineering.
2018	Luis Herran, Coulter Undergraduate Research Excellence scholarship, Department of Biomedical Engineering. Valentina Dargam, Award, 2018 Conference for Undergraduate Research at FIU. Luis Herran, Award, 2018 Conference for Undergraduate Research at FIU.
2017	Francesca Riccio-Ackerman, Coulter Undergraduate Research Excellence scholarship, Department of Biomedical Engineering, FIU. Valentina Dargam, NACME Fellowship & Ronald E. McNair Fellowship, FIU; Braman Scholars Completion Grant Recipient.
2016	Diego Aguilar, 2 nd Place, Undergraduate Research Day, Department of Biomedical Engineering, February 19, 2016. Marisol Soula, <i>World's Ahead</i> scholar, Florida International University, May 10, 2016 Marisol Soula, <i>2016 Cuervo Prize</i> for excellence in Biological Sciences, FIU, May 10, 2016
2015	Elizabeth Gallardo, Barry Goldwater Scholarship Marisol Soula, 2nd Place Oral presentation, 2015 MARC U*STAR & MBRS RISE Mini-symposium
2014	Brett Davis, 1st place, Poster presentation McNair Research Conference, FIU. Andres Pena, Dean of Engineering Scholarship Award, FIU Juan Loayza, NACME Fellowship, FIU Brett Davis, NACME Fellowship, FIU
2013	Andres Pena, First place, Undergraduate Research Day, Department of Biomedical Engineering, March 2013. Rad Akhter, Vania Galarraga, Giovanni Giraldo, David Hojnacki, First Place, BME Summer 2013 Senior Design Expo and Competition, "Redesigned 1.5mm Hand Plate for A.L.P.S" ; Florida International University Tatiana Bejarno, Recipient of the Asociación de Ingenieros Cubanos/Association of Cuban Engineers (AIC/ACE) Momentum Consulting Corp. Scholarship
2012	Daniel Garcia, Christian Forment, Reynier Santos, Ricardo Siu, First Place, BME Spring 2012 Senior Design Expo and Competition, "Erekt-Alarm Posture Monitoring System"; FIU
2012-2016	Elizabeth Gallardo, FIU Biomedical Engineering Wallace H. Coulter Undergraduate Excellence Scholarship (2012-2016)

ARIZONA STATE UNIVERSITY (ASU)

Graduate

2008	Brian K. Hillen, Travel award, CNS2008, Portland, Oregon, Organization for Computational Neurosciences, Inc. USA
2007	Joe Graham, Travel award, CNS2007, Toronto, Canada, Organization for Computational Neurosciences, Inc. USA
2006	Mallika Mukherjee, Wakonse-Arizona Fellowship; ASU

Undergraduate

2010	Peter Bremer, Fulton Undergraduate Research Initiative Award, ASU Chad Andersen, Fulton Undergraduate Research Initiative Award, ASU Benjamin Speck, Fulton Undergraduate Research Initiative Award, ASU Jared Bartell, ASU/NASA Space Grant, ASU
2009	Peter Bremer, Fulton Undergraduate Research Initiative Award, ASU Jared Bartell, ASU/NASA Space Grant, ASU
2008	Robia Hendrix, ASU/NASA Space Grant, ASU Jared Bartell, ASU/NASA Space Grant, ASU
2007	Ashley Diamond, ASU/NASA Space Grant, ASU
2006-2009	Danielle Protas, School of Life Sciences Undergraduate Research Fellow, ASU

UNIVERSITY OF KENTUCKY (UKY)**Graduate**

2001	Anil Thota, Best Paper (2 nd prize), Rocky Mountain Bioengineering Symposium, Inc. USA
1999	Dan Li, Graduate Fellowship Award, 3 rd International Workshop on BioSignal Interpretation, Chicago, USA
1999	Sarvani Grandhe, President's Choice, Rocky Mountain Bioengineering Symposium, Inc. USA

Undergraduate

2002	Stefani Mulligan, Best Paper (2 nd prize), Rocky Mountain Bioengineering Symposium
1998	Casey McIntosh, Research Paper Award. Rocky Mountain Bioengineering Symposium
1997	Bradley Brewer, Research Paper Award. Southern Biomedical Engineering conference, <i>16th Southern Biomedical Engineering Conference</i> , Biloxi, MS.
	Bradley Brewer, Second place Award for Presentation. Southern Biomedical Engineering conference, <i>16th Southern Biomedical Engineering Conference</i> , Biloxi, MS.
1996	Casey McIntosh, Undergraduate Research and Creativity Award, University of Kentucky
1995	Bradley Brewer, Howard Hughes Medical Institute Undergraduate Research Fellowship, UKY

GLOBAL FIRSTS

- First to develop and fabricate a fully implantable, wirelessly controlled, intrafascicular peripheral nerve neurostimulation system to provide task-related sensory feedback to amputees from sensor instrumented myoelectric prostheses (Class-III medical device; Seven related patents; Investigational device exemption approved by FDA to conduct an early-feasibility clinical trial of the neural-enabled prosthesis system (2016))
- First to initiate a first-in-human early-feasibility clinical trial (NCT03432325) of the neural-enabled prosthesis system for long-term use in real-world environments (2018)
- First to design, develop and demonstrate a neuromorphic adaptive controller for diaphragmatic pacing (testbed: rodents with or without spinal cord injury; patent 2018; abstracts 2015, '16)
- First to design, develop and demonstrate use of a neuromorphic controller mimicking spinal pattern generators for control of a powered ankle-foot orthosis for people with lower limb injury (patent 2014)
- First to develop offset electrodes for directional recording of nerve activity (patent 2020)
- First to develop a rodent model for neuromuscular electrical-stimulation based limb movement (abstracts 2003, first manuscript 2008; set of 4 manuscripts).
- First to design, develop and demonstrate a biohybrid closed-loop system between the spinal cord and a neuromorphic electronic circuit (testbed: lamprey spinal cord; abstract 1999, manuscript 2001).
- First print publication of *Encyclopedia of Computational Neuroscience* (2015; electronic & 4 print volumes; Co Editor-in-Chief; (as of July 2021 - 237K Downloads, 221 Citations)

GRANTS & CONTRACTS

Successfully formed multi-institution partnerships between academia, industry and clinical units; led teams of multi-disciplinary investigators; secured extramural funding for infrastructure development (instrumentation and education) in addition to research projects.

\$ indicates direct plus indirect costs. Total awarded as sole PI/subcontract PI, Co-PI: \$27,112,063
Total awarded as sole PI, Co-PI, Co-I or participant: \$38,277,468

FIU- Florida International University

ASU- Arizona State University

WashU- Washington University in St. Louis

UNIVERSITY OF ARKANSAS (TRANSFERRED IN 2022 FROM FLORIDA INTERNATIONAL UNIVERSITY)

RESEARCH**Active**

03/01/19-12/31/23	NIH: R01EB023261-01A1 (Multi PI: Ranu Jung (FIU), James Abbas (ASU))	\$2,556,344
	<p><i>“Enhancing Sensorimotor Integration using a Neural-Enabled Prosthetic Hand System”</i></p> <p>The aim of this project is to conduct an early feasibility clinical trial to assess the impact of the ANS-NEPH system on sensorimotor function by determining the role of sensory feedback in improving sensorimotor control for daily use in four individuals with upper-limb amputation.</p>	
09/01/18-05/31/22	NIH: R01EB027584 (Multi-PI: Ranu Jung (FIU), James J Abbas (ASU))	\$763,755 (USA portion)
	<p><i>“CRCNS: Improving Bioelectronic Selectivity with Intrafascicular Stimulation”</i></p> <p>National Institutes of Biomedical Imaging and Bioengineering (Collaborative Research in Computational Neuroscience – Joint NSF-NIH-ANR US-French Collaboration Program)</p> <p>The goal of this grant is to develop and evaluate strategies that utilize intrafascicular field steering and waveform shaping to improve selectivity of nerve fiber activation within a fascicle using computational modeling, custom hardware, and a pre-clinical rabbit model.</p>	

EDUCATION AND TRAINING PROGRAMS

Active

09/01/20-08/31/22 (NCE pending)	NIH: R25 NS118756-01 (Multi PIs: Matthew Johnson, Ranu Jung, Theoden Netoff, Cristin Welle)	\$536,108
	<p><i>“Educational Program on Translating Neural Medical Devices”</i></p> <p>The goal of this NIH Blueprint for Neuroscience Research Education Program on Translational Devices grant is to offer an educational program with 16 public video lectures, curated certificate program, and experiential workshop experience for covering all aspects of the translation and commercialization of medical devices.</p>	

FLORIDA INTERNATIONAL UNIVERSITY (January 2011-December 2021 - In the process of being transferred to UNIVERSITY OF ARKANSAS)

RESEARCH

Active

09/30/19-09/29/23	DoD-JWMP: W81XWH1910839 (PI: Ranu Jung), subcontract Co-Is: James Abbas (ASU), Paul Pasquina (WRNMMC), J Patrick (Cochlear Ltd.)	\$5,997,669
	<p><i>“Restoring Sensation with a Neural-Enabled Prosthetic Hand System for Daily Use: A Multisite Clinical Trial”</i></p> <p>The aim of this project is to conduct a multi-site early feasibility clinical trial of the ANS-NEPH system to offer task-related sensory feedback in real-world environments to individuals with unilateral or bilateral upper-limb amputation. The work will also enhance the system capabilities to improve the quality of percepts and enable at-home use with a broader selection of prosthetic hands.</p>	

FUNDING AS MENTOR ON GRADUATE DOCTORAL FELLOWSHIPS

08/20- 05/21	“ <i>Dissertation Year Fellowship</i> ” FIU University Graduate School Pre-doctoral Trainee: md Ashfaq Ahmed	\$16,600
05/19- 12/19	“ <i>Dissertation Year Fellowship</i> ” FIU University Graduate School Pre-doctoral Trainee: Andes Pena	\$16,600
01/19-07/19	“ <i>Dissertation Year Fellowship</i> ” FIU University Graduate School Pre-doctoral Trainee: iian Black	\$16,600
08/18-05/19	“ <i>Dissertation Year Fellowship</i> ” FIU University Graduate School Pre-doctoral Trainee: Ricardo Siu	\$16,600

**RESEARCH
Completed**

03/15/19- 02/29/24	NIH: R01NS111234-01 (PI: Jacob McPherson (WashU), Co-I: Ranu Jung (FIU)) (Not transferred 03/02/2020 from FIU to UA)	\$1,806,648 (\$20,000 Consultant)
	“ <i>Intraspinal microstimulation for multi-modal rehabilitation</i> ” The primary aim of this project is to determine the extent to which intraspinal microstimulation can reduce neural transmission in pain pathways and determine if it promotes release/use of monoamines. The approach offers a non-opioid treatment strategy to target neuropathic pain after spinal cord injury.	
08/01/20- 07/31/22	NIH (PTE: U Florida): 2OD023854 (PTE PI: Donald C Bolser; Subcontract PI: Ranu Jung)	\$8,000
	“ <i>Functional mapping of peripheral and central circuits for airway protection and breathing</i> ” Use computational models to assess effects of changing diaphragm pacing parameters on ventilation.	
02/01/17- 12/31/20 (NCE)	DARPA & ARO: W911NF-17-1-0022 (PI: Ranu Jung (FIU) , subcontract Co-I: James Abbas (ASU))	\$1,784,155
	“ <i>Restoring Sensation with a Neural-Enabled Prosthetic Hand System for Home Use: A First-In-Human-Study</i> ” This project is to ascertain the clinical safety and device functionality of a neural-enabled prosthetic system to restore sensation to upper-limb amputees that was previously developed with NIH support (R01-EB008578 below), upgrade the system for home-use monitoring, and to develop an interface of the system with a DEKA prosthetic hand. Supplemental HSAP/URAP 2019 support.	
Supplement 05/01/17- 08/31/17 05/01/18 08/31/18	ARO: W911NF-17-S-001, W911NF-17-S-002	
	“ <i>Brain mapping using fNIRS to investigate sensorimotor control</i> ” The supplements provided funding for one undergraduate and one high school student each year to perform a summer internship.	

02/01/17-06/30/18	DARPA & ARO: W911NF-17-1-0049 (PI: Marco Santello; Co-I: James J Abbas; Q Shi (ASU))	FIU subcontract Total: \$247,058
<i>“Sensorimotor Control of Grasping and Manipulation through a Soft-Synergy Prosthetic Hand and Peripheral Neural Interface System”</i>		
09/01/15-02/28/18	Robert Wood Johnson Foundation (PI: Ashley Darcy Mahoney (George Washington University))	Total: \$32,025
Subcontract PI (FIU): Ranu Jung <i>“A Naturalistic Investigation of Brain Neuroplasticity in Children Born Preterm”</i>		
The goal of this grant is to utilize functional near infrared imaging of the brain to assess neural activity as bilingual vs. monolingual children born pre-term conduct executive function tasks.		
09/01/13-08/31/17 (with 1 yr NCE)	NIH:R01NS086088 (PI: Ranu Jung)	\$591,870 (additional €255,832 to S. Renaud through ANR, France)
<i>“CRCNS: Computation-Enabled Adaptive Ventilatory Control System” (NSF/NIH/ANR Joint program)</i>		
National Institutes of Neurological Disorders & Stroke (Collaborative Research in Computational Neuroscience – Joint NSF-NIH-ANR US-French Collaboration Program)		
The goal of this grant was to develop an adaptive neuromorphic controller implemented using spiking neural networks for closed-loop ventilatory control after incomplete spinal cord injury. The system will be tested in computational biomechanical models and experiments in a pre-clinical rodent model. (Patent granted)		
09/30/07-06/30/16 (with NCEs)	NIH:RO1EB008578 (PI: Ranu Jung) (transferred in 2011 from Arizona State U to FIU)	\$3,286,604
<i>“Neural-Enabled Prostheses with Sensorimotor Integration”</i>		
National Institutes of Biomedical Imaging and Bioengineering & National Institutes of Child Health and Development (Bioengineering Research Partnership Program)		
FIU Co-Investigators: Ken Horch, PhD (Department of Biomedical Engineering) Dennis McCarthy, OT (Occupational Therapy, College of Nursing & Health Sciences)		
Jeffrey Fan, PhD (Electrical Eng.) Jorge Orbay, MD (Orthopedics, College of Medicine)		
External partners:	Arizona State U James J. Abbas, PhD (School of Biological & Health Systems Engineering) Motion Control, Inc., UT: Harold Sears, PhD Cochlear Ltd., Australia: James Patrick Artificial Limb Specialists, AZ: Michael Pack, PT, Hand Institute, FL Nikao Inc/CMSI Inc, FL Ortho Pro, FL: Terri Bukacheski, LP,OF, CP	

The goal of this academic-clinical-industrial partnership was to develop a system to interface a sensor instrumented prosthetic hand with peripheral nerves of upper limb hand amputees using fully implanted wireless communication to provide sensory feedback to the user. (Two patents granted; additional pending; FDA IDE approved)

01/24/12-01/23/15	<p>DARPA:N66001-12-C-4195 (PI: Ranu Jung) \$705,424</p> <p><i>“Effective and Reliable Peripheral Interfaces for Prosthetic Control”</i></p> <p>DARPA (Microsystems Technology Office)</p> <p>The grant was for developing reliable electrodes to record peripheral nerve activity in upper limb amputees. (4 Patents granted).</p>
03/11-12/31/12	<p>Florida State University System (PI: Ranu Jung) \$300,000</p> <p><i>“Board of Governor’s Boost Award”</i></p> <p>The goal of this Boost award was to support research program of the recipient.</p>

EDUCATION AND TRAINING PROGRAMS

Completed

09/15/16-02/28/22	<p>NSF: HRD-1629889 (Co-PIs: Kenneth Furton, Michael Heithaus, Ranu Jung, Suzanna Rose, Yesim Darici) \$3,202,167</p> <p><i>“ADVANCE Institutional Transformation at Florida International University”</i></p> <p>National Science Foundation (Division of Human Resource Development)</p> <p>https://www.nsf.gov/awardsearch/showAward?AWD_ID=1629889</p> <p>The goal of this grant is to conduct a microclimate study of race/ethnicity, nationality, gender, and education and use this to effect change in faculty at the University scale.</p>
09/01/09-08/31/13	<p>NSF: IIS0943753 (PI: Ranu Jung) (transferred from Arizona State U) \$47,997</p> <p><i>“Knowledge Transfer in Computational Neuroscience”</i></p> <p>National Science Foundation (Division of Information & Intelligent Systems)</p> <p>https://www.nsf.gov/awardsearch/showAward?AWD_ID=0943753&HistoricalAwards=false</p> <p>The grant was for invited lecturers to run tutorials and workshops, for a “Frontiers in Computational Neuroscience Lecture” and for postdoctoral fellows and students to present at the Annual International Computational Neuroscience Meetings.</p>

ARIZONA STATE UNIVERSITY (August 2002-2012)

RESEARCH

Completed

05/01/11-04/30/12	<p>NIH: (PI: Carston Duch) - at Arizona State University \$476,732</p> <p><i>“Acquisition of a Leica TCS SP5 Laser Scanning Confocal Microscope”</i></p> <p>National Center for Research Resources, Shared Instrument Grant</p> <p>ASU Co-Investigators: Yung Chang, Brenda Hogue, Ranu Jung, Kenro Kusumi, Janet Neiswander, Stuart Newfeld, Brian Smith.</p>
	<p>NIH: R01HD049773 (PI: James Abbas) \$868,573</p>

07/01/05-04/30/11	<p><i>“Adaptive Electrical Stimulation for Locomotor Retraining”</i> National Center for Medical Rehabilitation Research ASU Co-Investigator: Ranu Jung, PhD School of Biological & Health Systems Engineering The goal of this bioengineering research grant was development of adaptive controllers for use in neuroprostheses for people with incomplete paraplegia.</p>
08/15/05-05/31/10	<p>NIH: R01NS054282 (PI: Ranu Jung) \$1,314,799</p> <p><i>“Modeling Neuromusculoskeletal Alterations after Spinal Cord Injury”</i> National Institutes of Neurological Disorders & Stroke (Collaborative Research in Computational Neuroscience – Joint NSF-NIH Program) ASU Co-Investigators: James Abbas, PhD, SBHSE Anshuman Razdan, PhD, PRISM External partners: Thomas Hamm, PhD, Barrow Neurol. Institute (Neuroscience), AZ Victoria Booth, PhD, University of Michigan (Mathematics), MI Gary Yamaguchi, PhD, E^xponent Inc (Biomechanics), AZ The goal of this computational and experimental neuroscience collaborative research proposal was to develop neuromusculoskeletal models based on electrophysiology of spinal neurons, spinal reflexes and musculoskeletal properties in rodents with incomplete spinal contusion injury.</p>
07/07/09-06/31/10	<p>NIH: R13NS066633 (PI: Ranu Jung) \$25,000</p> <p><i>“CNS*2009”</i> National Institutes of Neurological Disorders & Stroke & National Institutes of Biomedical Imaging and Bioengineering (Conference Grant Proposal) This grant provided awards for students, postdoctoral fellows and travel expenses for invited speakers to attend the 18th Annual Computational Neuroscience Conference in Berlin, Germany</p>
07/01/08-12/31/09	<p>SfAZ: CAA0282-08 (PI: Ranu Jung) \$274,000</p> <p><i>“Promoting Plasticity after Spinal Cord Injury using Neuromuscular Stimulation”</i> Science Foundation Arizona (Competitive Advantage Program) ASU Co-Investigators: James Abbas, PhD, School of Biological & Health Systems Engineering The goal of this project was to obtain preliminary data for assessing the ability of neuromuscular electrical stimulation based movement therapy to promote motor recovery in rodents with incomplete spinal cord injury.</p>
06/01/05-05/31/09	<p>NIH: S10RR019945 (PI: Ranu Jung) \$1,309,550</p> <p><i>“7T/30 Bruker BioSpec Magnetic Resonance Imaging/Spectroscopy System (Previously: PharmaScan 70/16 In-Vivo Spectroscopy/Imaging System)”</i> National Center for Research Resources 9High-End Instrumentation Grant Program) ASU Co-Investigators: Examples of potential projects provided by multiple faculty from departments in Engineering, School of Life Sciences, and College of Liberal Arts and Sciences</p>

External partners: Banner Good Samaritan, Phoenix, AZ
Barrow Neurological Institute, Phoenix, AZ

This proposal provided funds for a small-animal magnetic resonance imaging and spectroscopy system that is a unique Phoenix valley-wide research resource. The funding was pivotal in the establishment of a Barrow Neurological Institute-Arizona State University joint pre-clinical imaging center at Barrow.

08/15/07-01/31/09	<p>NSF: SBE-0518697 Supplement (PI: Ranu Jung) \$22,174</p> <p><i>“Catalyst- Minisymposium and Workshop on “Co-Adaptive Learning: Technology for the Aged”</i></p> <p>National Science Foundation (Science of Learning Centers- Catalyst, planning grant program)</p> <p>ASU Co-Investigators: Multiple faculty members from Bioengineering, Electrical Engineering, Chemical Engineering, Kinesiology, Mathematics, Computer Science, Biodesign Institute</p> <p>The grant allowed hosting of an annual symposium and workshop development (third in series; see next item).</p>
08/15/05-01/31/09	<p>NSF: SBE-0518697 (PI: Ranu Jung) \$110,944</p> <p><i>“Catalyst- Center of Excellence for Adaptive Neuro-Biomechatronic Systems (CEANS)”</i></p> <p>National Science Foundation (Science of Learning Centers- Catalyst, planning grant program)</p> <p>https://www.nsf.gov/awardsearch/showAward?AWD_ID=0518697&HistoricalAwards=false</p> <p>ASU Co-Investigators: Multiple faculty from Bioengineering, Electrical Engineering, Chemical Engineering, Kinesiology, Mathematics, Computer Science, Biodesign Institute</p> <p>The grant allowed development of a plan for a Science of Learning (SLC) center to investigate the interactions between adaptive engineered and adaptive biological systems. The work included hosting of three mini-symposia and workshops (Mar. 2007: “Adaptation and Learning in Neurobiomechatronic Systems”, Feb. 2008: “Promoting Plasticity”, and Jan. 2009: “Co-Adaptive Learning: Adaptive Technology for Aging”) with expert national and international speakers that included a member of the National Academy of Engineering. A call for SLCs was not made by the NSF since this award was given. (Brief descriptions available at http://ans.asu.edu/events/symposia.php)</p>
04/01/05-03/31/08	<p>NIH: R21 EB003629-A1 (PI: Ranu Jung) \$403,756</p> <p><i>“Active MEMS Neural Clamps”</i></p> <p>National Institutes of Biomedical Imaging and Bioengineering</p> <p>ASU Co-Investigators: Stephen Phillips, PhD, Department of Electrical Engineering James Sweeney, PhD, Harrington Department of Bioengineering</p> <p>The grant led to the design of novel neural clamps using MEMS for recording ventral root activity.</p>
09/28/05-09/27/07	<p>ARMY: W911NF-05-C-0122/STTR (PI: Ranu Jung) \$750,000</p> <p><i>“Neuromorphic Control of Powered Limb Splints (Phase II)”</i></p> <p>ARMY- Phase II STTR to Advensys, LLC</p> <p>Co-PI: V. Jung, MBA (Advensys, LLC)</p> <p>Subcontract: ASU (sub-contract PI: Abbas)</p> <p>The grant led to the implementation of a neuromorphic controller for powered limb splints for evacuating soldiers (competitive extension of Phase I). (One patent granted, second patent pending)</p>

	NIH: R01HD40335 (PI: Ranu Jung) [transferred from Univ. Kentucky]	\$775,418
01/17/02-06/30/06	<p><i>"A Rodent Model for Locomotor Training with FNS"</i> National Institutes of Child Health and Development ASU Co-Investigator: James Abbas, PhD School of Biological & Health Systems Engineering</p> <p>The grant led to the development of a new rodent model to complement the human subject technology development of functional neuromuscular electrical stimulation for movement control after paraplegia. Awarded while at University of Kentucky; Transferred to Arizona State University where all work was performed.</p>	
08/01/04-01/31/05	<p>ARMY: W911NF-04-L-0071/STTR (PI: Ranu Jung)</p> <p><i>"Neuromorphic Control of Powered Limb Splints (Phase I)"</i> ARMY- Phase II STTR to Advensys, LLC Co-PI: V. Jung, MBA (Advensys, LLC) Subcontract: ASU (sub-contract PI: Abbas)</p> <p>The grant led to preliminary implementation of a neuromorphic controller for powered limb splints for evacuating soldiers. Unsolicited ARMY call referenced my prior published work from NIH:R21-RR12588. Phase II awarded based on successful completion.</p>	\$99,949
06/01/03-09/01/05	<p>BNI (PI: Ranu Jung)</p> <p><i>"Effects of Incomplete Spinal Injury on Reflex and Motoneuron Properties"</i> Barrows Neurological Institute (St. Joseph's Hospital) (Harrington Dept. of Bioengineering- Whitaker Foundation Funded Seed Grant program) Co-PI: T. Hamm (Barrow Neurological Institute)</p> <p>Data from this project was used for competing for grant R01NS054282 through the "Collaborative Research in Computational Neuroscience" NSF-NIH joint program.</p>	\$19,600
01/01/03-12/31/03	<p>ASU (Co-PIs: Huey, Willis, Jung)</p> <p><i>"Contractile and Metabolic Adaptations of Skeletal Muscle to Spinal Cord Injury & Rehabilitation "</i> ASU- School of Life Sciences Multi-Investigator Proposal Development Grant Program</p>	\$18,000

EDUCATION AND TRAINING PROGRAMS
Completed

08/15/11-07/31/16	<p>NSF-EHR: (PI: Sethuraman Panchanathan) - at Arizona State University (Moved to FIU- hence did not participate)</p> <p><i>"IGERT: Person-centered Technologies and Practices for Individuals with Disabilities"</i></p> <p>ASU Co-Investigators: Alfredo Artiles, Dale Baker, Prasad Boradkar, Kasim Candna, Terri Hedgpeth, Ranu Jung, Frederic Klein, Baoxin Li, Clark Miller, Marco Santello, Jeanne Wilcox</p>	\$1,176,519
06/30/00-07/31/05	<p>NSF (PI: Jiping He)</p> <p><i>"IGERT: Musculoskeletal & Neural Adaptations in Form & Function"</i> National Science Foundation (Interdisciplinary Graduate Education, Research and Training grant) ASU Co-Investigator: Jung amongst several others Member of the steering committee (~'03-'05)</p>	\$3,183,931
	<p>NSF (PI: Anthony Garcia)</p> <p><i>"Western Alliance to expand student opportunities"</i></p>	\$878,422

11/01/01-10/31/06	National Science Foundation (Directorate for Education & Human Resources) Participant: Jung amongst several others	
11/01/01-10/31/06	NSF (PI: Anthony Garcia) <i>“LSAMP: Biodesigned Bridges to the Doctorate”</i> National Science Foundation (Directorate for Education & Human Resources) Participant: Jung amongst several others	\$770,000
07/01/00-06/30/05	LTR 09/29/00 (PI: Eric Guilbeau) <i>“Program development award third year progress report and extension and continuation grant proposal”</i> The Whitaker Foundation Co-Investigator: Jung amongst several others; (joined in 2002)	\$250,000
07/01/00-06/30/05	Whitaker Foundation: (PI: Eric Guilbeau) <i>“Neural & molecular, cell, & tissue bioengineering: a theme for the new department of bioengineering at ASU”</i> The Whitaker Foundation Co-Investigator: Jung amongst several others; (joined in 2002)	\$1,744,580

FUNDING AS MENTOR ON GRADUATE AND UNDERGRADUATE AWARDS AND FELLOWSHIPS

07/09-12/09	<i>“Science Foundation Arizona Graduate Fellowship”</i> \$15,500 Graduate College Pre-doctoral Trainee: Sathyakumar, SK	
07/09-12/09	<i>“Dean’s Graduate Fellowship”</i> \$10,000 Ira A. Fulton School of Engineering Pre-doctoral Trainee: David Guffrey	
09/03-07/05	National Science Foundation <i>“Interdisciplinary Graduate Education and Research”</i> ~ \$47,500 Training Award in <i>“Musculoskeletal and Neural Adaptations in Form and Function”</i> Graduate College Pre-doctoral Trainee: Joe Graham	
08/09-05/10	<i>“ASU/NASA Space Grant Internship”</i> \$3,600 School of Earth and Space Exploration Undergraduate Trainee: Jared Bartell, Psychology	
08/08-05/09	<i>“ASU/NASA Space Grant Internship”</i> \$1,800 School of Earth and Space Exploration Undergraduate Trainee: Kristen Boyer, Biology & Society	
08/08-05/09	<i>“ASU/NASA Space Grant Internship”</i> \$1,800 School of Earth and Space Exploration Undergraduate Trainee: Jared Bartell, Psychology	
08/08-05/09	<i>“ASU/NASA Space Grant Internship”</i> \$1,800 School of Earth and Space Exploration Undergraduate Trainee: Robbia Hendirx, Barrett Honors College, Biology	
08/07-05/08	<i>“ASU/NASA Space Grant Internship”</i> \$3,600 School of Earth and Space Exploration Undergraduate Trainee: Ashley Diamond, Biology & Society	

08/03-05/04	<p>“<i>Research Thesis Award</i>” \$1,300 Barrett Honors College Undergraduate Trainee: Taryn Jensen, Bioengineering</p>	
<p>UNIVERSITY OF KENTUCKY (August 1995-July 2002) RESEARCH Completed</p>		
04/02-04/04	<p>KSEF: (PI: Ranu Jung & Peter Hardy) <i>“Monitoring Recovery from Spinal Cord Injury Using Magnetic Resonance Imaging”</i> Kentucky Science & Engineering Foundation, State of Kentucky The project led to development of techniques for spinal cord imaging in rodents with contusion injury. (Grant transferred to P. Hardy in 2003 with move of Dr. Jung to ASU).</p>	\$185,739
1/01- 1/04	<p>KSCHIRT:0-9A (PI: Ranu Jung) <i>“Locomotor Training in a Rodent Model of Incomplete Spinal Cord Injury”</i> Kentucky Spinal Cord and Head Injury Research Trust, Kentucky This project characterized locomotor gait in intact and spinal cord injured rodents and evaluated the effects of treadmill training in recovery of function. (State grant not transferrable; Administrative oversight transferred to Dr. C. Knapp on Dr. Jung’s move to ASU)</p>	\$268,637
09/98-08/00	<p>NIH: R21-RR12588 (PI: Ranu Jung) <i>“Analog VLSI-Spinal Cord Interface for Motor Control”</i> National Center for Research Resources UKY Co-Investigator: James Abbas, PhD, Center for Biomedical Engineering External partner: Elizabeth Brauer, PhD, Northern Arizona U, AZ, Electrical Eng. & Comp. Science This project developed mathematical models of spinal circuitry, neuromorphic hardware electronics and interfaced the hardware with the spinal cord in real time.</p>	\$184,901
08/96-07/00	<p>NSF: IBN-9601345 (PI: Ranu Jung) <i>“Dynamical Analysis of Brain-Spinal Cord Interaction in the Lamprey”</i> National Science Foundation: Division of Integrative Biology & Neuroscience https://www.nsf.gov/awardsearch/showAward?AWD_ID=9601345&HistoricalAwards=false UKY Co-Investigator: Eugene N. Bruce, PhD, Center for Biomedical Engineering This project used nonlinear dynamical analysis, computational modeling and experimental evaluation of the role of the nervous system in sensorimotor integration in awake lampreys.</p>	\$115,485
01/98-08/98	<p>NSF: IBN-9601345 REU Suppl 2 (PI: Ranu Jung) <i>“Fos Expression as a Neuronal Activity Marker in the Lamprey”</i> National Science Foundation: Division of Integrative Biology & Neuroscience, Research Experience for Undergraduate Student (Leigh Bonta)</p>	\$5,749
02/97-08/97	<p>NSF: IBN-9601345 REU Suppl 1 (PI: Ranu Jung) <i>“Effects of Environmental Conditions on Lamprey Swim Behavior”</i> National Science Foundation: Division of Integrative Biology & Neuroscience, Research Experience for Undergraduate Student (Casey McIntosh)</p>	\$5,000
	<p>KSCHIRT:MAR-9606-K3 (Co-PIs: D.Magnuson & Ranu Jung)</p>	\$270,278

01/97-01/00	<p><i>“Pathways and Neurons in the Mammalian Spinal Cord Involved in the Generation of Locomotor Output”</i></p> <p><i>Subcontract: Signal Analysis of Neural Activity in Mammalian Locomotor Output</i></p> <p>Kentucky Spinal Cord and Head Injury Research Trust University of Kentucky: PI on Subcontract from U Louisville \$52,150</p> <p>This project collected in vitro data from neonatal spinal cords (Magnuson) and developed and utilized new techniques for signal processing of non-stationary data (Jung).</p>	
05/00-07/00	<p>Conference Grant (PI: James Abbas)</p> <p><i>“Biomedical Engineering Approaches to Spinal Cord Injury”</i></p> <p>The Whitaker Foundation (Conference Support) UKY Co-Investigator: Ranu Jung, PhD (Center for Biomedical Engineering) Jim Geddes, PhD (Department of Anatomy & Neurobiology)</p> <p>Conference Support for a special session at 6th Annual Kentucky Spinal Cord and Head Injury Research Symposium.</p>	\$10,000
10/00	<p>Equipment Grant (PI: Ranu Jung)</p> <p><i>“Peak Motus[®] System for Kinematic Analysis”</i></p> <p>State of Kentucky (Commonwealth Research Equipment Bond to University of Kentucky Medical Center)</p> <p>This equipment allowed establishment of a small animal motion capture system laboratory.</p>	\$72,000
01/97-12/99	<p>Research Grant (PI: Ranu Jung)</p> <p><i>“Brain-Spinal Cord Interactions in the Control of Locomotion”</i></p> <p>The Whitaker Foundation UKY Co-Investigator: Eugene N. Bruce, PhD (Center for Biomedical Engineering) Consultant: J.T. Buchanan, PhD (Marquette University, Biology)</p> <p>This project used nonlinear dynamical analysis and intracellular recording approaches to investigate the central nervous system of lampreys for sensorimotor integration.</p>	\$209,866

EDUCATION AND TRAINING PROGRAMS

Completed

10/00	<p>Instructional Funds (PI: Ranu Jung)</p> <p><i>“EE-579: Neural Engineering (Merging Engineering with Neuroscience)”</i></p> <p>University of Kentucky, College of Engineering Note: Funds used to introduce laboratory robotic component to lecture class</p>	\$2440
1/98	<p>Instructional Funds (PI: Ranu Jung)</p> <p><i>“EE-579: Neural Engineering (Merging Engineering with Neuroscience)”</i></p> <p>University of Kentucky, College of Engineering Note: Funds used to introduce laboratory hands-on experience for project work in a new course taught in Electrical Engineering</p>	\$3000

FUNDING AS MENTOR ON GRADUATE AND UNDERGRADUATE AWARDS AND FELLOWSHIPS

05/96-04/97	<p><i>“Undergraduate Research and Creativity Grant”</i></p> <p>\$500</p> <p>University of Kentucky, College of Engineering Undergraduate Trainee: Casey McIntosh, Mechanical Engineering</p>	
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08/95- 05/96	<p><i>"Howard Hughes Medical Institute Undergraduate Research Fellowship"</i> \$850 University of Kentucky, Arts & Sciences Undergraduate Trainee: Bradley Brewer, Biology</p>
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OTHER INSTITUTIONS (January 1991-July 1995)

**RESEARCH
Completed**

08/93- 07/95	<p>NIH:F32NS09462 (PI: Ranu Jung) \$58,500 <i>"Sensorimotor Integration in the Lamprey"</i> National Institutes of Neurological Disorders and Stroke (Individual National Research Service Award for Postdoctoral Fellows) Mentor: A.H. Cohen, PhD (University of Maryland, Zoology)</p>
1992	<p>Pilot Projects in Neurobiology (PI: Ranu Jung) \$4,000 <i>"Caudal Ventrolateral Medulla and Ventilation in the Rat"</i> University Sleep Center, University Hospitals, Cleveland, Ohio</p>
01/92- 06/92	<p>Research Grant (PI: Ranu Jung) \$10,000 <i>"Baro- and Chemoreflexes in Heart Failure"</i> American Heart Association (N.E. Ohio Affiliate- Competitive Renewal) Mentor: M.D. Thames, M.D. (Cardiology)</p>
01/91-12/91	<p>Research Grant (PI: Ranu Jung) \$20,000 <i>"Baro- and Chemoreflexes in Heart Failure"</i> American Heart Association (N.E. Ohio Affiliate) Mentor: M.D. Thames, M.D. (Cardiology)</p>
08/92	<p>Trainee Award (PI: Ranu Jung) <i>"Methods in Computational Neuroscience Course, Marine Biological Lab., Woods Hole, MA"</i> National Institutes of Health. National Research Trainee Award Directors: J. Bower, C. Koch (CalTech)</p>

PATENTS

Granted	<ol style="list-style-type: none"> US 11,247,051B1. February 15, 2022. "System and Methods for Controlled Pacing of Respiratory Muscles", Ranu Jung, Ricardo Siu. US 11,199,903B1. December 14, 2021. "Systems and Methods for Providing Haptic Feedback when Interacting with Virtual Objects", Ranu Jung, Andres E. Pena Serrada. US 10,660,535 B2, May 26, 2020. "Directional-Specific Extraneural Recording Device", iian Black, James Abbas, Ranu Jung. US 10,589,098 B2, March 17, 2020. "System and Method for Neuromorphic Controlled Adaptive Pacing of Respiratory Muscles and Nerves", Ranu Jung. Priority April 2, 2015. US 10,384,057 B2, August 20, 2019. "Multi-lead Multi-electrode Management System", Anil K. Thota, Ranu Jung, Sathyakumar S Kuntaegowdanahalli. US 10,286,207 B2, May 14, 2019. "Flanged Self-Closing Microchannel Array", iian Black and Ranu Jung. Priority October 12, 2017. US 9,872,989 B2, January 23, 2018. "System and Method for Neuromorphic Controlled Adaptive Pacing of Respiratory Muscles and Nerves". Ranu Jung. Priority April 2, 2015.
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8. US 9,717,440 B2, August 1, 2017. "System and Methods for Decoding Intended Motor Commands from Recorded Neural Signals for the Control of External devices or to Interact in Virtual Environments", Mohamed Abdelghani, Ranu Jung, James J. Abbas, Kenneth Horch. Priority May 3, 2013.
9. US 9,662,025 B2, May 30, 2017. "Low Noise Analog Electronic Circuit Design for Recording Peripheral Nerve Activity", Adeline Zbrzeski, Ranu Jung. Priority May 3, 2013.
10. US 9,563,740 B2, February 7, 2017. "Neural Interface Activity Simulator", Mohamed Abdelghani, Ranu Jung, James J. Abbas, Kenneth Horch. Priority Oct 16, 2012.
11. US 9,427,565 B2, August 30, 2016. "Modular Multi-channel Inline Connector System", Sathyakumar S Kuntaegowdanahalli, James J. Abbas, Ranu Jung, Kenneth Horch. Priority Nov 7, 2012.
12. US 9,409,009 B2, August 9, 2016. "Multi-lead Multi-electrode Management System." Anil K. Thota, Ranu Jung, Sathyakumar S Kuntaegowdanahalli, Priority, Nov 7, 2012.
13. US 9,026,224 B2, May 5, 2015. "Communication Interface for Sensory Stimulation", Ranu Jung, Kenneth Horch, James J. Abbas, Stephen Phillips, Bertan Bakkaloglu, Seung-Jae Kim. Priority April 21, 2009
14. US 8,790,282 B2, July 29, 2014. "Neuromorphic Controlled Powered Orthotic and Prosthetic System", Ranu Jung, Shah Vikram Jung, Brundavani Srimattirumalaparle. Filed November 10, 2008.

**Patents
Filed**

1. App. No. 63/149,015, Andres Pena Serrada, Ranu Jung, James J. Abbas, Ken Horch. System and Methods for Delivering Focalized Neurostimulation. Feb 12, 2021.

**Filed
(published)**

1. US 20140277583 A1, Sathyakumar S Kuntaegowdanahalli, Ranu Jung, James J. Abbas, Kenneth Horch. "Fitting System for a Neural Enabled Limb Prosthesis System". Filed March 17, 2014, Priority March 15, 2013. Abandoned
2. US 20140236176 A1, Ranu Jung, James J. Abbas, Brian P. Smith, Kenneth Horch. "Method for Mapping Sensor Signals to Output Channels for Neural Activation". Filed Feb 14, 2014, Priority Feb 15, 2013. Abandoned
3. James J. Abbas, Brian P. Smith, Brett Swanson, Kenneth Horch, Ranu Jung. "Method for Scheduling Pulses to Achieve Multi-channel Pulse Frequency Modulation". Feb 15, 2013. US Provisional Patent. AZTEP0094USP1_M13083L. Priority October 24, 2012; Filing not continued on transfer from ASU to FIU.
4. WO/2009/012502 Ranu Jung, Stephen Phillips, James Abbas. "Self-Anchoring MEMS Intrafascicular Neural Electrode". July, 2008; PCT/US2008/070683. Filing not continued on transfer from ASU to FIU.

PUBLICATIONS

- *Students who worked in my research program are designated as follows: postdoctoral = 2X underline; graduate students = 1X underline; undergraduate student = 1X dashed underline; high school – 1X dot underline)*
- Students were given the first authorship (with me listed as last/senior author) if they carried out the experiment and wrote the manuscript under my supervision.

Dissertations

1991

Jung, R. *Ventral Medullary Organization for Cardio-Respiratory Control*. Doctoral Dissertation. Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH. January 1991.

Jung, R. *Arterial pressure and Respiratory Responses to Slow Ramp Carotid Sinus Pressures in the Dog*. Master's Thesis. Department of Biomedical Engineering, Case Western Reserve University, Cleveland, OH. May 1986.

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[<http://link.springer.com/referencework/10.1007%2F978-1-4614-6675-8>]
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[<http://onlinelibrary.wiley.com/book/10.1002/9783527639366>]
3. **Special Issue on Frontiers in Neural Biosensing Technology**, Journal of Neuroscience and Neuroengineering, C-Z Li, **R Jung**, Z-Z, Wu, American Scientific Publishers, 2013.
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4. Lykholt, LE, S Ganeswarathas, AK Thota, K Rauhe Harreby, **R Jung**. "Information on Ankle Angle from Intramuscular EMG Signals during Development of Muscle Fatigue in an Open-Loop Functional Electrical Stimulation System in Rats", *Replace, Repair, Restore, Relieve – Bridging Clinical and Engineering Solutions in Neurorehabilitation*, Biosystems & Biorobotics Volume 7, 2014, pp 529-536, W Jensen et al. (eds.), DOI:10.1007/978-3-319-08072-7_78, Springer International Publishing, Switzerland.
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Preparation**

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8. Dargam V, M Baralt, **R Jung**, A Thota, L Rincon Gonzalez. Language proficiency and executive function: an fNIRS study. (Poster (Dargam) at Biomedical Engineering Society (BMES), 2018, 17-20th October, Atlanta, GA, USA.)
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**Other Selected
Abstracts &
Technical
Presentations**

1. Benigni, T, JJ Abbas, and **R Jung**. Decoding Recordings of Extracellular Activity from Longitudinal Intrafascicular Electrodes to Control a Prosthetic Hand", Program No. 556.08. 2021 Neuroscience Meeting Planner. Society for Neuroscience, 2021. Online Abstract #2740.
2. Shell, A, D Aguilar, B Hillen, L Rincon Gonzalez, JJ Abbas, and **R Jung**. Assessment of functional benefits afforded by a sensory-enabled prosthesis to an individual with upper - limb amputation. SfN Global Connectome, January 11-13, 2021.
3. Abbas, JJ, **R Jung**, Y Bornat, F Kolbl, L McPherson, AK Thota, L Regnacq, O Romain, A Ortega, M Rouihani, S Crook, S Renaud. "Improving selectivity with intrafascicular nerve stimulation: Mathematical models, hardware, and experimentation. Sixth Annual Brain Initiative Investigator Meeting. Virtual Online, June 1-June 2, 2020 (IT_1_-_NIH-2020-IT-Poster-Horizontal-NO-PDF_15905610452556874.pdf). (Poster: Abbas)
4. Siu R, JJ Abbas, BK Hillen and **R Jung**. Adaptive respiratory pacing restores ventilatory function in incomplete spinal cord injured rats. (Program No. 231.14. 2019 Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2019. Online. (Poster)
5. Abbas JJ, SS Kuntaegowdanahalli, K Horch, L Rincon Gonzalez, AE Pena, AK Thota, BK Hillen, D Aguilar, and **R Jung**. Assessment of functional benefits afforded by sensory-enabled prostheses to upper-limb amputees. (Program No. 404.09. 2018 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2018. Online (Poster: Abbas)
6. **Jung, R**, SS Kuntaegowdanahalli, AK Thota, AE Pena, KW Horch, J Patrick and JJ Abbas. Neural-enabled prosthetic hand system to restore sensation in upper-limb amputees.

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7. Siu R, JJ Abbas, BK Hillen and **R Jung**. In-vivo implementation of a neuromorphic controller for ventilatory pacing. (Program No. 674.09. 2018 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2018. Online (Poster: Siu)
 8. Dargam V, M Baralt, A Darcy Mahoney, **R Jung**, AK Thota, L Rincon Gonzalez, C Myland, V Leon. Language proficiency and executive function: an fNIRS study. (Program No. 674.09. 2018 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2018. Online (Poster: Dargam)
 9. Siu R, J Abbas, B Hillen, **R Jung**. Computational assessment of a neuromorphic closed-loop controller for ventilatory pacing. (Poster (Siu) at Biomedical Engineering Society (BMES), 2018, 17-20th October, Atlanta, GA, USA.)
 10. Ahmed A and **R Jung**. A computational model for functional uncoupling in the stomach. (Program No. 228.26. 2018 Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2018. Online (Poster: Ahmed))
 11. Herran L, A Pena, **R Jung**. “Evoked referred sensations through surface electrical stimulation of the median nerve”. Conference of Undergraduate research at FIU (CURFIU), March 27, 2018, Miami, FL (Poster: Herran)
 12. Pena A, L Rincon-Gonzalez, **R Jung**. “Comparison of vibrotactile systems to encode feedback of grasp force and hand opening of a sensorized myoelectric prosthetic hand”, 2018 Graduate Student Appreciation Week (GSAW) Scholarly Forum, March 20, 2018, Miami, FL (Poster: Pena)
 13. **R Jung** and Team. “Neural-Enabled Prosthetic Hand System for Home Use: A First-in-Human Study”. DARPA HAPTIX Program Review Meeting, Feb 21-22, 2018, Charleston, SC. (Talk: Pena)
 14. Pena A, L Rincon-Gonzalez, J Abbas, **R Jung**. “Comparison of vibrotactile systems to encode feedback of grasp force and hand opening of a sensorized myoelectric prosthetic hand”, 7th Annual Biomedical Engineering Graduate Research Day, February 2, 2018, Miami, FL (Poster: Pena)
 15. Siu R, J Abbas, B Hillen, **R Jung**. “Adaptive control of ventilation through respiratory pacing following spinal cord injury”, Control No. 2017-S-6628-SfN. Neuroscience Meeting Planner. Washington, DC. Society for Neuroscience, 2017. Online (Poster: Siu & Jung)
 16. Pena A, L Rincon-Gonzalez, J Abbas, **R Jung**. “Effect of vibrotactile feedback and hand interface compliance on grasp force and hand opening control of a sensorized myoelectric prosthetic hand”, Control No. 2017-S-15908-SfN. Neuroscience Meeting Planner. Washington, DC: Society for Neuroscience, 2017. Online (Talk: Pena)
 17. Siu R, J Abbas, B Hillen, **R Jung**. “A neuromorphic system for adaptive closed-loop control of ventilation after spinal cord injury”, Biomedical Engineering Society 2017 Meeting, October 11-14, 2017, Phoenix, AZ. (Talk: Siu)
 18. Siu R, J Abbas, B Hillen, S Renaud, **R Jung**. “A neuromorphic system for adaptive closed-loop control of ventilation after spinal cord injury”, Collaborative Research in Computational Neuroscience Conference 2017, June 14-16, 2017, Providence, RI. (Poster: Siu)

19. Dargam V, M Baralt, **R Jung**, C Myland, L Rincon-Gonzalez, A Thota. Executive functioning in bilinguals, monolinguals and heritage speakers with limited proficiency: An fNIRS study. October 19-20, 2017. 2017 FIU McNair Scholars Research Conference, Miami, FL. (Oral & Poster: Dargam)
20. Rojas D, D Aguilar, A Pena, S Kuntaegowdanahalli, L Rincon Gonzalez, **R Jung**. Design and Development of a Fragile Object Simulator. 8th Annual BME Undergraduate Research Day, Miami, FL. October 18, 2017. (Poster: Rojas)
21. Riccio-Ackerman F, A Pena, L Rincon-Gonzalez, **R Jung**. A Study on Somatosensation: the Effect of Proprioception on Touch Perception. 8th Annual BME Undergraduate Research Day, Miami, FL. October 18, 2017. (Poster: Riccio-Ackerman)
22. Dargam V, M Baralt, **R Jung**, C Myland, L Rincon-Gonzalez, A Thota. Executive functioning in bilinguals, monolinguals and heritage speakers with limited proficiency: An fNIRS study. 2017 Biomedical Engineering Undergraduate Research Day, Miami, FL. October 18, 2017. (Poster: Dargam))
23. Rincon-Gonzalez L, S Sathyakumar, JJ Abbas, KW Horch, **R Jung**. Experimental procedures to evaluate a novel neural enabled prosthetic hand system. 2017 WAESO Student Research Conference, Tempe, AZ. March 20, 2017 (Poster: Rincon-Gonzalez)
24. **Jung, R.** (2016, March), Our K-12 Story: Comprehensive Program at Scale. Paper presented at 2016 EDI, San Francisco, CA. <https://peer.asee.org/27397>
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26. Black I, J Abbas, A Thota, **R Jung**. “Development of a rootlet interface to localize cutaneous stimuli applied to specific regions of the rat hindlimb”, University of Miami Neural Engineering Symposium, October 13, 2016, Coral Gables, FL. (Poster: Black)
27. Siu R, B Hillen, A Thota, J Abbas, S Renaud, **R Jung**. “Closed-loop adaptive controller for respiratory pacing in a rodent model”. University of Miami Neural Engineering Symposium, October 13, 2016, Coral Gables, FL. (Poster: Siu)
28. Black I, J Abbas, A Thota, **R Jung**. “Development of a rootlet interface to localize cutaneous stimuli applied to specific regions of the rat hindlimb”, Control No. 2016-S-SfN. Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2016. Online. (Poster: Black & Jung)
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30. Ahmed M, Y Bai, J Gomes, JC Ramella-Roman, **R Jung**. “Investigating small intestine neuromuscular anatomy using optical imaging”. Control No. 2016-S-16510-SfN. Neuroscience Meeting Planner. San Diego, CA: Society for Neuroscience, 2016. Online. (Poster: Ahmed & Jung)

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32. Siu R, BK Hillen, JJ Abbas, S Renaud, **R Jung**. “Neuromuscular stimulation of respiratory muscles for respiratory pacing in the rat model”. Program No. 430.02. 2015. Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2015. Online. (Poster: Siu)
33. Hillen BK, JJ Abbas, A Zbrzeski, S Renaud, **R Jung**. “Effect of initial conditions on adaptation time in adaptive control of ventilation”. Program No. 430.01. 2015. Neuroscience Meeting Planner. Chicago, IL: Society for Neuroscience, 2015. Online. (Poster: Hillen)
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53. Bejarano T, D Bhatia, M Novo, M Munoz, D Brunt, **R Jung**, Study of knee movement patterns during Sit to Stand task among young healthy and aged matched controls; presented at Wallace H Coulter Biomedical Engineering, Annual Graduate Research Day, 28th September, 2012, Florida International University, Miami, USA (Poster: Bejarano)
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2019	<p>November 26, 2019. Featured on NIH Director Dr. Francis Collins's Blog – "Giving Thanks for Biomedical Research" https://directorsblog.nih.gov/2019/11/26/giving-thanks-for-biomedical-research/</p> <p>October 23, 2019. DOD awards \$6M for prosthetic hand testing – OPEEDGE.com https://opedge.com/Articles/ViewArticle/2019-10-23/dod-awards-6m-for-prosthetic-hand-testing</p> <p>October 23, 2019. FIU News- Department of Defense..... https://news.fiu.edu/2019/department-of-defense-awards-fiu-biomedical-engineering-team-6-million-to-expand-testing-of-pioneering-prosthetic-hand-system</p>

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Nov 6, 2018 (PR NewsWire) Neural-Enabled Prosthetic Hand (NEPH) System developed at

[FIU restores sensation to first human subject.](#) [Market Insider](#), [MarketWatch](#), [TheStreet](#), [finanzen.net](#), [ADVFN Germany](#), [BiodDevices](#), [Canada](#), [Benzinga](#), [BiotechGate](#), [FDA REG watch](#), [Corp!](#), [Quertle](#), [Merrill Edge](#), [Manhattanweek](#), [TownHall Finance](#), [Daily Herald](#), [Wichita Business Journal](#), [Washington Business Journal](#), [BusinessReview\(Albany\)](#), [New Mexico Business Weekly](#), [Atlanta Business Chronicle](#), [Austin Business Journal](#), [Baltimore Business Journal](#), [Birmingham Business Journal](#), [Boston Business Journal](#), [Business First of Buffalo](#), [Charlotte Business Journal](#), [Cincinnati Business Courier](#), [Business First of Columbus](#), [Dallas Business Journal](#), [Denver Business Journal](#), [Houston Business Journal](#), [Jacksonville Business Journal](#), [Kansas City Business Journal](#), [Los Angeles Business from bizjournals](#), [Minneapolis /St Paul Business Journal](#), [Triangle Business Journal](#), [Triad Business Journal](#), [Tampa Bay Business Journal](#), [St. Louis Business Journal](#), [South Florida Business Journal](#), [Puget Sound Business Journal](#), [Silicon Valley/San Jose Business Journal](#), [San Francisco Business Journal](#), [San Antonio Business Journal](#), [Sacramento Business Journal](#), [Portland Business Journal](#), [Pittsburgh Business Times](#), [Pittsburgh Post-Gazette](#), [Business Journal of Phoenix](#), [Philadelphia Business Journal](#), [Pacific Business News](#), [Business First of Louisville](#), [Memphis Business Journal](#), [Business Journal of Milwaukee](#), [NewsOK](#), [Orlando Business Journal](#), [Nashville Business Journal](#), [Dayton Business Journal](#), [Willardpost](#), [The](#)

[Chronicle Journal](#), [Penticton Herald](#), [BC Kelowna Daily Carrier](#), [BC Alliance Health Education Initiative](#), [Angela Cares, Inc.](#)

[ABC8 News](#) [Lincoln, NE], [KFVE TV](#) [Honolulu, HI], [KOCW-TV](#) [Tulsa, OK], [1000.7](#) [Lubbock, TX], [KFMB 760-AM](#) [San Diego, CA], [KLBB-FM93.7](#) [Lubbock, TX], [KTMF-TV](#) [Missoula, MT], [KFJX-TV FOX14](#) [Pittsburg, KS], [WBOC-TV FOX-21](#) [Salisbury, MD], [KUAM-TV NBC-8 /CBS 11](#) [Guam], [Telemundo](#) [Lubbock, TX], [WGTA-TV](#) [Atlanta, GA], [WBCB-TV CW-21](#) [Youngstown, OH],

2017 Aug. 7, 2017. <http://neuralimplantpodcast.com/dr-ranu-jung-on-getting-fda-approval-for-implantable-prosthetics>

July, 2017. Podcast #AMPLIFE, <http://amplifepodcast.weebly.com/>

2017 March 28, 2017. FDA approves first-in-human trial for neural-enabled prosthetic hand system developed at FIU. [CNBC](#), [Yahoo](#), [MarketWatch](#), [Seeking Alpha](#), [Military-technologies](#), [ADVFN Germany](#), [Business Review \(Albany\)](#), [New Mexico Business Weekly](#), [Atlanta Business Chronicle](#), [Austin Business Journal](#), [Baltimore Business Journal](#), [Birmingham Business Journal](#), [Boston Business Journal](#), [Business First of Buffalo](#), [Charlotte Business Journal](#), [Chicago Business News \[Chicago, IL\]](#), [Cincinnati Business Courier](#), [Business First of Columbus](#), [Dallas Business Journal](#), [Denver Business Journal](#), [Houston Business Journal](#), [Jacksonville Business Journal](#), [Kansas City Business Journal](#), [Los Angeles Business from bizjournals](#), [Business First of Louisville](#), [Memphis Business Journal](#), [San Francisco Business Times](#)

University's prosthetic arm system clears FDA hurdle- [South Florida Business Journal](#)

FDA approves 1st-in-human trial for neural-enabled prosthetic hand - [Massdevice](#)

Aprueban primera prueba de prótesis de mano que restaura el sentido del tacto – [elNuevo Herald](#)

VIDEO- March 28, 2017, FDA approves first-in-human trial for neural-enabled prosthetic hand system developed at FIU. [FIU News](#)

March 29, 2017 – [Medical XPress](#)

March 29, 2017 – FIU Receives FDA Approval to Trial Neural-Controlled Prosthetic Hand- [OANDP.com](#)

Live Radio Interview- March 30, 2017 – RCN Radio, Colombia

VIDEO- March 31, 2017 – FDA Approves FIU tech that could help amputees feel- [Miami CBS Local](#); One News page

VIDEO- April 3, 2017 -Researchers treat amputees by stimulating nerves in FDA trial- [KJZZ](#) (also posted by Board of Governors, Florida)

2017 WTOP News (Washington DC), March 11, 2017 (Radio clip by National Academy of Engineering about FDA approval of first-in-human study of investigational device for restoring sensation to amputees)

<https://www.nae.edu/Activities/Projects/20730/wtop/167862.aspx>

2016 “When art and engineering collide”; FIU NEWS, November 2016

<https://news.fiu.edu/2016/11/when-art-and-engineering-collide/106357>

2016 “Opportunities for All” in Diversity in Action, pg. 64-65, September/October 2016

2016 “Fiat Chrysler Automobiles takes students for a test drive”, FIU NEWS, October 4, 2016

<https://news.fiu.edu/2016/10/fiat-chrysler-automobiles-takes-students-for-a-test-drive/104663>

2016 AmericaTeve, May 19, 2016. <http://www.ustream.tv/recorded/87080287> (segment starting at 22:17)

eMerge Americas 2016

“La Escuela de Ingenieria de FIU desarrolla el primer implante inalabrico”

<http://www.elnuevoherald.com/noticias/finanzas/article72542037.html> (el Nuevo Herald, April 18, 2016; Video)

[Thousands Pack eMerge Technology Convention](#) (CBS Miami April 19, 2016; Video)

[Andres Pena at eMerge Americas \(Telemundo 51 on facebook\)](#), <http://bit.ly/1WGbMoq>

- [**eMerge Americas cranks up to showcase, celebrate tech**](#) (Miami Herald, April 18, 2016)
- [**Presentan implante totalmente inalámbrico en eMerge Americas**](#) (el Nuevo Herald, April 18, 2016)
- eMerge Americas 2016 <https://www.youtube.com/watch?v=dYl8x8udf8I>
- “Emerging Technology” (Miami Herald, April 19, 2016)
- 2016 “FIU’s planned state-of-the-art engineering building means more engineers and jobs for South Florida”. FIU News, April 12, 2016, <https://news.fiu.edu/2016/04/fius-planned-state-of-the-art-engineering-building-means-more-engineers-and-jobs-for-south-florida/99238>
- 2016 “Student showcase offers behind-the-scenes look into STEM”. FIU News, March 29, 2016. <https://news.fiu.edu/2016/03/student-showcase-offers-behind-the-scenes-look-into-stem/98541>
- 2015 “202:Combat Wounded Veterans”, WEDU-Quest -PBS, November 12, 2015. <http://video.wedu.org/video/2365604818/>
- 2015 “Importance of Landing Solid Internships During College”, NBC Miami, September 28, 2015. <http://www.nbcmiami.com/news/local/Importance-of-Landing-Solid-Internship-During-College-329822521.html>
- 2015 “College reaffirms commitment to diversity in engineering on White House demo Day”. FIU News, August 5, 2015. <https://news.fiu.edu/2015/08/college-reaffirms-commitment-to-diversity-in-engineering-on-white-house-demo-day/91049>
- 2015 “Interim dean gives hope to amputees”. FIU Student Media, July 9, 2015. <http://fiusm.com/2015/07/09/interim-dean-of-engineering/>
- 2015 “FIU technologies contribute to first and second place at StatUp Quest”, FIU News, June 4, 2015. <https://news.fiu.edu/2015/06/technologies-from-fiu-biomedical-engineering-take-first-and-second-place-at-startup-quest-pitch-day/88739>
- 2015 “FIU’S prosthetic designed to deliver hand sensations to amputees”. Sun Sentinel, June 9, 2015. <http://www.sun-sentinel.com/business/careers/fl-startup-quest-fiu-biomedical-20150608-story.html>
- 2012 “Of Life and Limb”, FIU NEWS, January 2012, <http://news.fiu.edu/2012/01/of-life-and-limb/34616>
- 2011 “Worlds Ahead” You-tube video, Florida International University. <http://www.youtube.com/watch?v=6LQHfP6sDWU>
- 2009 International Neuroinformatics Coordinating Facility, Sweden, Newsletter, October 2009, “Neuroinformatics Profile- A conversation with the outgoing OCNS President, Ranu Jung” <http://www.incf.org/>; <http://www.incf.org/about/news/newsletters/incf-newsletter-2009-issue3.pdf>
- 2009 Irish Times, August 2009, “New Hope for Victims of Spinal Cord Injury” <http://www.irishtimes.com/newspaper/health/2009/0804/1224251958684.html>
- 2009 ASU research magazine (Stories of Scholarship and Creative activity), March 2009, “Stimulated to Heal”, http://researchmag.asu.edu/2009/03/Stimulated_to_heal.html
- 2008 Neurotech business report, vol. 8, No. 3., March 2008. “Adaptive Control Methods Transform Neuroprosthetics”, <http://www.neurotechreports.com/>
- 2008 Newswise: Released Wed 05-Mar-2008; “Largest Physics Meeting of the Year, in New Orleans’. <http://www.newswise.com/articles/view/538345/>

2007	2007 Dean's Report, Ira A. Fulton School of Engineering, ASU; Fall '07; "Signature Research: Repairing Damaged Nervous Systems" http://www.fulton.asu.edu/fulton/news/documents/deansREPORT_2007_000.pdf
2007	Full Circle Magazine, Ira A Fulton School of Engineering, ASU; Fall '07; "To Walk Again" http://www.fulton.asu.edu/fulton/news/publications/Fall2007_Full%20Circle.pdf
2007	Arizona Bioscientist (blog). July 30, 2007; "Ranu Jung and the 16th Annual International Computational Neuroscience meeting" http://azbioscientist.blogspot.com/2007/07/ranu-jung-and-16th-annual-international.html
2006	National Institute of Biomedical Imaging and Bioengineering - E-Advance; April 28, 2006; "Tiny Neural Clamps Make Connections" http://www.nibib.nih.gov/publicPage.cfm?pageID=4510
2006	Arizona Republic Feb 9, 2006; Pair Look to Reboot the Brain http://www.azcentral.com/arizonarepublic/business/articles/0209innovator09.html
2006	Flinn Foundation, Jan 23, 2006; Meet the Players-Two Family.... http://www.flinn.org/bio/article.cms/itemid=b_mtp_jung_kinetic
2006	Crain's Cleveland Business- on the web, Editor's Choice: Feb 13, 2006
2006	ASU Foundation "Researcher Ranu Jung Receives Honor", 2006 (web posting)
2006	Biodesign News Detail: August 9, 2006 (web posting) "Biodesign's Ranu Jung Elected President of the Organization for Computational Neuroscience"
2005	EMBO reports 6, 2, 108–110, 2005; When Mind Meets Machine http://www.nature.com/embor/journal/v6/n2/full/7400344.html
2005	NCCR, July 12, 2005; "High End Instrumentation Grants" http://www.nih.gov/news/pr/jul2005/nccr-12.htm
2004	Full Circle Magazine, Ira A Fulton School of Engineering, ASU; Spring 2004 "AzBio researchers go from Idea to Application to Help People with Disabilities"
2002	TV coverage, Channel 36, Lexington KY; "Neural interfaces with the spinal cord"

PRESENTATIONS

PUBLIC FORUMS: KEYNOTE LECTURES, PODCASTS, DISCUSSION PANELS (SELECTED)

Ongoing	<p>Congressional Visits Capitol Hill, Washington DC to congressional lawmakers/Staff (e.g. October 1, 2019 –Veterans Health: Dr. Carolyn Clancy, Deputy Under Secretary for Discovery, Christopher "Chris" Syrek, Deputy Chief of Staff, Office of the Secretary, Patricia A. Dorn, CAPT Karen Lohmann Siegel and Dr. Brian Schulz, Rehabilitation, Research and Development Service; Offices of Senator Marco Rubio, Rep. Matt Gaetz, Gov. Ron deSantis;</p> <p>March 26, 2019 – Offices of Mario Diaz-Balart; Debbie Wasserman Schultz; Debbie Mucarsen-Powell)</p> <p>Congressional visits to Adaptive Neural Systems Laboratory, FIU (e.g. Feb 3, 2020 – U.S. Representative Debbie Wasserman Schultz; At FIU day in Tallahassee, FL to state lawmakers. March 2019 – staff delegation from office of Congresswoman Donna Shalala; Oct 2014 -OSTP Director John Holdren)</p> <p>As Interim Dean gave several presentations to the public and for inaugural events such as: Press presentation regarding Youth-Fair land need for new Engineering building at Florida International University; installation of the Florida Power & Light solar panels; opening of the I-CAVE; Annual Engineering EXPO)</p>
2015-2017	

- 2021 1. Panelist, “Fostering an Anti-Racism Culture and Climate on Campus”, Equity and Anti-Racism: A Roadmap to Policy Transformation Policy in BME, AIMBE virtual summit. January 28-29, 2021.
- 2020 2. Panelist, “Conquering Paralysis: Neurotech Takes a Bold Step Forward”, 2020 Neurotech Leaders Forum. Nov 16-17, 2020. San Francisco, CA.
3. Session Chair and Invited Speaker: Worldwide Symposium for Neurotechnologies. *Sensory Restoration for Individuals with Upper-Limb Amputation: Targeting Precision*. [Symposium Recordings \(neuronexustech.com\)](https://www.neuronexustech.com). Nov 17, 2020.
4. Podcast: Interview with Dr. Ranu Jung, Wallace H Coulter Chair of Biomedical Engineering at FIU. BioX Puerto Rico. October 18, 2020. <https://youtu.be/ZmRBZotOhfw>
5. “A Neural-Enabled Prosthetic Hand” - Radio Cade podcast, August 6, 2020. <https://www.buzzsprout.com/161726/5148829-a-neural-enabled-prosthetic-hand>
6. Webinar Speaker, “Diversity-Equity-Inclusion - Fireside chat, Academic Council of Chairs, American Institute for Medical and Biological Engineering, July 28, 2020.
- 7.
8. Webinar Speaker, “Implantable Electronics; Emerging Needs, Challenges and Industry Breakthroughs”. IEEE –Electronics Packaging Society, Feb. 6, 2020.
9. Panelist, *Women in Engineering*, Student Programming Council, Florida International University, Miami, FL, Jan 29, 2020.
10. Invited Talk; Science National Honor Society, Doral Academy High School, Miami, FL, Jan 14, 2020.
- 2019 11. **Keynote Speaker**, Miami Dade College (MDC) 8th Annual School of Science STEM Research Symposium, Miami, FL, Sept 21, 2019. https://news.mdc.edu/press_release/miami-dade-college-presents-annual-mdc-school-of-science-stem-research-symposium-sept-21/
12. *STEMcon 2019, Keynote Speaker*, Florida International University, Miami, FL, Feb 20, 2019.
13. “Fostering Research-Driven Entrepreneurial Ideas: Neurotechnology in Neurodisability”. 2019 Faculty Retreat topic on Fostering Innovation and Entrepreneurship at University of St. Augustine for Health Sciences. January 10, 2019. USAHS, Miami, FL also broadcast to 120-150 core faculty at four campuses (Austin, TX, San Marcos, CA, St. Augustine, FL).
- 2018 14. “Thirst for Science: How can a chicken run around with its head cut off?” M.I.A. Beer Company, Doral, FL August 16, 2018.
- 2017 15. “Women in Research” Panel: Society for Women Engineers Student Chapter Panel, Miami, FL, Nov 17, 2017.
16. “Welcome Remarks”, International Symposium on Sensor Networks, Systems and Security, Lakeland, FL, August 31, 2017.
17. “Neuralimplant.com Podcast” <https://neuralimplantpodcast.com/dr-ranu-jung-on-getting-fda-approval-for-implantable-prosthetics>, August 7, 2017.
18. “Opening Remarks”, IEEE International Electric Machines & Drive Conference, Miami, FL, May 22, 2017.
19. “Welcome Address”, Fourth Annual Workshop on Origami Design for Integration of Self-Assembling Systems for Engineering Innovation, Florida International University, Miami, FL, April 26, 2017.
20. “FIU Engineering and Computing Engagement Programs”, ASEE Engineering Transitions to Inclusive Diverse Environment (E-TIDE) Meeting, Washington DC, March 17, 2017.
21. “Welcome Address”, 25th GENI (Global Environment for Network Innovations) Engineering Conference, Miami, Florida, March 14, 2017.

- 2016
22. “*Millineries, Milliner and Wearing Many Hats*”, AAUW Presentation, University of South Florida, Tampa, FL, April 22, 2016.
 23. “*Leadership in STEM and Innovation*” panel; Life Sciences South Florida *Lifesci*, eMerge Americas conference, Miami Beach, April 18, 2016.
 24. “*Engineering Expansion*”, Press Conference, April 12, 2016
 25. “*Our K-12 Story: Comprehensive Program at Scale*” in session on “*Innovation in Diversity and Inclusivity*”, Engineering Deans Institute, San Francisco, CA, March 31, 2016.
- 2015
26. “*Advances in Orthotics and Prosthetics*”, Reveille Symposium, Tampa, FL, Oct 2, 2015.
 27. “*Closing the Loop-Nerves, Interfaces and Machines*”, 28th Annual Maximus Higher Education Meeting, Miami Beach, FL, September 17, 2015.
- 2013
28. “*Opportunities for Academic and Industry Medical Device Development Collaborations - The Florida International University Perspective*”, BioFlorida- The Saturday Exchange, March 9, 2013, Miami, FL.
 29. “*Neurodesign: Neurotechnology for Neurorecovery*”, Oct 8, 2012, Bioflorida 2012, Miami, FL
- 2012
30. “*Therapeutic and Reparative Neurotechnology*”; FIU in DC: Faculty Expert Series- Alumni Briefing; Washington DC, Jan 19, 2012
 31. “*Neural-Mediated Assistive Devices for Rehabilitation of Individuals with Disabilities*”, LifeSciences South Florida, Webinar, March 22, 2012, Miami, FL.
 32. “*Biomedical Engineering at FIU*”; Congressional Staff Briefings; Washington DC, Jan 19, 2012
- 2011
33. “*Biohybrid Systems: Nerves Interfaces, Machines*”, Miami PREP program for high-school students, July 12, Miami, FL. 2011.
 34. “*High-Impact Science*”, EDC BioTech 2011: 10th Annual Life Science Conference, May 11, Boca Raton, FL (Invited Speaker)
- 2010
35. “*Neural Implants are Us*”, BioTech Speaker Series, Arizona Science Center, Phoenix, AZ. 2010
- 2009
36. “*Engineering Faculty Auction*”, Society of Women Engineers, Arizona State University Student Chapter, Tempe, AZ (Discussion with students). 2009
- 2008
37. “*2008 Neurotech Leaders Forum: Technology Transfer Panel*”, San Francisco, CA. (Invited Speaker)
 38. “*Strategies for Success Podcasts: Routines, Habits and Tactics*”, #17 “Habits to achieve your Dreams”, Podcast for Graduate College, Arizona State University, Tempe, AZ. 2008 <https://itunes.apple.com/us/itunes-u/strategies-for-success/id383723264?mt=10>
 39. “*What Do You Think About a Technology You Can't Even See?*” Public discussion in “Science Café” at Arizona Science Center, 2008, Phoenix, AZ.
- 2007
40. “*Adaptive Technologies for the Central Nervous System: Are We Changing What it means to be Human?*” Public discussion in “Science Café” at Arizona Science Center, Phoenix, AZ. 2007
 41. “*Rehabilitation Engineering- Adaptive Neural Systems*”, Lecture at the Technology-Enhanced Lifestyles- Signature Research Breakfast Forum. Sponsored by Ira A. Fulton School of Engineering, ASU & City of Tempe; Tempe, 2007, AZ
 42. “*Technology to Make Neural Circuits Functional*”. Lecture for The Institute of Electrical and Electronics Engineers, Inc. Engineering in Medicine and Biology Society - Phoenix Chapter, Tempe, AZ. 2007
- 2005
43. Industry/Faculty Discussion Panel, Alpha Eta Mu Beta, Biomedical Engineering Honor Society, Tempe, AZ, 2005
 44. “*Bioengineering*”, Lecture at the Arizona Bio-EXPO 2005, Phoenix, AZ.

- 1998 45. “*Left Foot Right Foot; There’s a Wocket in My Pocket*”, National Society for Black Engineers, Regional Conference, Lexington, Kentucky. **Keynote talk at workshop.** 1998
- 1996 46. “*Biomedical Engineering*”, Society of Women Engineers, University of Kentucky Student Chapter), Lexington, KY. **Keynote talk at annual banquet.** 1996
47. Invited Participant; Panel on “*Motherhood and Career*”, Society of Women Engineers, University of Kentucky Student Chapter, Lexington, KY. 1996

INTERNATIONAL (NON-US) UNIVERSITIES: INVITED SEMINARS

- 2019 48. “*Neural Models in the Design of Bionic Interfaces to Restore Lost Function*”, 9th International Max Planck Research School on Neuroscience of Communication (IMPRS NeuroCom) Summer School; Max Planck Institute for Human Cognitive and Brain Sciences, Leipzig, Germany, June 19, 2019.
- 2018 49. “*The Next Revolution is Here – Merging of Man and Machine*”, CSIR-CSIO, Chandigarh, India, Sept 4th, 2018.
- 2017 50. “*CENAVEX: Computation-Enabled Ventilatory Control System*”, NICT-NSF Collaborative Workshop in Computational Neuroscience, Osaka University, Osaka, Japan, January 16, 2017.
- 2016 51. “*Biohybrid Systems: Restoring Sensation to Upper-Limb Amputees*”, Department of Biomedical Engineering, Tel-Aviv University, Tel-Aviv, Israel, May 22, 2016.
52. “*Biohybrid Systems: Restoring Neural Function*”, Special Medical Neurobiology Seminar, The Hebrew University- Hadassah Medical School, Jerusalem, Israel, May 15, 2016.
53. “*Closing the Loop: Nerves, Machines and Interfaces*”, Distinguished Lectures Series, Department of Electrical and Computer Engineering, University of Toronto, Ontario, Canada, March 18, 2016.
- 2014 54. “*Closing the Loop: Nerves, Machines and Interfaces*”, Lovely Professional University, Punjab, India, April 3, 2014.
55. “*Closing the Loop: Nerves, Machines and Interfaces*”, IIT-Delhi, New Delhi, India, March 31, 2014.
- 2013 56. “*Biohybrid Systems: Nerves, Machines and Interfaces*”, Aalborg University, Aalborg, Denmark, June 16, 2013.
- 2009 57. “*Adaptive Biomimetic Technology to Promote Neural Adaptation*”, Biomedical Distinguished Lecture Series, University of Galway, Galway, Ireland, 24 July, 2009.
- 2008 58. “*Promoting Neuroplasticity*”, National Brain Research Center, Manesar, Gurgaon, Haryana, India, December 18, 2008.
- 2007 59. “*Making Neural Circuits Functional*”. The Nobel Institute for Neurophysiology, Department of Neuroscience, Karolinska Institute, Stockholm, Sweden, June 15, 2007.
- 2006 60. “*Designing Adaptive Engineered Systems To Promote Adaptation in Neural Systems*”, Department of Orthopedic Surgery, Yamaguchi University, Hofu, Japan. September 16th, 2006.
- 2000 61. “*Strategies for locomotor control: Lessons from a lower vertebrate*”, University of Twente, Dept. of Electrical Engineering, Enschede, The Netherlands, July 21. 2000

INTERNATIONAL CONFERENCES & WORKSHOPS: INVITED LECTURES

- 2020 62. “*Neuroelectronic Interfaces: Fulfilling the Promise to Restore Sensation*” - Indo-US International Conference on Bioengineering & Regenerative Medicine (ICBR-2020); **Plenary Speaker**; 27th-29th February, Indian Institute of Technology (BHU), Varanasi, India.
- 2018 63. “*Targeting the Neural Innervation for Ventilatory Control*”, Mini-symposium: Challenges in Bioelectronic Medicine, 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Honolulu, HI, USA, July 17-21, 2018.
- 2016 64. “*Human Sensation*”, 13th Society for Brain Mapping and Therapeutics Conference, Miami, FL, USA, April 8, 2016.

- 2015 65. "Engineering Recovery after Spinal Cord Injury", 44th Annual Meeting of Japanese Society for Spine Surgery and Related Research, Fukuoka, Japan, April 16-18, 2015.
- 2014 66. "A Controlled Study of the Effects of Mahapran and Color Meditation Components of Preksha Dhyana in College Students", International Conference: Acharya Tulsi and the Making of Modern Jainism, Miami, FL, Nov 1-2, 2014 (Joint talk with Samani Unnata Pragma)
67. "Biohybrid Systems: Ideas to Innovation", Neurotrauma 2014, 32nd Annual Symposium of the National Neurotrauma Society, Including the AANS/CNS Joint Section on Neurotrauma and Critical Care, San Francisco, CA. June 29-July 02, 2014.
- 2013 68. "Biohybrid Systems: Nerves, Machines and Interfaces", Aalborg University, Aalborg, Denmark, June 16, 2013.
- 2012 69. "Accelerating Locomotor Recovery after Spinal Contusion", at Cellular and Network Functions in the Spinal Cord 2012, Madison, Wisconsin, May 22-25, 2012.
- 2011 70. "Biohybrid Systems; Nerves, Interfaces, Machines", 3rd International Conference on Neuroprosthetic Devices, Sydney, Australia, 26 Nov. 2011.
<http://neurotechzone.com/icnpd-2011/program>
- 2010 71. "Neurodesign: Using Computational Modeling for the Design of Neurotechnology" at the 19th Computational Neuroscience Meeting, San-Antonio, TX, USA, July 30, 2010.
<http://www.cns.org/meetings/archives/CNS2010.shtml>
72. Invited position statements and discussion at the US-European workshop on "Informatics for Bio-Inspired Design: Reverse Engineering of the Human Brain", Dubrovnik, Croatia, May 23-26, 2010 <http://secs.du.edu/workshop>.
- 2008 73. "Pervasive Health Monitoring for Adaptive Neurotechnology", International Congress on Pervasive Computing and Management, Delhi, India, December 14, 2008. **Keynote Lecture**
74. "Neurotechnology for Making Neural Circuits Functional" Twelfth International Conference on Cognitive and Neural Systems (12th ICCNS), Boston University, Boston, MA, May 14-17, 2008. **Keynote Lecture**
75. "Adaptive Neurotechnology for Making Neural Circuits Functional", 2008 American Physical Society Annual March Meeting, New Orleans, LA, March 14, 2008. **Keynote Lecture**
- 2007 76. "Neuro-Machine Interfaces: Integrating Biology and Technology to Develop Functionally Relevant Devices" Workshop; 16th Annual Computational Neuroscience Meeting, Toronto, Canada. July 12, 2007. **Introductory lecture**
77. "Neuromorphic Engineering: Cognitive and Behaving Systems- Applications". 2007 Neuromorphic Spring Meeting, Porto Conte Ricerche, April 13-15, 2007, Tramariglio, Italy.
- 2005 78. "Making Spinal Circuits Functional: Influence of the brain and periphery in the control of locomotion", The Institute of Neuroinformatics ETH-Zurich and The Institute of Neuromorphic Engineering, Univ. Maryland joint workshop on "Processing and Generation of Temporal Signals in Neural and Neuromorphic Systems", August 22-24, 2005, Zurich, Switzerland.
- 2004 79. "Spinal Neurotrauma" and "The complexity of addressing recovery and repair of a nonlinear system"; Lecture series at the 4th International Workshop on "Biocomplexity from System to Gene", July 18-24, 2004, Dartmouth College, Hanover, NH.
- 1996 80. "Computational models for Central Pattern Generators for Locomotion", Lecture, software presentation and discussion lead at three-week international workshop on Neuromorphic Engineering funded by NSF, The Gaspie Foundation (UK), and California Institute of Technology. Telluride, CO, July 1996.

NATIONAL (US) UNIVERSITIES: INVITED SEMINARS

- 2020 81. "Closing the Loop: Neuromorphic Design and Neuroelectronic Interfaces", Department of Bioengineering, University of Michigan, Ann-Arbor, MI, September 9, 2020 (webinar).
- 2019 82. "Breathing and Feeling with Neuroelectronic Interfaces", Department of Bioengineering, University of Minnesota, Minneapolis, MN, October 28, 2019.

83. *"Bioelectronics for Restoration of Impaired Autonomic or Somatosensory Functions"*, Department of Bioengineering, George Mason University, October 3, 2019.
- 2018 84. *"Neuromorphic Design and Bionic Interfaces"*, University Seminar Series, Stevens Institute of Technology, NJ, April 20, 2018.
85. *"Bionic Interfaces: Targeting the Restoration of Lost Function"*, 2nd Annual Neural Engineering Symposium, University of Miami, FL, April 2, 2018.
86. *"Biohybrid Systems for Restoring Function after Trauma"*, University of Florida, Gainesville, FL, January 24, 2018.
- 2017 87. *"Closed Loop Biohybrid Systems for Restoring Neural Function"*, Northwestern University, Chicago, Illinois, April 27, 2017
88. *"Closing the Loop: Nerves, Interfaces and Machines"*, Knobbe Martin BME Distinguished Lecture Series, University of California, Irvine, CA, February 3, 2017.
- 2016 89. *"Adaptive Neurotechnology for Restoring Neural Function"*, University of South Florida, Tampa, FL, April 22, 2016.
- 2015 90. *"Closing the Loop: Nerves, Interfaces and Machines"*, Columbia University, New York, NY, October 30, 2015.
- 2014 91. *"Biohybrid Systems: Nerves, Machines and Interfaces"*, Florida International University, Health Sciences Distinguished Speaker Series, Department of Occupational Therapy, Miami, FL, Nov 19, 2014.
92. *"Neuro-Interface for Upper Limb Amputees to Restore Sensation"*, Walter Reed National Military Medical Center, Washington DC, Feb 27, 2014.
- 2013 93. *"Biohybrid Systems: Nerves, Machines and Interfaces"*, Georgia Institute of Technology, Atlanta, GA, May 15, 2013.
94. *"Accelerating Locomotor Recovery after Spinal Cord Injury"*, Miami Cure for Paralysis, Miami, FL, April 24, 2013.
- 2012 95. *"Biohybrid Systems: Nerves, Interfaces and Machines"*, University of Washington, Seattle, Nov 1, 2012.
- 2011 96. *"Neuromorphic Design and Neural Prostheses for Restoring Sensorimotor Function"*, Case Western Reserve University, Cleveland, OH, Feb 11, 2011 (Invited Speaker at the Neural Prosthesis Seminar Series- Live stream video).
- 2010 97. *"Neuromorphic Design and Neural Prostheses for Restoring Sensorimotor Function"*, New Jersey Institute of Technology, Newark, NJ, April 24, 2010.
98. *"Neuromorphic Design and Neural Prostheses for Restoring Sensorimotor Function"*, City College of New York, NY, April 16, 2010.
99. *"Neuromorphic Design and Neural Prostheses for Restoring Sensorimotor Function"*, Florida International University, Miami, March 29, 2010.
100. *"Promoting Neural Plasticity after Neurotrauma"*, School of Medicine, Temple University, PA, March 16, 2010.
101. *"Neural Modeling, Neuromorphic Design and Neural Prostheses"*, College of Engineering, Temple University, PA, March 15, 2010.
- 2007 102. *"Synergistic Learning: Adaptive Neurotechnology for Promoting Neuroplasticity"*, University of Utah, November 30, 2007.
103. *"Making Neural Circuits Functional"*. Center for Neural Computation and Neural Engineering Seminar Series, University of Chicago, March 13, 2007.
- 2005 104. *"Making Neural Circuits Functional"*, University of Arizona, Bioengineering, Tuscon, AZ, October 3, 2005.
- 2003 105. *"Brain-Spinal Cord Interactions in the Control of Locomotion: Lessons from a Lower Vertebrate"*, Case Western Reserve University, NSF IGERT invited speaker, Cleveland, OH, Mar. 3, 2003.
- 2002 106. *"Making Spinal Circuits Functional: the influence of the brain and periphery in the control of locomotion"*, Arizona State University, Tempe, AZ, February 27, 2002.
- 1997 107. *"Modeling and experimental investigations of neural control of locomotion"*, Dept. of Biomedical Engineering, University of Miami, Coral Gables, FL. April 1997.
108. *"Modeling and experimental investigations of neural control of locomotion"*, Dept. of Bioengineering, The University of Toledo, Toledo, OH. March 1997.

- 1995 109. “*Experimental and modeling studies of locomotor control in the lamprey*”, Dept. of Medicine, Howard University, Washington DC. April 1995.
110. “*Modeling and experimental investigations of brainstem control in locomotion*”, Dept. of Biology, University of North Carolina, Charlotte, NC. April 1995.
111. “*Dynamical behavior of a neural network model of locomotor control in the lamprey*”, Center for Biomedical Engineering, University of Kentucky, Lexington, KY. October 1995.
- 1992 112. “*Ventral medullary organization for cardio-respiratory control*”, Dept. of Chemical, Bio, and Materials Engineering, Arizona State University, Tempe, AZ. April 1992.
- 1991 113. “*Cardiorespiratory baroreflex control in left ventricular dysfunction*”, Dept. of Biomedical Engineering, Case Western Reserve University, Cleveland, OH. December 1991.
114. “*Cardiorespiratory responses to glutamatergic antagonists in the rat caudal medulla*”, Dept. of Biomedical Engineering, The Johns Hopkins University, Baltimore, MD. Sept. 1991.
115. “*Ventral medullary organization for cardio-respiratory control*”, Biomedical Engineering Department, Northwestern University, Evanston, IL. February 1991.
116. “*Cardiorespiratory control and ventrolateral medulla: experimental results and a neural network model*”, Dept. of Biomedical Engineering, University of Akron, OH. May 1991.
- 1990 117. “*Ventral medullary organization for cardio-respiratory control in the rat*”, Dept. of Biomedical Engineering, Case Western Reserve University, Cleveland, OH. Nov. 1990.
- 1981 118. “*Medical Instrumentation*”, Dept. of Electronics Engineering “All India student seminar and paper contest in electronics”, Osmania University, Hyderabad, India, 1981.

NATIONAL (US) CONFERENCES & WORKSHOPS: INVITED PRESENTATIONS AND PARTICIPATION IN DISCUSSION PANELS

- 2019 119. “*Breathing and Feeling with Neuroelectronic Interfaces*”, Cleveland Clinic Florida Research and Innovation Center Symposium, Nov. 21, Torrey Pines, FL.
- 2017 120. “*Academic Success Initiative*”, ASEE Engineering Transitions to Inclusive Diverse Environments (E-TIDE) Conference, March 17, 2017, Washington DC
- 2016 121. “*Technology in Rehabilitation*”, Panel moderator and overview, Rehabilitation Research at NIH: Moving the Field Forward, May 25-26, 2016, Bethesda, MD.
- 2015 122. “*Cross-Cutting Technologies- Human Models*”, NIH- Stimulating Activity to Relieve Conditions (SPARC) Program Strategic Planning Workshop, February 25-26, 2015, Bethesda, MD. <https://www.youtube.com/watch?v=fnrx5mw3iTo>
- 2012 123. “*Co-Adaptive Learning for Sensorimotor Therapy*”, Challenges position statement presentation at Steering Workshop, Directorate for Social, Behavioral & Economic Sciences, National Science Foundation, Washington DC, Oct 4, 2012 (Paper and Oral talk)
124. “*Frontiers in Bioengineering*”, short presentation and panel member; Robotics Technology & Next Frontier in Surgical Care, Scottsdale, AZ, Nov 6-7, 2009.
- 2009 125. “*Co-Adaptive (Synergistic) Learning*”, position statement presentation at the “Future Challenges in Science and Engineering of Learning” workshop, Directorate for Social, Behavioral & Economic Sciences, National Science Foundation, Washington DC, July 23-25, 2007 (Oral presentation)
- 2007
- 2006 126. “*Interfacing with the nervous system for neuromotor control*”, 4th Annual National Academies Keck Futures Initiative Conference on “Smart Prosthetics: Exploring Assistive Devices for the Body and Mind”; November 9-12, 2006, Irvine, CA. (Poster presentation)
- 2005 127. “*Neuromorphic Control of Movement*”, Army Research Office Biosciences Workshop “Bugging Bugs and Brains: Internal Communications and Applications from Cellular Internals to Mental Contents.” May 22-25, 2005. Cashiers, NC (Oral presentation)
128. Invited Participant Integrated Research Team meeting “*NeuroProsthetics: Emerging Solutions for the Soldier and Society*”, U.S. Army Medical Research & Material Command’s (USAMRMC) Telemedicine & Advanced Technology Research Center (TATRC), Oct 10-12, 2005, Marina del Rey, CA (Discussion Panel)
129. Invited Participant, DARPA Advanced Prostheses Workshop, January 10-11, 2005, Ellicott City, Maryland (Discussion)

- 2003 | 130. “*Interfacing with the Nervous System for Neuromotor Control*”, Special session on *Neural Interface*, Biomedical Engineering Society Annual Fall Meeting, Oct. 1-3, 2003, Nashville, TN. (Invited Speaker- Oral presentation)
- 1998 | 131. “*Increased variability in motor output with brain-spinal cord interaction*”, 35th Annual Rocky Mountain Bioengineering Symposium, Copper Mountain, Colorado, April 1998. (Oral presentation)

PRINCIPAL INVESTIGATOR MEETINGS: RESEARCH PRESENTATIONS

- 2019 | 132. “*Restoring Sensation with a Neural-Enabled Prosthetic Hand System for Home Use: A First-in-Human Study*”, DARPA HAPTIX PI Meeting, March 14th, 2019, Arlington, VA (Oral Presentation)
- 2017 | 133. “*Restoring Sensation with a Neural-Enabled Prosthetic Hand System for Home Use: A First-in-Human Study*”, DARPA HAPTIX PI Meeting, February 15th, 2017, Arlington, VA (Oral Presentation)
- 2014 | 134. “*Effective and Reliable Peripheral Interfaces for Prosthetic Control*”, DARPA RE-NET PI Meeting. November 12, Arlington, VA (Oral Presentation)
- 2014 | 135. “*Computation-Enabled Ventilatory Control System (CENAVEX)*”, CRCNS14- Collaborative Research in Computational Neuroscience, October 16-18, Tempe, AZ. (Oral Presentation with S. Renaud).
- 2012 | 136. “*Effective and Reliable Peripheral Interfaces for Prosthetic Control*”, DARPA RE-NET PI Meeting, November 14, 2012, New Orleans, LA (Oral Presentation)
- 2009 | 137. “*Modeling Neuromusculoskeletal Alterations after Spinal Cord Injury*”, CRCNS09- Collaborative Research in Computational Neuroscience, June 7-9, Pittsburgh, PA. (Oral Presentation with T. Hamm).
- 2008 | 138. “*Modeling Neuromusculoskeletal Alterations after Spinal Cord Injury*”, CRCNS08- Collaborative Research in Computational Neuroscience, Spring 2008, June 2-4, Los Angeles, CA. (Oral presentation)
- 2007 | 139. “*Catalyst: Center of Excellence for Adaptive Neuromechatronic Systems (CEANS)*”, Science of Learning Centers (SLC) Annual PI Meeting, October 16-17, 2007, Washington DC. (Poster presentation)
- 2007 | 140. “*Modeling Neuromusculoskeletal Alterations after Spinal Cord Injury*”, CRCNS- Collaborative Research in Computational Neuroscience, NSF-NIH, Spring 2007 PI meeting, June 2-5, Washington DC. (Poster presentation)
- 2006 | 141. “*Catalyst: Center of Excellence for Adaptive Neuromechatronic Systems (CEANS)*”, Science of Learning Centers (SLC) Annual PI Meeting, October 19-20, 2006, Washington DC. (Poster presentation)
- 2006 | 142. “*Modeling Neuromusculoskeletal Alterations after Spinal Cord Injury*”, CRCNS- Collaborative Research in Computational Neuroscience, NSF-NIH, Spring 2006 PI meeting, June 4-6, Washington DC. (Oral presentation)
- 1999 | 143. “*Pathways and neurons in the mammalian spinal cord involved in the generation of locomotor output*”, Fifth Annual Kentucky Spinal Cord and Head Injury Research Symposium, Louisville, KY. (Oral presentation)
- 1998 | 144. “*Pathways and neurons in the mammalian spinal cord involved in the generation of locomotor output*”, Fourth Annual Kentucky Spinal Cord and Head Injury Research Symposium, Lexington, KY. July 1998 (Presentation with D.S.K. Magnuson).

GOVERNMENTAL AND PRIVATE PROGRAM GRANTING AGENCIES: PRESENTATIONS

- 2005 | 145. “*Rehabilitation Engineering and Neuroscience and Intelligent Prosthetic Systems*”, DARPA site visitors, The Biodesign Institute, ASU, Feb 12, 2005, Tempe, AZ. (Oral Presentation)
- 2004 | 146. “*Rehabilitation Neuroscience and Rehabilitation Engineering at ASU*”, DARPA-DSO; June 16, 2004. Washington DC. (Oral Presentation)
- 2002 | 147. “*Research Thrust*”, Whitaker Foundation Site Visit team, Arizona State University, Tempe, AZ, Oct 4, 2002. (Oral Presentation)

- 2000 | 148. “*Biomimetic control of an undulatory living system*”, DARPA, Washington D.C., January 7, 2000. (Oral Presentation)

LOCAL TALKS (WITHIN UNIVERSITY OR AT LOCAL INSTITUTIONS)

- 2014 | 149. “*Biohybrid Systems, Nerves, Interfaces and Machines*”, Distinguished Lecture, FIU Health Sciences Speaker Series; Department of Occupational Therapy, College of Nursing and Health Science, Florida International University, Miami, FL, November 19, 2014.
- 2013 | 150. “*Careers in Science: Biomedical Engineering*”, MARC U*STAR and MBRS RISE Programs, Florida International University, Miami, FL, March 19, 2013.
- 2012 | 151. “*Biohybrid Systems, Nerve, Interfaces and Machines*”, Brown-Bag Luncheon, College of Nursing and Health Science, Florida International University, Miami, FL, April 4, 2012.
- 2008 | 152. “*Neurotechnology for Making Neural Circuits Functional*”, 2nd Annual Arizona State University-Barrow Neurological Institute Neuroscience Symposium, Tempe, AZ, February 16, 2008 (Invited Talk)
- 2006 | 153. “*CRCNS- Modeling Neuromusculoskeletal Alterations after Spinal Cord Injury*”, Arizona Bioscience Leadership Symposium: Building Collaborations, Sponsors: The Arizona Biomedical Research Commission & The Flinn Foundation, June 12-13, 2006, Phoenix, AZ. (Bioengineering Research Platform Presentation)
154. “*Preclinical Bioimaging and Spectroscopy at Arizona State University*”, Arizona Bioscience Leadership Symposium: Building Collaborations, Sponsors: The Arizona Biomedical Research Commission & The Flinn Foundation, June 12-13, 2006, Phoenix, AZ. (Bioimaging Research Platform Presentation)
155. “*SAIF- A Small Animal Imaging Facility*”, Sensor, Signal and Information Processing Workshop on New Applications of Signal Processing in Magnetic Resonance Imaging, Arizona State University, April 28, 2006, Tempe, AZ. (Seminar)
- 2003 | 156. “*Motor Plasticity after Spinal Neurotrauma: Neuromotor Assessment*”, Arizona State University, NSF IGERT on Neural and Musculoskeletal Adaptation in Form and Function, Tempe, AZ, April 17, 2003. (Seminar)
- 2002 | 157. “*Rehabilitation Neuroscience and Rehabilitation Engineering*”, Mayo/ASU Joint Research Forum, Scottsdale, AZ, Dec. 7, 2002. (Seminar and Poster)
- 2002 | 158. “*Promoting Recovery, Repair, and Regeneration after Spinal Cord Injury*”, Department of Bioengineering, Arizona State University, Tempe, AZ, September 11, 2002. (Seminar)
- 1998 | 159. “*Neural genesis and control of locomotion: Insights from a primitive vertebrate*”, Physics Colloquium, University of Kentucky, Lexington, KY. October 23, 1998.
- 1997 | 160. “*Neural control of locomotion in the lamprey*”, Dept. of Electrical Engineering, University of Kentucky, Lexington, KY. February 1997. (Seminar)
- 1996 | 161. “*Understanding rhythmic motor behavior using dynamical systems analysis*”, Dept. of Mathematics, University of Kentucky, Lexington, KY. October 1996. (Seminar)
- 1995 | 162. “*Overview of biomedical engineering*”, Dept. of Biosystems and Agriculture Engineering, University of Kentucky, Lexington, KY. December 1995. (Seminar)
163. “*Locomotor control in the lamprey: Nonlinear systems analysis*”, Dept. of Physiology and Biophysics, University of Kentucky, Lexington, KY. October 1995. (Seminar)
164. “*Dynamical behavior of a neural network model of locomotor control in the lamprey*”, Center for Biomedical Engineering, University of Kentucky, Lexington, KY. October 1995. (Seminar)
- 1991 | 165. “*Role of the caudal ventral medulla in cardiovascular and respiratory control*”, Division of Pulmonary and Critical Care Medicine, University Hospitals, Cleveland, OH. March 1991. (Seminar)
- 1990 | 166. “*Ventral medullary organization for cardio-respiratory control: experimental data*”, Dept. of Medicine "Seminars in Autonomic Control", Case Western Reserve University, Cleveland, OH. June 1990. (Seminar)
- 1988 | 167. “*Role of the ventrolateral medulla in cardio-respiratory control*”, Dept. of Biomedical Engineering "Research Day", Case Western Reserve University, Cleveland, OH. August 1988. (Poster and slide presentation.)

- 1986 | 168. “Arterial pressure and respiratory response to ramp pressure stimulation of carotid sinus baroreceptors in the dog”, Dept. of Pulmonary Medicine "Pulmonary Research Seminars", Case Western Reserve University, Cleveland, OH. March 1986. (Seminar)

SERVICE to the PROFESSION

INTERNATIONAL GOVERNMENTAL AND UNIVERSITY COMMITTEES

- 2020 | Canada First Research Excellence Fund; External Reviewer, Government of Canada. December 2020.
Member, Expert Assessment Committee for Appointments and Promotions; Aalborg University, Aalborg, Denmark. August 2020.
External Examiner for Doctoral Dissertation (Ivo Strauss); BioRobotics Institute; Sant’Anna School of Advanced Studies, Pisa, Italy. May 2020
- 2019 | External Examiner for Doctoral Dissertation (M. Marieswaran); Indian Institute of Technology, New Delhi, Academic & Examination Section (PGS), India. April 2019
- 2018 | External Examiner for Doctoral Dissertation (Piyush Swami); Indian Institute of Technology, New Delhi, Academic & Examination Section (PGS), India.
Reviewer, Canada Research Chairs Program, Government of Canada
- 2017 | External Examiner, Doctorat en Electronique (Jonathan Castelli), Universite de Bordeaux, France, Dec 6, 2017.
- 2016 | European Research Commission, Appointed research reviewer.
- 2014-2015 | Member, Expert Assessment Committee for Appointments and Promotions; Department of Health Science and Technology, Aalborg University, Aalborg, Denmark.
- 2014 | Medical Research Council, UK, Grant Reviewer.
- 2013 | International Spinal Research Trust, UK, Grant Reviewer.
- 2013 | Opponent, Doctoral defense (Aritra Kundu), Aalborg University, Aalborg, Denmark.
- 2013 | External Examiner for MS Thesis; University of Cape Town, South Africa.
- 2012 | Brain Canada; Reviewer for Multi-Investigator Research Initiative, Canada Brain Research Fund.
- 2011 | External Examiner for Doctoral Dissertation; Indian Institute of Technology, New Delhi, Academic & Examination Section (PGS), India
- 2011 | External Examiner for Doctoral Dissertation; Motilal Nehru National Institute of Technology, Allahabad, India
- 2010 | United States-Israel Binational Science Foundation, Grant Proposal Reviewer.
- 2004 | Canada Foundation for Innovation/Fondation canadienne pour l’innovation, Canada; Reviewer for New Opportunities Fund.
- 2006-2008 | Member, Expert Assessment Committee for Appointments and Promotions; Department of Health Science and Technology, Aalborg University, Aalborg, Denmark
- 2007 | Opponent, Doctoral defense (Mikael Huss), Royal Institute of Technology, Stockholm, Sweden

INTERNATIONAL NON-PROFIT ORGANIZATIONS

- 2021-2022 | IEEE:Engineering in Medicine and Biology Society, Conference Committee Member
- 2018-2020 | American Institute for Medical and Biological Engineering; Chair, Academic Council and Member, Board of Directors
- 2016 | American Institute for Medical and Biological Engineering; Vice Chair, Academic Council
- 2013-2015 | American Institute for Medical and Biological Engineering Scholars Program Selection Committee
- 2014-2016 | American Institute for Medical and Biological Engineering, Member of “Neuroengineering and Physiological Engineering” Committee for nominations of Fellows to the AIMBE College of Fellows.
- 2016-2017 | Member, Board of Directors, Society for Brain Mapping and Therapeutics.
- 2010-2014 | Ex-Officio President; Member of the Executive committee and Member of the Board of Directors; Organization for Computational Neurosciences, Inc. USA
- 2006-2009 | **President (Elected)** of Executive Committee and International Board. Organization for Computational Neurosciences, Inc. USA (501c(3))

Established distributed governance and responsibility model
 Successfully solicited private sponsorship and federal grant funding for annual meetings
 Established structure for soliciting proposals for hosting annual international meetings
 Enhanced presence of organization through re-designed web page and membership in NeuroNetworks
 Worked closely with local organizing teams for hosting the annual meetings in 2007 (Toronto, Canada), 2008 (Portland, USA), 2009 (Berlin, Germany), 2010 (San Antonio, USA)

1997-2010 Member, Board of Directors, Rocky Mountain Bioengineering Symposium, Inc.

2003-2006 Member Founding Board of Directors, Organization for Computational Neuroscience, Inc.

NATIONAL (US) GOVERNMENTAL AND UNIVERSITY COMMITTEES

National Institutes of Health

2019-pres Member - National Advisory Council for Biomedical Imaging and Bioengineering of the National Institutes of Health, (Appointed - 3 Year term; 3 panels/year)

2009-2012 Permanent Reviewer (Appointed-3 Year term), Sensorimotor Integration (SMI) Study Section (3 panels/yr)

2004-2006 Permanent Reviewer (Appointed-3 Year term), Respiratory Integrative Biology and Translational Research (RIBT) Study Section (3 panels/yr)

2002-2003 Member (Appointed), Respiratory Physiology Study Section

2019-2020 Strategic Planning Working Group: *2021-2026 Strategic Plan: "Engineering the Future of Health"*. National Institute of Biomedical Imaging and Bioengineering, National Institutes of Health, Washington DC.

07/19 Chair, NIBIB ZEB1-OSR-E-(O1) P41 BTRC Review, Teleconference, July 2, 2019

06/18 Chair, NIBIB ZEB1-OSR-E-(O2) P41 BTRC Review, Stanford University, San Francisco, CA June 19-21, 2018

03/18 Panel Member, SPARC-OT2, 2018 Special Emphasis panel 2018/10 NGTT (55) S, March 22/23, 2018

10/15-5/16 Planning Committee Member. *"Rehabilitation Research at NIH: Moving the Field Forward."* Trans NIH Rehabilitation Research Coordinating Committee initiative. Oct, Dec 2015, March 2016

03/16 Mail Reviewer, ZRG1 BCB-A (51), Special Emphasis Panel, Transformative Research Awards

06/15 Panel Member, ZMH1 ERB-S (04) (R25 BRAIN and Summer undergraduate research), June 10, 2015 (Teleconference review)

06/14 Panel Member, ETT-P 02 (Emerging Technologies and Training in Neurosciences IRG), June 17, 2014 (Phone meeting)

03/14 Chair, NIBIB BTRC P41 site review, Albany, NY, March 4, 2014

01/14 Panel Member, 2014/01 ZEB1 OSR-F (J1) S - R25-T32, Jan 9, 2014

06/13 Panel Member (phone review), ZRG1 MDCN-A (96) , June 27, 2013

02/13 Panel member (mail review); Special Emphasis Panel/Scientific Review Group 2013/05 NOIT, Feb 7, 2013.

03/12 Chair, National Institute of Child Health and Human Development. Concept Review panel (NEURAL INTERFACES: IMPROVING FUNCTIONAL OUTCOMES), ZHD1-DSR-K (61), Mar 22, 2012

- 03/11 Panel Member, Special Emphasis Panel/Scientific Review Group 2010/ ZDA1 MXL-F(10, T90/R90 Training in Computational Neuroscience, Mar 30, 2011
- 06/10 Reviewer, K99, National Institutes of Child Health Development, June 10, 2010
- 06/09 Stage 1 Mail reviewer, Challenge grants Panel 19; 2009/10 ZRG1 CVRS-B (58) R
- 03/09 Panel Member, Special Emphasis Panel/Scientific Review Group 2009/05 ZRG1 F14-G (20) L – Fellowship, (Asynchronous Electronic Discussion)
- 10/08 Site reviewer, Special Emphasis Panel- ZRG1-SBIB-C (40) P, University of California San Diego, National Biomedical Computation Resource, San Diego, CA
- 09/08 Mail reviewer, Special Emphasis Panel- ZRG1-BST-E(51) on Predictive Multiscale Models of the Physiome in Health and Disease, Panel Member, Washington DC
- 06/08 Phone in Panel Member, Special Emphasis Panel- Respiratory Integrative Biology and Translational Research (RIBT), Washington DC
- 05/08 Panel member, Special Emphasis Panel- ZRG1-BST-E(51) on Predictive Multiscale Models of the Physiome in Health and Disease, Washington DC
- 03/08 Site reviewer, Special Emphasis Panel- ZRG1-SBIB-C (40) P, University of Southern California Biomedical Simulations Resource, Los Angeles, CA
- 03/07 Advisory Committee, Center for Scientific Review: Neurotechnology Working Group
- 02/07 Temporary Panel Member, Sensorimotor Integration Study Section (SMI), Washington DC
- 10/06 Temporary Panel Member, Respiratory Integrative Biology and Translational Research (RIBT), Washington DC
- 11/04 Temporary Panel Member, Integrative, Functional, and Cognitive Neuroscience (IFCN-C (02)), Washington DC
- 03/04 Temporary Panel Member, Integrative, Functional, and Cognitive Neuroscience (ZRG1- IFCNB 05), Washington DC
- 03/02 Phone Reviewer, Respiratory (RESP) study section
- 02/02 Temporary Panel Member, Integrative, Functional, and Cognitive Neuroscience (IFCN-8), Washington DC
- 11/01 Phone reviewer, Regulatory and Applied Physiology (RAP), Washington DC
- 06/01 Temporary Panel Member, Regulatory and Applied Physiology (RAP), Washington DC
- 10/00 Temporary panel member, Regulatory and Applied Physiology (RAP), Washington DC
- 03/00 Temporary panel member, Regulatory and Applied Physiology (RAP), Washington DC

National Science Foundation

- 01/17 Member, NSF-NICT Workshop: US-Japan Collaboration in Computational Neuroscience, Osaka, Japan.
- 03/14 Panel member, Collaborative Research in Computational Neuroscience (CRCNS)
- 06/10 Reviewer, Science of Learning Centers; Directorate for Social, Behavioral & Economic Science.
- 02/10 Panel Member, Collaborative Research in Computational Neuroscience (CRCNS)
- 06/09 Site visit team member, Directorate for Engineering, Division of Engineering Education and Research Centers, (Biomimetic Micro-Electronic Systems (BMES) Center at University of Southern California)
- 01/09 Panel Member, Collaborative Research in Computational Neuroscience (CRCNS)
- 06/07 IGERT pre-proposal panel, National Science Foundation

04/07	Site visit advisory board, Science of Learning Centers; Directorate for Social, Behavioral & Economic Science.
03/06	Panel Member, Collaborative Research in Computational Neuroscience (CRCNS)
10/05	Site visit advisory board, Science of Learning Centers. Directorate for Social, Behavioral & Economic Science.
11/04	Site visit team member, Directorate for Engineering, Division of Engineering Education and Research Centers, (Neuromorphic Engineering Research Center at California Institute of Technology)
03/04	Panel Member, Integrative Biology and Neuroscience: Computational Neuroscience
11/03	Site visit team member, Directorate for Engineering, Division of Engineering Education and Research Centers, (Neuromorphic Engineering Research Center at California Institute of Technology)
05/03	Ad-hoc Reviewer, Directorate for Biological Sciences, Frontiers in Integrative Biological Research (FIBR)
12/02	Panel member, Cognitive Neuroscience (COGSCI)
11/02	Site visit team member, Directorate for Engineering, Division of Engineering Education and Research Centers, (Neuromorphic Engineering Research Center at California Institute of Technology)
09/02	Ad-hoc reviewer, DMS: Special Programs Reserve
01/02	Site visit team member, Directorate for Engineering, Division of Engineering Education and Research Centers, (Neuromorphic Engineering Research Center at California Institute of Technology)
08/01	Ad-hoc Reviewer, Integrative Animal Biology
05/01	Ad-hoc Reviewer, Office of Integrative Activities (Science and Technology Centers)
04/01	Ad-hoc Reviewer, Information Technology Research/IBN
04/01	Ad-hoc Reviewer, Applied Mathematics
06/00	Ad-hoc Reviewer, Biocomplexity
04/00	Ad-hoc Reviewer, Integrative Biology
04/00	Ad-hoc Reviewer, Computational Neuroscience
09/99	Ad-hoc Reviewer, Instrumentation and Instrument Development
1998	Ad-hoc Reviewer, Computational Neuroscience

National Aeronautics and Space Administration

1994, 1995 | Panel member, Life and Biomedical Sciences and Applications Division

US Universities

04/21	<i>Chair</i> , External Consultant Committee; Review of Undergraduate and Graduate Programs in the Department of Biomedical Engineering, University of Utah, USA, April 2021.
04/18	<i>Member</i> , External Review Panel, Graduate Program in Bioengineering, Clemson University, April 24-26, 2018.
03/18	<i>External Reviewer</i> , Department of Biomedical Engineering, University of Texas-Dallas, March 29-30, 2018.
11/17	<i>Member</i> , External Review Committee, Department of Engineering Science and Mechanics, Pennsylvania State University, November 5-7, 2017.

STATE GOVERNMENTAL COMMITTEES

05/09-03/12	Commissioner (Appointed by Governor and confirmed by Senate), Biomedical Research Commission, Governor's Office of Boards & Commissions; State of Arizona
07/08-2010	Technical Advisory Board, Arkansas Science & Technology Authority. Little Rock, AR.

NATIONAL PROFESSIONAL ORGANIZATIONAL COMMITTEES

2016-2017	Engineering Deans Institute Planning Committee Chair; American Society of Engineering Education: Engineering Deans Council
2007-2008	NIH: Neural Interfaces Conference; Steering Committee member. Conference supported by U13 NS060636 (PI: Hunter Peckham, PhD Case Western Reserve University).
1998-2002	Univ. of Kentucky representative, Women in Engineering Programs & Advocates Network.
1997-1999	Region G representative, Society of Women Engineers; Women in Academia
1995-1998	Bluegrass Section, Region G representative to Council of Section Representatives. Society of Women Engineers

PRIVATE (NON-PROFIT) FOUNDATION COMMITTEES

2013	Board of Directors, Florida International University Research Foundation.
11/04-2010	Member, Bioimaging Technology Platform Engagement Committee, Flinn Foundation, Phoenix, AZ

OTHER

2002	Grand Awards Judge, Intel International Science and Engineering Fair, Louisville, KY, USA.
1980-1981	Treasurer for IEEE student chapter, National Institute of Technology, Warangal, A.P., India.

EDITORIAL SERVICE

Editorship

2011-	Editor-in-Chief (with Dieter Jaeger): Encyclopedia of Computational Neuroscience (Springer Inc., Berlin (4 volumes, 1 st Edition published, 2 nd edition in progress).
2017-	Associate Editor, Annals of Biomedical Engineering
2017-2020	Editorial Board, Bioelectronics in Medicine
2014	Track Chair, "New Frontiers and Special Topics", 2014 Biomedical Engineering Society Annual Meeting, October 22-25, San Antonio, Texas.
2013	Editor (with A.J. McGoron and J Riera), Proceedings of the 29 th Southern Biomedical Engineering Conference, IEEE, May 2013. Doi:10.1109/SBEC.2013.15
2013	Co-Editor (with C.-Z. Li and Z-Z Wu), Journal of Neuroscience and Neural Engineering: Special Issue on "Frontiers in Neural Biosensing Technology"; American Scientific Publishers
2012-	Review Editor: Frontiers in Neuroengineering (January 2012 – present)
2009-2011	Associate Editor: Frontiers in NeuroMethods (July 2009 – Dec 2011) (Journal activities absorbed into other Frontiers Journals end of 2011)
2008-2012	Associate Editor: Neural Networks, Elsevier (Official Journal of the International /European/Japanese Neural Network Societies (INNS, ENNS, JNNS)) (Assign and review 3-5 assignments a year)
2007-2013	Associate Editor: IEEE Transactions on Biomedical Engineering (Official Journal of the IEEE Engineering in Medicine and Biology Society) (Assign and review 1-3 articles each month)

Reviewer

Journals	Annals of Biomedical Engineering American Journal of Physical Medicine & Rehabilitation American Journal of Physiology (Heart and Circulatory Physiology) Annals of New York Academy of Science
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Behavioral and Cognitive Neuroscience Reviews
 Biomaterials
 Biomedical Science and Instrumentation
 Experimental Neurology
 Expert Review of Respiratory Medicine
 Frontiers in Neuroscience (Neural Technology)
 Frontiers in Neuroscience (Neuroprosthetics)
 IEEE Journal of Microelectromechanical Systems
 IEEE Transactions on Biomedical Circuits & Systems
 IEEE Transactions on Biomedical Engineering
 IEEE Transactions on Neural Networks
 IEEE Transactions on Neural Systems and Rehabilitation Engineering
 Journal of Applied Physiology
 Journal of National Academy of Inventors
 Journal of Neural Engineering
 Journal of Neuroscience
 Journal of Neurophysiology
 Journal of Neuroscience Methods
 Journal of Pharmacology and Experimental Therapeutics
 Journal of Spinal Cord Medicine
 Neurocomputing
 Neuroimaging
 PLOS One
 Science Translation Medicine
 Scientific Reports
 Synapse

Conference Proceedings
 Biomedical Engineering Annual Meeting
 Organization of Computational Neuroscience Annual Conference
 IEEE Engineering in Medicine and Biology Society Annual Conference
 National Conference for Undergraduate Research
 Rocky Mountain Bioengineering Conference
 Southern Biomedical Engineering Conference

SYMPOSIA, WORKSHOPS AND CONFERENCE SESSION ORGANIZATION

2/20 Welcome address /Session Chair, “Indo-US International Conference on Bioengineering and Regenerative Medicine (ICBR- 2020)”; IIT-BHU, February 26th-29th, 2020, Varanasi, India

10/16 Session Chair, Collaborative Research in Computational Neuroscience Conference 2016, October 24-26, 2016, Paris, France.

5/16 Panel Organizer and Moderator, “Technology in Rehabilitation”, Rehabilitation Research at NIH: Moving the Field Forward, National Institutes of Health, May 25-26, Bethesda, MD.

4/16 Local Host Organizer for conference and Session Chair, “Human Sensation”, 13th Annual World Congress of Society for Brain Mapping and Therapeutics, April 8-10, 2016, Miami, FL.

10/14 Track Chair, “New Frontiers and Special Topics”, 2014 Biomedical Engineering Society Annual Meeting, October 22-25, San Antonio, Texas.

05/13 Organizer and Co-Chair (with A. McGoron and J. Riera); “29th Southern Biomedical Engineering Conference”, May 3-5, 2013, Miami, FL.

- 07/12 Workshop Co-Organizer with Dr. Sharmila Venugopal (UCLA), “*Disease dynamics: Computational modeling of neurological diseases*” 21st Annual Computational Neuroscience Meeting, CNS*2012, July 25, 2012, Atlanta, GA, USA (Invited speakers from academia)
- 11/11 Scientific Advisory Committee and Session Chair, “*Prosthetics for Muscle Paralysis*” at 3rd International Conference on Neuroprosthetic Devices, (ICNPD-2011), November 25-26, Sydney Australia.
- 07/10 Workshop Co-Organizer with Dr. Douglas Weber (U Pittsburgh), “*Neurodesign: Using computational modeling for the design of neurotechnology*”, 19th Annual Computational Neuroscience Meeting, CNS*2010, July 30, 2010, San Antonio, TX, GA, USA. (Invited speakers from academia)
- 01/09 Organizer and Chair, 2 day Symposium and Workshop on “*Co-Adaptive Learning: Adaptive Technology for the Aging*” at Arizona State University, Jan. 8-9, 2009, Tempe, AZ. (Lectures by 6 national and international invited speakers from academia, clinical practice and industry; poster session, discussion panels)
- 06/08 Steering Committee Member, *Neural Interfaces Conference*, & Chair and Organizer of Plenary Session 7, “*Sensory Feedback for Prosthetic Limbs*”, June 16-18, Cleveland, OH.
- 02/08 Organizer and Chair, Symposium and Workshop on “*Promoting Neural Plasticity*” at Arizona State University, Feb. 15, 2008, Tempe, AZ. (Lectures by 3 national invited speakers from academia; discussion panels)
- 03/07 Organizer and Chair, 2 day Symposium and Workshop on “*Adaptation and Learning in Neuro-Biomechatronic Systems*”, The Biodesign Institute, March 22-23, 2007. (Lectures by 6 national and international invited speakers including one from National Academy of Engineering; extensive discussion panels)
- 07/07 Workshop Co-Organizer with Dr. Sharon Crook (ASU), “*Neuro-Machine Interfaces: Integrating Biology and Technology to Develop Functionally Relevant Devices*”, 16th Annual Computational Neuroscience Meeting, CNS*2007, July 12, 2007, Toronto, Canada. (Invited speakers were from industry and academia)
- 09/03 Minisymposium Organizer and Co-Chair with Dr. Chi-Sang Poon (MIT), “*Nonlinear Dynamics and Control*”, 25th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Sept. 17-21, 2003, Cancun, Mexico.
- 10/03 Session Co-Chair with Dr. John White (Boston U), “*Neural Interface*”, Biomedical Engineering Society, Oct. 1-3, 2003, Nashville, TN.
- 10/02 Session Co-Chair with Dr. Robert Kirsch (Case Western Reserve U), “*Neuromechanical Systems*”, 24th Annual International Conference of the IEEE Engineering in Medicine and Biology Society & Annual Fall Meeting of the Biomedical Engineering Society, Oct. 23-26, 2002, Houston, TX.
- 06/02 Session Organizer and Co-Chair with Dr. James Abbas (U Kentucky); “*Development and Plasticity of Spinal Circuits*”, Eighth Annual Kentucky Spinal Cord and Head Injury Research Symposium, June 24-26, 2002, Lexington, KY.
- 07/00 Session Moderator; Ninth Annual International Computational Neuroscience Meeting (CNS-00), Brugge, Belgium
- 07/96-7/00 Program Committee: International Computational Neuroscience Meetings.
- 10/99 Session Organizer and Moderator; “*NeuroEngineering Track: Neural Recording II: Cells, Slice, Brain*” at the 21st Annual International Conference of the IEEE-EMBS joint meeting with the BMES, October 13-16, 1999, Atlanta, GA.
- 07/99 Session Moderator; Eighth Annual International Computational Neuroscience Meeting (CNS-99), Pittsburgh, PA.
- 04/97 Session Organizer and Chair; “*Biomedical Engineering Education*”. American Society for Engineering Education, North Central Section. Spring conference, Dayton, OH.
- 04/96 Session Chair; *Neural Networks*. 15th Southern Biomedical Engineering Conf., Dayton, OH.

SERVICE to the UNIVERSITY

INSTITUTIONAL COMMITTEES

Florida International University

University Committees

2020-pres	Member, <i>Accelerate Preeminence & Research and Innovation Impact</i> implementation committee (FIU <i>NextHorizon2025</i> Strategic Plan)
2018-2019	Member, <i>Highest Research Activity Committee- Improving Carnegie Highest Research/Achieving SUS Preeminence</i> workgroup (FIU <i>NextHorizon2025</i> Strategic Plan)
2015-2020	Member, <i>Global Council</i> , Office of Faculty and Global Affairs. Sept 2018- Completed 7-day Provost-led University Administration multi-state delegation visit to India to identify new strategic opportunities for faculty engagement, student exchange and recruitment.
2017-2018	Chair, Diversity panel; Drafted College “Diversity, Equity and Inclusion Plan”.
2016	International partnership visits to China as Interim Dean (Shanghai University of Engineering and Science, Sept 17 (agreements signed); Wuxi Industrial Park, Sept. 19 (agreement signed June 2017).
2015-16	Co-Chair, <i>Incentivize, synchronize, and streamline innovation+entrepreneurial initiatives</i> workgroup; Accelerate Research Innovation & Entrepreneurship implementation for the <i>BeyondPossible 2020</i> Strategic Plan.
2015-2017	Provost’s Deans Advisory Council. (Kenneth Furton)
2014-2015	Co-Chair, <i>Carnegie Very High Research</i> Strategic Planning Committee. (FIU <i>BeyondPossible 2020</i> Strategic Plan)
2014-2015	Chair, <i>Research Advisory Committee</i> , Division of Research.
2013-2014	Member, <i>iREAL</i> Committee.
2013-2014	Faculty Representative, Board of Directors, Florida International University Research Foundation.
2011-’15; '17-present	Provost’s Chairs Advisory Council. (Doug Wartzok/Kenneth Furton)
2011-’15, ’17-	Ex-Officio Member, <i>Council of Chairs</i> , College of Medicine.
2011-2014	Internship Workgroup member, Office of Engagement, FIU

College of Engineering and Computing

2017	Chair, committee for drafting “Diversity, Equity and Inclusion Plan”.
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Arizona State University

University Committees

2006-2010	Member, President’s Academic Advisory Council, Office of the President (Michael Crow)
2007-2010	Member, Faculty International Committee, Office of the VP for Global Engagement Contributed to the University strategic planning sub-committee Research award committee (helped establish criteria and review proposals)
2007	Member, Graduate Faculty Committee, Office of the Graduate School Helped establish a Graduate faculty model across the University
2003-2007	Member, International Academic Programs Committee Reviewed multiple international academic course offerings and student exchange programs
2006-2007	Executive Board Member, Faculty Women’s Association
2006-2007	Board Member, Asian American Faculty and Staff Association
2005-2006	Member, Provost Search Committee
2003-2004	Member, Staff Search Committee, Office of Research and Sponsored Programs

Ira A. Fulton School of Engineering

2003-2006	Member, Dean’s Advisory Council
2003-2007	Member, Fulton School of Engineering Academic Standards Committee

2006	Fulton Discovery Series Tour- Presentation to lay public Harrington Department of Bioengineering
2003-2007	Member, Promotion & Tenure Committee
2003	Judge, Biomedical Engineering Research Day The Biodesign Institute
2005-2007	Member, Personnel Committee for Research Faculty

University of Kentucky

College of Engineering

1996-2002	Faculty Counselor for student chapter, Society of Women Engineers Center for Biomedical Engineering (CBME)
2001	Member, Faculty Search Committee
2000	Member, Website Development Committee
1999-2000	Member, Research and Program Development Committee for submission of Special Opportunities Research Proposal to The Whitaker Foundation (second attempt)
1999	Wrote draft of part of the report for Self-Assessment for CBME
1997-1998	Member, Research and Program Development Planning and Submission Committee (Special Opportunities Research Proposal to The Whitaker Foundation)
1998	Group leader, Student recruitment publicity material
1995-1998	Liaison between Department of Biosystems and Agriculture Engineering (BAE) and CBME for establishing a pre-biomedical engineering option for BAE undergraduates. Liaison to
1996	Organized presentation of Biomedical Engineering Research (three laboratories) to middle school students participating in the Pre-Freshman Enrichment Program (PREP'96) held in the College of Engineering at the University of Kentucky.

SERVICE TO RETENTION OF FEMALE STUDENTS IN ENGINEERING AT UNIVERSITY OF KENTUCKY

10/02	Participated in “Young Women in Science” University of Kentucky program for the state of Kentucky by including two high-school girls in research laboratory work.
09/01	Participated in the “Evening with Industry” program held prior to the Engineering career fair organized by the University of Kentucky student chapter of the Society of Women Engineers
2001	Attended the Chartering of the Society of Women Engineers Student Chapter at the Paducah Campus, Paducah, KY.
04/01	Member of committee for awarding “ Margaret Ingels Society of Women Engineers Graduate Fellowship ”.
11/00	Drafted documentation for application package and announcement for the “ Margaret Ingels Society of Women Engineers Graduate Fellowship ” to be awarded starting Fall 2001.
10/00	Participated in the “Evening with Industry” program held prior to the Engineering career fair organized by the University of Kentucky student chapter of the Society of Women Engineers. 90 companies at career fair.
08/00	Participated in welcome retreat for Women in Engineering Program (Incoming women freshmen in engineering).
06/00	As counselor, accompanied students from the Society of Women Engineers student section to the National convention held in Washington DC. The student section won a TRW Foundation Scholarship , and one academic fellowship . Set up a booth for UK College of Engineering at the national career fair.
1999	As faculty counselor helped with the drafting of the guidelines for establishing an endowment for the “ Margaret Ingles Society of Women Engineers Graduate Fellowship ”

- offered by the Society of Women Engineers Student Chapter at University of Kentucky. (\$50,000 endowment shared equally by SWE and the State of Kentucky through a Research Challenge Trust Fund)
- 10/99 Participate in the “Evening with Industry” program held prior to the Engineering career fair. Career fair sponsored and organized by the University of Kentucky student chapter of the Society of Women Engineers. 72 companies at career fair.
- 08/99 Participated in welcome retreat for Women in Engineering Program (Incoming women freshmen in engineering).
- 07/99 As faculty counselor, provide support to the student body of the Society of Women Engineers. The Society won the **Best Student Section award** for the Region (26 sections encompassing Ohio, Kentucky, Pennsylvania, and West Virginia), the **TRW Foundation Scholarship**, and placed second in the **National SWE Matter Bowl**.
- 11/98 Guided and helped organize the Region-G Society of Women Engineering Regional Conference hosted by the University of Kentucky and the Bluegrass section. **Financial Support: Solicited funds from several industries for support of the Region-G conference.**
- 08/98 Participated in welcome retreat for Women in Engineering Program (Incoming women freshmen in engineering).
- 07/98 As faculty counselor, accompanied students from the Society of Women Engineers student section to the National convention held in Houston, Texas. At the National level (Ten Regions) the UK student section won the award for **Best Student Section in the Nation**, the **National Team Tech Award**, The **Best Audio-Visual Presentation**, a **Freshmen Academic Scholarship**, and the **TRW Foundation Scholarship**. At the Regional level (26 sections encompassing Ohio, Kentucky, Pennsylvania, and West Virginia) the section was the **Best Student Section**. Set up and manned a booth for UK College of Engineering at the career fair. Contacted industry representatives (30-40) to increase industry participation in UK career fair and to get information about summer internships and co-op opportunities for students.
- 10/98 Participated actively in the Evening with Industry program held prior to Engineering career fair.
- 11/97 Represent Bluegrass Section, Region G and the University of Kentucky at the Regional Society of Women Engineers Conference at Pennsylvania State University, PA; Drove students to the conference.
- 10/97 Attended “Evening with Industry” prior to the University of Kentucky annual career fair.
- 08/97 Participated in the Faculty/Students/Industry Group Interaction at the “Women in Engineering” welcome retreat.
- 07/97 Represented Bluegrass Section, Region G and the University of Kentucky at the national Society of Women Engineers Conference in Albuquerque, New Mexico; Made contacts with company representatives to increase industry participation in UK career fair; accompanied the student members as their counselor. The UK student section won the **National Scribe award**, **second place** for the **National Team-Tech award**, **Best Student Section in the Region**, and a **TRW Foundation Scholarship**.
- 1997 Accompanied SWE, University of Kentucky student chapter officers and directors for overnight retreat. Organized activity for team building and negotiating skills and helped with the prospective planning for the new fiscal year.
- 02/97 Judge for University of Kentucky Society of Women Engineers Freshmen Scholarships.
- 11/96 Represented Bluegrass Section at the Region G Society of Women Engineers Conference (responsible for submitting section reports; required to attend Regional and National meetings).
- 11/96 Invited Participant; Panel on ‘Motherhood and Career’ organized by Society of Women Engineers, University of Kentucky student chapter.
- 06/96 Judge for Society of Women Engineers Student Section reports for Region G.

1993-1995 | Society of Women Engineers; Counselor for student chapter at The Catholic University of America, Washington D.C., '93-'95.

SERVICE TO INTERDISCIPLINARY EDUCATION

Arizona State University

2008-2010 | Graduate faculty in Neuroscience, Mathematics and Electrical & Biomedical Engineering
2003-2007 | Steering Committee member in NSF IGERT Program on Neural & Musculoskeletal Adaptation in Form & Function
2004-2010 | Mentor in School of Life Sciences Undergraduate Research program
2007-2010 | Mentor in ASU/NASA Space Grant intern program
2002-2010 | Mentor for research experience to undergraduate students from the Barrett Honors College

University Of Kentucky

1996-2002 | June 1996, 1997, 1998. Research mentor for national summer fellows accepted by the 'NSF-REU program in Math and Engineering' at the University of Kentucky.
July 1998 | Research Mentor for several undergraduate students from Departments of Electrical Engineering, Biosystems and Agriculture Engineering, and Biology
1997-2002 | Anatomy and Neurobiology; Laboratory available for research rotation.
1995-1998 | Presentation to incoming graduate students in the Department of Physiology to provide them information and options for research in Computational Neuroscience
1996 | Organized presentation of Biomedical Engineering Research (three laboratories) to middle school students participating in the Pre-Freshman Enrichment Program (PREP'96) held in the College of Engineering at the University of Kentucky.

EXAM COMMITTEES

Florida International University

2017-18 | Qualifying exams Biomedical Engineering Doctoral students.
2016 - | Comprehensive exam committee for Doctoral student in Biology

Arizona State University

Barrett Honors College and other Undergraduate Honors Theses

2010-11 | Stewart Wentz, Barrett Honors Thesis, First Reader and Chair ("Adaptive Diaphragmatic Pacing for Respiration Rehabilitation Therapy")
2010-11 | John Spanias, Barrett Honors Thesis, Second reader ("Stroke Rehabilitation Using Functional Electrical Stimulation: Evaluating Algorithms for Adaptive Control"); Advisor: JJ Abbas
2010-11 | Natasha Nanda, Barrett Honors Thesis, First Reader and co-Chair ("Comparative Analysis of Animal Husbandry (specifically large animal) practice in India and the United States")
2009 | Danielle Protas, Barrett Honors Thesis, Second reader ("*Selective Neurotransmitter Antagonists in Anesthetized Rats*"); Advisor: D Jindrich.
2008 | Stanley Brewer, Psychology Honors Thesis committee ("*DBS and Striatal Receptor Manipulation*") Advisor: E Castaneda
2004 | Taryn Jensen, First Reader and Chair ("*Posture Control in Rats with Incomplete Spinal Cord Injury*")
2003 | Crystal Ong, Barrett Honors Thesis, Second reader

Doctoral student: Comprehensive Exam

01/09 | Gabe Bodeen, Bioengineering
12/08 | Liliana Rincon
09/08 | Greg Apker

03/06	Jack Goble
02/06	Massoud Khairiache
2004	Remy Walhoun
01/06	Doctoral Qualifying Exam Committee

Doctoral Student: Prospectus Exam

11/10	Lydia Bilinsky, Mathematics
12/08	Massoud Khairiache
10/07	Mallika Fairchild
04/07	Alison Sitek
06/07	Joe Graham
01/07	Yang Chenhui
04/06	Tilak Jain
04/06	Jerry Tian

SUPERVISOR OF RESEARCH AND ADMINISTRATIVE STAFF

Research Staff

2021-pres	Andres E. Pena, PhD, Research Assistant Professor
2017-pres.	Brian K. Hillen, PhD, Research Assistant Professor
2015-2018	Liliana Rincon Gonzalez, PhD, Asst. Research Scientist/ Research Assistant Professor (2017) (Position currently open for clinical research coordinator)
2014-2019	Jefferson Gomes, Laboratory Manager (Position currently open)
2012-pres.	Anil Kumar Thota, MS, Research Associate/Scientist
2012-2013	Amy Starosciak, PhD, Research Coordinator
2011-pres.	Sathyakumar Kuntaegowdanahalli, MS, Research Scientist/Engineer
2010	Mallika Fairchild, PhD, Research Engineer
2008-2010	Alex, Iarkov, PhD, Research Scientist
2006-2010	James V. Lynskey, PhD, PT, Asst. Research Scientist (part-time)
2008-2009	Seung-Jae Kim, PhD, Asst. Research Scientist
2008-2009	Jeremy Burton, BS, Research Technician
2004-2007	Diane Hagner, BS, Research Analyst, Senior
2004-2005	Anil Thota, MS, Laboratory Coordinator and Engineer
2003-2004	Alana La Belle, MS, Project Engineer
2003-2004	Elizabeth Ashton, BS, Research Coordinator
2001-2002	Elizabeth A. Knapp, MS, Principal Research Analyst
1999-2002	Brian Thompson, MS, Sr. Research Analyst
2002	John Alton, Research Technician
1991-1992	Fahad Fahoudi, Research Technician

Administrative Staff

2015-2017	As Interim Dean: Multiple Staff members in the College of Engineering & Computing for Operations, Financials, Human Resources, Advising, External Programs, Information Technology, Marketing; Program Director for Strategic Initiatives
2011-15, '17-	Senior Coordinator (Claudia Estrada), Biomedical Eng., FIU; Program Coordinator (Andrew Green/Sharon Manjarres/Barbara Abela, Biomedical Eng., FIU Marketing & Journalism staff. (Part-time)
2011-15, '17-	Research/Teaching Lab Managers ('11-'13 Jim Byrne, PhD; '13- Yun Quan, PhD), Biomedical Eng., FIU
2007-2010	Jeanine Elliott, Administrative Assistant, ASU
2008-2009	Nikki Thompson, Business Manager, ASU
2007	Betsy Arnold, Program Coordinator, ASU
2005-2006	Eona Lewis, BS, Program Coordinator, ASU
2004-2005	Melissa Magyar, BS, Administrative Assistant, ASU

MENTORSHIP

Mentor for Postdoctoral Scholars

2020-2021	<u>Andres Pena</u> (PhD, Biomedical Engineering, FIU) Current Status: Research Assistant Professor, University of Arkansas.
2019-2020	<u>Ricardo Siu</u> (PhD Biomedical Engineering, FIU, Visiting Fellow) Current Status: Postdoctoral Associate, University of Louisville.
2017	<u>Sanjeev Kumar</u> (PhD Biomedical Engineering, IIT- Delhi, Asst. Professor, Academy of Scientific and Innovative Research, CSIR-Central Scientific Instruments Organisation (CSIR-CSIO), Chandigarh, India; CSIR- Raman Research Fellowship Visiting Research Fellow.)
2012-2016	<u>Brian K Hillen</u> (PhD Biomedical Engineering, Arizona State U) Current Status: Research Assistant Professor, Florida International University.
2012-2014	<u>Adeline Zbrzeski</u> (PhD Physics and Engineering Science, University of Bordeaux 1, France) Current Status: Program Manager, Avanos Medical.
2011-2014	<u>Mohamed Abdelghani</u> (PhD Neuroscience, University of Toronto, Canada) Current Status: Consultant, Morgan Stanley, New York, USA.
2011-2013	<u>Dinesh Bhatia</u> , PhD Biomechanics and Rehabilitation, Asst. Professor Motilal Nehru National Institute of Technology, Allahabad, India; Department of Science & Technology, DSO India Visiting Research Fellow/Res. Asst. Prof) Current Status: Head & Associate Professor, North-Easter Hill University, Shillong, India.
2011	<u>Amy Starosciak</u> (PhD Neuroscience, Uniformed Services University of the Health Sciences, USA) Current Status: Director of Outcomes Research, Baptist Health South Florida, Miami, FL
2009-2010	<u>Alfred Haas</u> (PhD Electrical Engineering, U Maryland College Park), Nov '09- Dec'10 (co-mentor with Dr. James Abbas)
2008-2010	<u>Sharmila Venugopal</u> (PhD Neuroscience, Ohio State U), Oct'08- Dec'10 Current Status: Adjunct Assistant Professor, University of California, Los Angeles.
2010	<u>Mallika Fairchild</u> (PhD Bioengineering, Arizona State U), Jan'10-Sep'10 Current Status: Primary Patent Examiner, USPTO
06-12/2008	<u>Joe Graham</u> (PhD Bioengineering, Arizona State U), June '08 – Dec'08 Current Status: Contract Researcher (SUNY Downstate)
2006-2008	<u>Seung-Jae Kim</u> (PhD Bioengineering, U Utah), Aug'06-Aug'08

- Current Status: Associate Professor, Central Baptist U, CA
- 2004-2006 James Lynskey (PT, PhD Neuroscience, Georgetown U), Dec.'04-June '06
Current Status: Associate Professor – School of Pharmacy and Health Professions, Creighton University, A.P. Still University, Joint Appointment as Research Scientist, Center for Adaptive Neural Systems, Arizona State U
- 2004-2006 Tsukasa Kanchiku, MD, PhD Orthopedic Surgery/Biomechanics, Aug.'04- June '04
Current Status: Associate Professor, Department of Orthopedic Surgery, Yamaguchi University Graduate School of Medicine, Yamaguchi, Japan
- 2003-2004 Kazuhiko Ichihara, MD, PhD Orthopedic Surgery/Biomechanics, Feb.'03- July '04
Current Status: Chief Doctor - Orthopedic Surgery, Department of Orthopedic Surgery, Kyoritsu Hospital, Yamaguchi, Japan
- 2001-2002 Thomas D. Coates, (PhD Penn State U), Aug.'01- July '02
Current Status: Small Business Owner- TC Design Group LLC.

Major Advisor & Chair of Graduate Student Dissertations (PhD)

- 2020-pres Aliyah Shell (passed candidacy), Bridge to Doctorate Fellowship, McKnight Fellowship, Biomedical Engineering, FIU – transferred to University of Arkansas Research Supported by: WH Coulter Eminent Scholar Endowment
- 2019-2021 Aldo Amenta (passed candidacy), Biomedical Engineering, FIU [Converted to MS in Fall 2021 because of personal circumstances. MS Degree Granted: December 2021].
Research Supported by: WH Coulter Eminent Scholar Endowment
- 2020-pres Arianna Ortega Sanabria (passed candidacy), Biomedical Engineering, FIU - transferred to University of Arkansas
Research Supported by: NIH: R01EB027584
- 2020-pres Tommaso Benigni (passed candidacy), Biomedical Engineering, FIU - transferred to University of Arkansas
Research Supported by: NIH: R01EB023261-01A1/USAMRAA:W81XWH1910839
- 2018-pres. Anil Kumar Thota (passed candidacy), Biomedical Engineering, FIU
Research Supported by: USAMRAA:W81XWH1910839 and WH Coulter Eminent Scholar Endowment
- 2009-'10; '18-pres. Sathyakumar Kuntaegowdanahalli (expected graduation Fall 2022), Biomedical Engineering, FIU
Research Supported by: DARPA (HAPTIX) & ARO: W911NF-17-1-0022 and WH Coulter Eminent Scholar Endowment
- 2014-2021 Mohamed Ahmed, PhD Summer (June 29) 2021, Biomedical Engineering, FIU
Dissertation title: *Functional and Dysrhythmic Slow Waves in the Stomach - An In Silico Study*
Research Supported by: WH Coulter Eminent Scholar Endowment
- 2013-2020 Andres Pena, PhD Spring (May 8), 2020, Biomedical Engineering, FIU
Dissertation title: *Enhanced Surface Electrical Neurostimulation (eSENS): A Non-Invasive Platform for Peripheral Neuromodulation.*
Research Supported by: DARPA (HAPTIX) & ARO: W911NF-17-1-0022 and WH Coulter Eminent Scholar Endowment
- 2013-2019 jian Black, PhD Fall (Nov 14), 2019; Biomedical Engineering, FIU
Dissertation title: *Offset Electrodes for Enhanced Neural Recording in Microchannels.*
Research Supported by: WH Coulter Eminent Scholar Endowment
- 2013-2019 Ricardo Siu, PhD Summer (July 10) 2019; Biomedical Engineering, FIU
Dissertation title: *Adaptive Closed-Loop Neuromorphic Controller for Use in Respiratory Pacing.*
Current Status: Postdoctoral Fellow, University of Louisville, KY
Research Supported by: NIH-R01NS086088
- 2005-2012 Brian Hillen, PhD Fall (July), 2012; Bioengineering, Arizona State University

2004-2009	<p>Dissertation title: <i>Experimental and Computational Assessment of Locomotor Coordination and Complexity Following Incomplete Spinal Cord Injury in the Rat</i>. Research Supported by: NIH-R01NS054282 Current Status: Research Asst. Professor, FIU</p> <p><u>Mallika Fairchild nee Mukherjee</u>, PhD Fall 2009. Bioengineering, Arizona State U Dissertation title: <i>Strategies for Promoting Neural Plasticity after Spinal Cord Injury</i>. Research Supported by: NIH-R01NS054282 and Science Foundation Arizona Current Status: Primary Patent Examiner, USPTO</p>
2003-2008	<p><u>Joe Graham</u>, PhD Spring (April 10), 2008. IGERT Fellow and Bioengineering, Arizona State U Dissertation title: <i>Modeling Motoneurons and the Effects of Spinal Cord Injury</i> Research Supported by: NIH-R01NS054282 Current Status: Contract Researcher (SUNY Downstate)</p>
2010	<p><u>Sambhavi Subramanian</u>, PhD program, Neuroscience, Arizona State U- Did not transfer to FIU</p>
2009-2010	<p><u>David Guffrey</u>, PhD program, Bioengineering, Arizona State U- Did not transfer to FIU</p>
1996-1998	<p><u>Breton Losch</u>, PhD program, Center for Biomedical Engineering, Univ. of Kentucky; Transferred to Electrical Engineering Supported by: NSF (IBN-9601345)</p>
<p>Mentor & Chair of Graduate Student Master's Theses/Projects</p>	
2019-2021	<p><u>Diego Aguilar</u>, MS Project, Biomedical Engineering, FIU (March 15, 2021) Project title: <i>Design of an Adjustable Fragile Object Simulator for the Assessment of Sensory Feedback Utility During Functional Motor Tasks</i>. Research Supported by: NIH:R01EB023261</p>
2019-2020	<p><u>Aliyah Shell</u>, Bridge to Doctorate Fellowship, Biomedical Engineering, FIU (Switched to PhD program)</p>
2017-2019	<p><u>Caitlyn Myland</u>; MS thesis, Bridge to Doctorate Fellowship, Biomedical Engineering, FIU (defense, June 28 , Degree July 2019) Thesis title: <i>The Neural Recruitment of Executive Function in Monolingual versus Bilingual Preterm-Born Children: an FNIRS Study</i>.</p>
2017-2018	<p><u>Megan Buchannan</u>, Biomedical Engineering, FIU (transferred to PhD program with different advisor)</p>
2015-2016	<p><u>Chintan Joshi</u>, MS thesis, Biomedical Engineering, FIU (Defense Nov. 10, Degree Dec. 2016) Thesis title: <i>EEG Spectral Changes Before & After an Eight- Week Intervention period of Preksha Meditation</i>. Research Supported by: WH Coulter Eminent Scholar Endowment Current Status: Quality Engineer, Nova Biomedical</p>
2012-2014	<p><u>Tatiana Bejarano</u>, MS thesis, Biomedical Engineering, FIU. (Defense Nov. 12, Degree Dec. 2014) Thesis title: <i>Neuromuscular Changes in Older Adults during the Lateral Step Task</i> Research Supported by: WH Coulter Eminent Scholar Endowment Current Status: Doctoral Student (Health/Medical Physics), Univ. of Miami, FL.</p>
2014	<p><u>Vaibhavi Patil</u>, MS Project, Biomedical Engineering, FIU (Degree May 2014) Project: <i>Motor Learning and Control in Adults</i></p>
2012-2013	<p><u>Noah Cohen</u>, MD/MS Project, Biomedical Engineering, FIU (Degree May 2013) Project: <i>Effect of TMS/PAS on Tactile Surface Discrimination</i></p>
2008-2010	<p><u>Sambhavi Subramanian</u>, MS, Bioengineering, Arizona State University (Degree May 2010) Current Status: PhD student in Neuroscience, Arizona State U, Tempe, AZ</p>

- 2003-2005 | Adam Belanger, MS thesis, Bioengineering, Arizona State U (Defense, October 7, 2005, Degree Fall 2005.)
Thesis title: *The Effects of Therapeutic Neuromuscular Stimulation Following Incomplete Spinal Cord Injury*.
Research Supported in part by: NIH: R01HD40335
Last Known Status: Clinical Engineer/Project Manager, Universal Consulting Services, Frederick, MD
- 2002-2005 | Ganapriya Venkatasubramanian, MS thesis. Bioengineering, Arizona State U (Defense July 19, 2005, Degree Summer 2005)
Thesis title: *A Rodent Model for Locomotor Training after Spinal Cord Injury Using Functional Neuromuscular Stimulation*.
Research Supported by: NIH: R01HD40335
Last Known Status: Clinical Data Associate, Covance, China.
- 2000-2002 | Anil Thota, MS thesis Aug.'00-Aug'02; Summer '03-April '04, Degree: May'04. Center for Biomedical Engineering, University of Kentucky
2003-2004 | Thesis title: *Neuromechanical Control of Locomotion in the Intact and Incomplete Spinal Cord Injured Rat*.
Supported by: Kentucky Spinal Cord and Head Injury Research Trust and NIH: R01HD40335
Last Known Status: Research Scientist, FIU, Miami, FL.
- 2003 | Krishna Mohan Veeraghavalu, MS program, Electrical Engineering, Arizona State U (Changed to MS-non thesis option)
- 1997-2000 | Sarvani Grandhe, MS thesis, 1997-2000, Degree: Spring 2000. Center for Biomedical Engineering, University of Kentucky
Thesis title: *Perturbation Analysis of the Locomotor System*.
Supported by: NIH-RR12588 and NSF (IBN-9601345)
Last known Status: Sr. Software and Systems Engineer, Boston Scientific, CA.
- 1997-2000 | Dan Li, MS thesis, 1997-2000, Degree: Fall 2000. Center for Biomedical Engineering, University of Kentucky
Thesis title: *Time Varying Analysis of Rhythmic Locomotor Activity of the In-Vitro Neonatal Rat Spinal Cord*
Supported by: Kentucky Spinal Cord and Head Injury Research Trust (MAR-9606-K3) to R. Jung
Last known status: Law Clerk at Schwegman, Lundberg & Woessner, Greater Minneapolis-St Paul, MN.
- 1998-2000 | Heng Wang, MS thesis, 1998-2000, Degree: Fall 2000. Center for Biomedical Engineering, University of Kentucky
Thesis title: *Effects of Supraspino-Spinal Interactions on Variability in the Lamprey Locomotor Rhythm*.
Supported by: Grants from NSF (IBN-9601345) and The Whitaker Foundation
Last known status: Researcher, University of Michigan.
- 2001-2004 | Jayaroop Gualapalli, MS program, September 2001-August 2004, Dept. of Electrical and Computer Engineering, University of Kentucky. (Dr. P Hardy took over as primary advisor in August 2002 when R Jung moved to ASU)
Thesis title: *Monitoring Recovery from Spinal Cord Injury Using Magnetic Resonance Imaging*.
Research Supported by: Kentucky Science and Education Fund.
- 1998-1999 | Min Shao, MS program, 1998–1999, Center for Biomedical Engineering, University of Kentucky;
Supported by: NSF (IBN-9601345) (Did not complete program)
Publications: 1 Journal article.
- 1997-1998 | Jeeyune Jung, MS program, 1997-1998, Center for Biomedical Engineering, University of Kentucky.

Supported by: The Whitaker Foundation (Did not complete program)

Mentor for Interdepartmental Neuroscience Program Students

1998 | Tomoko Sengoku, Research Rotation, University of Kentucky

Mentor & Chair of Undergraduate Honors Thesis

2010-2011 | Stewart Wentz
The Barrett Honors College (Thesis research advisor)
Thesis: *Adaptive Diaphragmatic Pacing for Respiratory Rehabilitative Therapy*
Natasha Nanda, The Barrett Honors College (Thesis research advisor-)
Thesis: *Comparative Analysis of Animal Husbandry (specifically large animal) practice in India and the United States*

2003-2004 | Taryn (Jensen) LaFlamme
The Barrett Honors College (Thesis research advisor)
Thesis: *Posture Control in Rats with Incomplete Spinal Cord Injury*
Current Position: Senior Researcher & Development Engineer, LeMaitre Vascular.

1998 | Justin Kieler
Honors in Biophysics (Thesis research advisor)
Thesis: *Feedforward and Feedback Contributions to the Central Pattern Generating Model of Locomotion in the Lamprey*

1996 | Bradley Brewer
Honors in Biology (Thesis research advisor)
Thesis: *Contributions of Pacemaker Neurons to the Central Pattern Generator for Locomotor Control in the Lamprey*

Mentor of Undergraduate Researchers and High School students

FLORIDA INTERNATIONAL UNIVERSITY

Biomedical Engineering/Biology

2020-pres | Ra'Mall Harris (MARC U-STAR Fellowship; Student co-mentored by doctoral student)

2020-2021 | Heriberto (Andy) Nieves, Kristy Menendez, Alejandro Guilarte; Shania Mair, Ra'Mall Harris (Students co-mentored by doctoral student and lab staff); Senior design teams

2018-2019 | Sepeher Soroushiani, Jonathan Cobos-Solis (Students co-mentored by doctoral student and lab staff); Senior design teams

2017-2020 | Bridgette Manohar (Student co-mentored by doctoral student and lab staff)

2017-2018 | Luis Herran, Valentina Dargan, Victoria Leon (Students co-mentored by doctoral students and lab staff)

2017 | Quentin Diggs, Francesca Ackerman (Students co-mentored by lab staff)

2016 | Agnes Arrinda, Marisol Soula (Students co-mentored by lab staff)

2014 -2015 | Juan Loayza, Brett Davis, Elizabeth Gallardo, Agnes Arrinda, Juan Pham, Luai Mustafa (Students co-mentored by doctoral students and lab staff)

2014 | Carlos Chirino, Betzaida Hernandez, Maria Pena, Shyama Ramjagsingh (Senior Capstone Design Team; *"Test Method Validation and device Prototype Catheter Tip Bonding"*; Sponsor: Cordis Corporation)

2013 | Rad Akhter, Vania Galarraga, Giovanni Giraldo, David Hojnacki (Senior Capstone Design Team; *"Modified 1.5mm Plate for Hand Fracture System"*; Sponsor: Biomet Inc.)

2011 | Andrew Musto (Senior)

2011-12 | Andres Pena (Senior)

2011 | Alex Rodriguez (Senior)

2011-12 | Tatiana Bejarano (Senior)

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|-----------|--|
| 2011-2012 | Ricardo Siu, Christian Forment, Daniel Garcia, Reynier Santos (Senior Capstone Design Team; <i>“Erekt-Alert Posture Monitoring System”</i> ; Sponsor: WB Engineering) |
| 2012 | Katherine Chacon, Mikel Dualos, Andrew Mendoza (Senior Capstone Design Team; <i>“Linear Motion System for the Antalgic-Trak Spinal Decompression Unit”</i> ; Sponsor: CMSI Inc.) |

High School students

Several high school students rotate through the lab especially through a summer program. They are primarily mentored by doctoral students. 2018, 2019 included Army Research Office supported interns.

ARIZONA STATE UNIVERSITY

Bioengineering

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| 2009-2010 | Peter Bremer (Junior, Fulton Undergraduate Research Initiative Fellow) |
| 2010 | Chad Andersen (Senior, Fulton Undergraduate Research Initiative Fellow; <i>“Sensor Design for Determining Diaphragm Muscle Efficiency”</i>) |
| 2010 | Benjamin Speck (Senior, Fulton Undergraduate Research Initiative Fellow; <i>“Sensor Design for Ventilatory Control”</i>) |
| 2009-2010 | Jeremy Groover & Jason Lai (Senior Capstone design Team; <i>“Wearable Sound Localization Device”</i>) |
| 2008-2009 | Alyssa Bellinfante (Senior Capstone Design; <i>“Biofeedback Device to Correct Drop Foot in Multiple Sclerosis”</i>) |
| 2007-2008 | Andrew Edwards, James Dupuis, Alison Smith (Senior Capstone Design Team; <i>“Malawi Polio Leg Brace”</i>) |
| 2007-2008 | Leila Kabiri, Mariam Asadalla, Ryan Dobbs (Senior Capstone Design Team; <i>“Malawi Group Project: Ida”</i>) |
| 2006 | Ashka Atodaria (Sophomore, laboratory participant) |
| 2004-2005 | Sarah Call (Senior Capstone Design; <i>“Tapered Catheter with Controlled Delivery of Fluids with Time-Dependent Viscosity”</i>) |
| 2006-2007 | Cory Fackiner (Freshman, laboratory participant) |
| 2003-2004 | Taryn Jensen (Senior Capstone Design; <i>“Balance Box: Assessing Balance Recovery”</i>) |
| 2003-2004 | Kimberly Yarnall (Senior; laboratory participant) |
| 2003 | Veena Ganeshan (Senior; laboratory participant) |
| 2002 | Anusuya Das (Sophomore; laboratory participant) |

Electrical Engineering

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|-------------|---|
| Spring 2004 | Kyle Komenda, Melise Iglesias, Vinh Trang (Senior Capstone Design Team; <i>“Neuromuscular Stimulator”</i>) |
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Barrett Honors College

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|-------------------|--|
| Summer 2010- 2011 | Stewart Wente (Senior; Bioengineering major, Independent study Honors Thesis <i>“Adaptive Diaphragmatic Pacing for Respiratory Rehabilitation Therapy”</i> , April 2011) |
| 2009-2010 | Carley Emery (Senior; Biology & Society major, Independent research) |
| 2008-2010 | Natasha Nanda (Sophomore/Junior; Bioengineering major, Independent study) |
| 2008-2009 | Neicea Orcaza (Senior, Psychology major, Independent Research) |
| 2008-2009 | Kristen Boyer (Senior; Biology & Society major, ASU/NASA Space Grant Intern) |
| 2008-2009 | Robbia Hendrix (Sophomore; ASU/NASA Space Grant Intern) |
| 2006-2009 | Danielle Protas (School of Life Sciences Undergraduate Apprentice/Fellow) |
| 2003-2004 | Taryn Jensen (Bioengineering major, Independent study; Honors Thesis) |

School of Life Sciences/Psychology/Biology & Society

2009 –2010	Stephen Holly
2008-2010	Jared Bartell (Psychology Major; School of Life Sciences Undergraduate Research Apprentice; ASU/NASA Space Grant Intern)
2009	Shifat Ahmed, Senior (independent research)
2009 Sum	Sumit Patil (Senior; School of Life Sciences Undergraduate Research apprentice)
2007-2008	Ashley Diamond (Senior; Biology & Society major, ASU/NASA Space Grant Intern)
Fall 2007	Ralph Moreno (laboratory participant)
Spring 2007	Adrienne Azurdia (Sophomore; School of Life Sciences Undergraduate Research apprentice)
Spring 2006	Hemali Rajyaguru (Freshman; School of Life Sciences Undergraduate Research apprentice)
Fall 2005	Ashley Mille (Freshman; School of Life Sciences Undergraduate Research apprentice)
Sum. 2004	Alexis Pasulka (laboratory participant)

High School students

Sum. 2006	Jiaona Zhang (Biodesign Institute Summer Fellow; Desert Mountain HS)
Fall 2005	Lucas Rogers (Corona del Sol, HS)

UNIVERSITY OF KENTUCKY

National Science Foundation-U Kentucky Research Experience for Undergraduates (REU) fellows (8 weeks – Summer program)

2002	Jasen Jackson (Kentucky State University Biology Major)
2000	Aaron Taylor (St. Norbert College, Biology Major) Follow up- PhD from Brown University
1998	Katie Evans (Morehead State University, Mathematics major)
1997	Dan Bernstein (Cornell University, Computer Science Major) Follow up- PhD from University of Massachusetts, Amherst
1996	Sue Generazzo (Univ. of Massachusetts, Lowell, Mathematics Major) Publication: Book chapter

Biology

2000	Todd Woodrich (Research in Biology- Independent study) Report Title: <i>Phase Changes during Periodic Pulse Perturbation</i>
1999	Carissa Coleman (Research in Biology- Independent study)
1998	Justin Kiester (Research in Biology- Independent study) Report Title: <i>Feedforward and Feedback Contributions to the Central Pattern Generating Model of Locomotion in the Lamprey</i>
1995-1996	Bradley Brewer (Research in Biology- Independent study) Follow up- MD/PhD from University of Louisville, KY

Biosystems and Agriculture Engineering

2001	Stefani Mulligan (Independent Study) Publication: Refereed research article Follow up- MS from Arizona State University
1999	Eddie Kwong (Independent study)
1997-1999	Leigh Bonta (NSF-REU fellow on grant # NSF IBN-9601345 REU Suppl 2)

Electrical Engineering

Summer 2002	Karla Conn (Supervised research on grant # 0-9A) Follow up- Doctoral student in Robotics, Vanderbilt University
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2000-2002	Adam Gerhardstein (Independent study)
2000-2002	Chad Thomas (Independent problems)
Summer 1999	Ryan Porter (Supervised research on grant # IBN-9601345) Follow up status- Doctoral student in Physics
1997	Steve Santapaola (Independent study)

Mechanical Engineering

1999-2001	Amber Miller Presentations at Annual BMES conference
1996-1998	Casey McIntosh Publication: Refereed research article Follow up status: MS in Biomedical Engineering, Georgia Tech. University.

High School

2000-2002	Annika Quick, Math Science and Technology Center, Paul Dunbar High School, Lexington, KY.
1997-1999	Amber Miller, Math Science and Technology Center, Paul Dunbar High School, Lexington, KY.

Member (non-chair) of Graduate Student Dissertation (PhD) Committee

(Arizona State U- Bioengineering: 11; Electrical Engineering:1; Mathematics: 1, Biology: 1; Florida Int Univ- Biomedical Engineering-6, Biology - 1)

2020-present	<u>Sk Yeahia Bin Sayeed</u> , PhD Program, Department of Biomedical Engineering, FIU, Advisor: R. Markondeya
2020 - present	<u>Peeyush Awasthi</u> , PhD Program, Department of Biomedical Engineering, FIU, Advisor: Z Danziger
2017-present	<u>Arezo Germai Pour</u> , PhD Program, Department of Biomedical Engineering, FIU, Advisor: Z Danziger
2018-2020	<u>Jared Leichner</u> , PhD defense, July 2020, “3D Architectural Analysis of neurons, Astrocytes, Vasculatures & Nuclei in the Motor and Somatosensory Murine Cortical Columns”, Department of Biomedical Engineering, FIU, Advisor: W-C Lin
2013-2017	<u>Catalina Mantilla</u> , PhD Program, Department of Biology, FIU, Advisors: Advisor: Phil Stoddard, PhD
2012-2013	<u>Abhay Vasudev</u> , PhD program, Department of Biomedical Engineering, FIU, Co-Advisors: C Li and S Bhansali
2012-2014	<u>Pratikumar Shah</u> , PhD defense, December 2014, Biomedical Engineering, FIU, Advisor: C Li
2010-2013	<u>Lydia Bilinsky</u> , PhD defense 2012, “Dynamic Hopf Bifurcation in Spatially Extended Excitable Systems from neuroscience”, Mathematics, Arizona State U, Advisor: S Baer, PhD
2009-2011	<u>Charla Lindley</u> , PhD program, Bioengineering, Arizona State U, Advisor: JJ Abbas, PhD
2009-2010	<u>Greg Apker</u> , PhD program, Bioengineering, Arizona State U, Advisor: C Buneo, PhD
2009-2010	<u>Daniel Gullick</u> , PhD program, Bioengineering, Arizona State U, Advisor: B Towe, PhD
2007-2010	<u>Yang Chenhui</u> , PhD program, Electrical Engineering, Arizona State U, Advisor: J Si, PhD
2005-2010	<u>Mini Kurian</u> , PhD defense May 2010, Department of Mathematics, Arizona State U, Advisor: S. Crook, PhD
2005-2013	<u>Allison Convaloff</u> , PhD defense November, 2013, “The Effects of Deep Brain Stimulation Amplitude on Motor Performance in Parkinson's Disease”, Bioengineering, “Arizona State U, Advisor: JJ Abbas, PhD
2005-2006	<u>Aaron Convaloff</u> , PhD program, Bioengineering (Transferred to Purdue University), Arizona State U, Advisor: A. Panitch, PhD

- 2005-2009 | Massoud Khraiche, PhD defense July 24, 2009, Bioengineering. “*Novel Biochip for simultaneously monitoring mechanical and electrical properties of neurons in vitro*”; Arizona State U Advisor: J Muthuswamy, PhD
- 2003-2009 | Chun-Xiang (Jerry) Tian, PhD defense July 24, 2009, “*Towards reliable chronic neural microelectrodes*”, IGERT Fellow and Harrington Dept. of Bioengineering, Arizona State U; Advisor: J He, PhD
- 2006-2009 | Paula Stice PhD defense January 20, 2009, “*Assessment of the reactive astrocyte responses*”. Bioengineering, Arizona State U, Advisor: J Muthuswamy, PhD
- 2004-2008 | Brett Smyzek, PhD defense October 3, 2008, “*Kinematic and neuromuscular changes associated with a change in locomotory speed in the pteropod mollusk, *clione limacina**”, IGERT Fellow and Dept. of Biology. Arizona State U, Advisor: R Satterlie, PhD
- 2005-2007 | Tingting Wang, PhD defense April 19, 2007, “*Acoustic biosensor for measuring major inhibitory neurotransmitter GABA*”. Bioengineering, Arizona State University. Arizona State U, Advisor: J Muthuswamy, PhD
- 2004-2007 | Tilak Jain, PhD defense Feb 22, 2007, “*Biochip for spatial-temporal electroporation of exogenous molecules into secondary cell lines and primary neurons*”. Bioengineering, Arizona State U, Advisor: J Muthuswamy, PhD
- 2003-2004 | Derek Dossdell, PhD defense Fall 2004, “*Rapid biphasic shock sub-pulse switching for implantable cardioverter defibrillators: Modeling and experimental optimization*”. Bioengineering, “Arizona State U Advisor: J Sweeney, PhD

Member (non-chair) of Graduate Student Master’s Thesis Committee

(Florida International U- Electrical Engineering:1; Biomedical Engineering – 1; Arizona State U- Bioengineering: 12; Electrical Engineering: 1; U Kentucky - Biomedical Engineering: 1)

- 2021 | Carlos Riera Cercado, MS Project, Department of Biomedical Engineering, Florida International U.; Advisor: Raj Pulugurtha, PhD.
- 2020-pres | Angel Mendoza, MS program. Department of Mechanical and Materials Engineering, Florida International U.; Advisor: Dwayne McDaniel, PhD.
- 2014-2015 | Abhay Deshmuk. MS defense, November 13, 2015, “*Histological Characterization of Inter Ictal Epileptiform Discharges Generating Brain Regions using a Preclinical Model of Focal Cortical Dysplasia*,” Department of Biomedical Engineering, Florida International U.; Advisor: J Riera-Diaz, PhD.
- 2011-2013 | Arman Sargolzaei, MS program, Department of Electrical Engineering, Florida International U.
- 2008-2009 | Ting Yang Chen, MS program, Bioengineering, Arizona State U, Advisor: J. Muthuswamy, PhD
- 2004-2008 | Song Paek, MS defense April 24, 2008, “*Modeling for design of a wireless stented cardiac pacing system*”. Bioengineering, Arizona State U; Advisor: J Sweeney, PhD
- 2007-2009 | Joung Hyuk Suh, MS defense April 22, 2009, “*Development of communication interface for sensory stimulation*”. Electrical Engineering, Arizona State U; Advisor: S. Phillips, PhD. Supported by R01:EB0085789 to R. Jung
- 2007-2009 | David Hunn, MS defense April 18, 2008, “*A theory of basal ganglia function using non-specific output implemented in a large-scale computational model*”. Bioengineering, Arizona State U, Advisor: S Helms Tillery, PhD
- 2008 | Alex D. Pacanowsky, MS defense April 7, 2008, “*The exercise response to voluntary arm crank ergometry and electrically stimulated leg cycling in a subject with complete tetraplegia*”. Bioengineering. , Arizona State U, Advisor: JJ Abbas, PhD
- 2004-2006 | Shelly Allison, MS defense Aug 4, 2006, “*Adaptive Control of Locomotion During Partial Weight Bearing Therapy*”. Bioengineering, Arizona State U, Advisor: JJ Abbas, PhD

2006	<u>Erin Gaekel</u> , MS defense July 28, 2006, “ <i>Ramping Through A Hopf Bifurcation: New Insights Into The Memory Effect</i> ”. Bioengineering, Arizona State U, Co-Advisors: V Pizziconi, PhD and Steve Baer, PhD
2006	<u>Almir Halilcevic</u> , MS non-thesis, Fall 2006, “ <i>Evaluation of PDA Platform for Development of Closed-Loop Functional Neuromuscular Stimulation Systems</i> ”. Bioengineering, Arizona State U, Advisor: JJ Abbas, PhD
2005	<u>Yeochan, Na</u> , MS defense Fall 2005, Bioengineering, Arizona State U. Advisor: J. Mutthuswamy, PhD
2005	<u>Stefani Mulligan</u> , MS, Summer 2005, “ <i>Effect of Deep Brain Stimulation on Postural Control in Parkinson’s Disease</i> ”. IGERT Fellow & Bioengineering, Arizona State U, Advisor: JJ Abbas, PhD
2003-2004	<u>Munir Khan</u> , MS defense Fall 2005 Electrical Engineering, Arizona State U, Advisor: S Phillips, PhD Supported by R21:EB003629-A1 to R Jung
2006	<u>Inbal Lapid</u> , MS non-thesis, Spring 2006, “ <i>Glycogene Microarrays for Cancer Characterization and Detection</i> ”. Bioengineering, Arizona State U, Advisor: L Joshi, PhD
2005	<u>Niral Patel</u> , MS non-thesis, Fall 2005, Harrington Dept. of Bioengineering, Arizona State U. Advisor: J. Mutthuswamy, PhD
2001	<u>Junli Ou</u> , MS 2001, “ <i>Multisegment Movement Control using Functional Neuromuscular Stimulation</i> ”. Center for Biomedical Engineering, University of Kentucky, Advisor: JJ Abbas, PhD

COURSES TAUGHT

FLORIDA INTERNATIONAL UNIVERSITY

Undergraduate Courses (Biomedical Engineering)

BME 4912	<u>Undergraduate Research in BME</u> (1 credit, Fall 2011; Spring 2012; ongoing) <u>Senior Capstone Design Faculty Mentor</u> (Seniors; Group projects with industry (Fall 2011-Spring 2015; Spring 2017 - Fall 2018; Fall 2019; Spring-Fall 2020; Spring 2021)
BME 3404	<u>Engineering Analysis of Biological Systems II</u> (Juniors; 3 credits; Two weeks of lectures; Fall 2017)
BME 1008	<u>Individual Lectures in BME 1008</u> (Freshmen and Sophomores; Occasional)

Graduate Courses (Biomedical Engineering)

Independent Study and Supervised Research (Master’s and Doctoral Students - ongoing)

ARIZONA STATE UNIVERSITY

Undergraduate Courses (Bioengineering)

ASU 101	<u>The ASU Experience</u> (1 credit, Fall 2009) An Introduction to the Fulton School of Engineering and Arizona State University for Bioengineering Majors (Freshmen class; co-taught with Jit Mutthuswamy)
BME 370	<u>Microcomputer Applications in Bioengineering</u> (4 credit; Spring 2010) Juniors in bioengineering. Lectures plus laboratory course with open ended project.
BME 419	<u>Biocontrols</u> (3 credits; Fall 2007; 2008; 2009; 2010) Seniors in bioengineering. Introduced research paper review in 2007; Added computer project in 2008.
BME 413/513	<u>Bioinstrumentation</u> (3 credits; Fall 2004; 2005) Seniors in bioengineering; (80 students in Fall 2004)
BME 423/523	<u>Bioinstrumentation Lab</u> (1 credit; Fall 2004) Seniors in bioengineering (80 students)
BME 492	<u>Honors Research</u> (1-3 credits; Fall 2008) Independent Study by Seniors from Barrett Honors College

- BME 591A | Neural Engineering/ Molecular & Cell Tissues Seminar Series (1 credit; Fall 2002-04; Spring 2003-04)
Co-in charge with James Abbas; Arranged for weekly seminar speakers.
- BME 417 | BME Capstone Design I and II (4 credits; Fall 2003-2005; Fall 2007-2008, Spring 2004-2006, Spring 2008-2010)
Individual and Group Student Projects; Provide mentorship and guidance to the students

Undergraduate Courses (Electrical Engineering)

- EE 489A | Senior design (2 credits, Spring 2004)
Individual Student Projects; Seniors in Electrical Engineering
- EE 488A | Senior design (2 credits; Fall 2003)
Individual Student Projects; Seniors in Electrical Engineering

Undergraduate Courses (Barrett Honors College)

- HON 498 | Independent study (1-3 credits; Spring, Fall 2008, 2009,2010)
Individual student projects

Undergraduate Courses (School of Life Sciences)

- BIO 499 | Independent research (Spring 2009-2010)
- BIO 484 | Independent research (Fall 2008-2010)
- MBB 484 | Independent research (Fall 2007)

Graduate Courses (Bioengineering)

- BME 598 | Introduction to Neural Engineering-II (4 credits; Spring 2009)
New Core course for “Neural Engineering” track co-developed and taught for the first time with James Abbas.
- BME 598 | Computational Neuroscience (4 credits; Spring 2008)
New Core course for “Neural Engineering” track co-developed and taught for the first time with Leon Issamedis and Peter Steinmetz. 1/3 course material until first mid-term delivered by Jung. Material modified and derived from BME 598L (see below).
- BME598P | Neurotrauma: Repair, Regeneration and Functional Recovery (3 credits; Spring 2004, 2005, 2006)
New course developed to fulfill program development plan to Whitaker Foundation and fill gap in formal Neuroscience course offerings
- BME 598L | Computational Neuroscience (3 credits; Fall 2003; Spring 2007)
New course developed. Covered single cell and small networks, basics of nonlinear dynamics for one dimensional and two-dimensional flows, application of nonlinear dynamical systems theory to analyze the behavior of the mathematical models
- BME 591 | IGERT Neural and Musculoskeletal Form and Function (4 credits; Spring 2005)
New Material developed; Team taught course; Responsible for 1 lecture
- BME 598 | Scientific Communication (1 credit; Fall 2007, 2008)
New lecture material developed; team taught course; Responsible for one lecture

UNIVERSITY OF KENTUCKY

Undergraduate Courses (Electrical Engineering; secondary faculty appointment in EE from 1998-2002)

- EE 579 | Neural Engineering-Merging engineering with neuroscience (3 credits, Spring 2001, 2002)
New course developed and formally approved, cross-listed as BME 579;
Graduate students and seniors in engineering;
- EE 599 | Neural Engineering (3 credits, Spring 1998, 1999)
Precursor to EE579/BME 579 described above
- EE 499 | EE Design (3 credits; Spring 2000)
New topic every time; EE Design, juniors and seniors in electrical engineering

EE 595 | Independent Problems (3 credits; Spring, Fall 2000)
New Topic every time

Undergraduate Courses (offered through Graduate Program in Biomedical Engineering)

BME 481G | Special Topics (Data Acquisition and Control for Neurophysiology) (Fall 1997, 1999, 2000, 2001)
New course developed; seniors in engineering

Undergraduate Courses (Biology)

BIO 395 | Research in Biology (variable credits; Spring 1996, 1998, 2000; Fall 1995, '96, 1999, 2000)
New topic every time; seniors in biology/biophysics

Graduate Courses (Biomedical Engineering)

BME 781-05 | Special Topics (Computational Neuroscience) (3 credits; Spring 1998, '99; Fall 2000, '01)
New course developed

BME 501 | Foundations in Biomedical Engineering (3 credits; Fall 1999, 2001, 2002)
New course co-developed with other faculty; Team taught
Graduate/undergraduate students in engineering

INDIVIDUAL LECTURES

ARIZONA STATE UNIVERSITY

Interdisciplinary Neuroscience Program at Arizona State University

2009 | "Neuromuscular plant and spinal reflexes" in "Advanced Neuroscience II: Human Systems Neuroscience", April, 23, 2009

2008 | "Organization of the neuromuscular plant and spinal reflexes" in "Advanced Neuroscience II: Human Systems Neuroscience", February 26, 2008

2006 | "Organization of the neuromuscular plant and spinal reflexes" in "Human Systems Neuroscience", October 3, 2006

University of Arizona College of Medicine, Phoenix in partnership with Arizona State University

2007 | "Spinal Neurotrauma: Regeneration, Repair & Recovery" in "Course on Neural-Endocrine and Immune Systems"; First year medical students, University of Arizona College of Medicine, Phoenix in partnership with Arizona State University, Phoenix, AZ. October 29, 2007

School of Life Sciences at Arizona State University

2004 | Ethics in Neurobiology Research, Bio 416/HPS 410: Professional Values in Science Class, School of Life Sciences, April 28, 2004.

Bioengineering

2006-2009 | "Computational Neuroscience for Bioengineers" in "BME 100; Dept. of Bioengineering", Ira A. Fulton School of Engineering, Arizona State University, Tempe, AZ. One lecture in Fall/year.

2004 | "Bioengineering" in "ECE 100: Introduction to Engineering Design" for Ira A. Fulton School of Engineering, July 8, 2004

UNIVERSITY OF KENTUCKY

Anatomy and Neurobiology/Physiology

2000 | "Neural control of movement" in NSF-Research Experience for Undergraduates program for Anatomy and Neurobiology, June 2000.

1998 | "Central chemoreceptors", in "Advanced Respiration", Dept. of Physiology, Feb. 13, 1998.

1996 | "Central chemoreceptors" in "Advanced Respiration". Dept. of Physiology, Spring 1996.

Mathematics

- 1997 | “Analysis of Neural Excitability Lecture I: Neuron Behavior, Lecture II: Phase Resetting” in “Bifurcations and Chaos.” Dept. of Mathematics, April 1997.
- 1997 | “Overview of sample problem” in NSF- Research Experience for Undergraduates program for Math and Engineering, June 1997.
- 1997 | “Analysis of Neural Excitability I: Neuron Behavior” in “Bifurcations and Chaos.” Dept. of Mathematics, April, 1997

Bioengineering

- 1997 | Lecture in “Signals and Systems I”. Center for Biomedical Engineering, April 1997.

UNIVERSITY OF MARYLAND

Neuroscience

- 1995 | “Respiratory control: CPGs and dynamical analysis” 2 lectures in “Fundamentals in Cognitive Neuroscience”, Dept. of Zoology, University of Maryland, College Park, MD. March 1995.