RANU JUNG, PHD

ADDRESS

Florida International University
College of Engineering and Computing, EC 2602
10555 W Flagler Street, Miami, FL 33174
Telephone: 305-348-3722 (Office); 602-327-7567 (mobile)
Fax: 305-348-6954
email: rjung@fiu.edu (work); ranu.jung@gmail.com (personal)
web: http://ans.fiu.edu/; https://bme.fiu.edu/; https://cec.fiu.edu/

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, Warangal, Andhra Pradesh, India. Field of Study: Electronics and Communication Engineering

EXPERIENCE

ACADEMIC

Florida International University, Miami, FL

2011-present	*Wallace H. Coulter Eminent Scholar Chair in Biomedical Engineering*; Professor and Chair, Department of Biomedical Engineering, College of Engineering and Computing.
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

2016-2017	Board Member, Society of Brain Mapping and Therapeutics
2015-present	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.
2002	Founding Board Member, Organization for Computational Neurosciences, Inc. 501(c)(3) with International Board and Executive Committee.
1997-2010	Board Member, Rocky Mountain Bioengineering Symposium, Inc.
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

March 2016	ENGender 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

HONORS, AWARDS and DISTINCTIONS

Fellow (elected) - American Institute for Medical and Biological Engineering
"*for outstanding contributions to developing novel physiology-based orthopedic devices, and for fostering academic and industrial interactions to advance neuro-engineering*".
Senior Member (elected) - Institute of Electrical and Electronics Engineering, Inc.
Senior Member (elected) - Society of Women Engineers
Member (elected) - International Women's Forum

2017	*Member*, External Review Committee*,* Department of Engineering Science and Mechanics, Pennsylvania State University, November, 2017.
2017	*"Certificate of Appreciation"*, Faculty Council of Governance, College of Engineering and Computing, Florida International University, April 13, 2017.
2017	Invited Participant; Workshop for guiding establishment of joint US-Japan program for Collaborative Research in Computational Neuroscience (National Institute of Information and Communications Technology (Japan)- National Science Foundation (USA) – National Institutes of Health (USA)), Osaka, Japan,
2016	FDA Investigational Device Exemption for first-in-human study of a neural enabled prosthesis for restoring sensation to amputees.
2016	"*Torch Award*" 2016, 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.
2016	Vice-Chair of Academic Council (Appointed), American Institute for Medical and Biological Engineering. (April 2016-present).
2016-2017	Board Member, Society for Brain Mapping and Therapeutics.
2016-2017	Chair, 2017 Engineering Deans Institute Planning Committee.
2016	Co-Chair, 2016, Global Engineering Education Leader Conference, Shenzhen, China
2016	Reviewer (Appointed), European Research Commission, June 2016.
2015	Vice President, FIU Research Foundation Inc. (July 2015-present)
2015-present	*Member (Elected*) - International Women's Forum, (June 2015 – present).
2015-2016	Planning Committee Member *"Rehabilitation Research at NIH: Moving the Field Forward."* Trans NIH Rehabilitation Research Coordinating Committee initiative.
2015	Founding Faculty Fellow, STEM Transformation Institute, FIU, January 27, 2015
2015	International Program Committee, 7th International IEEE EMBS Neural Engineering Conference.22nd-24th April, 2015, Montpelier, France.
2014	FIU-Embrace; President's Steering Committee, Florida International University

2014-2016	Appointed- American Institute for Medical and Biological Engineering (AIMBE) Scholars Program Selection Committee
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) P meeting, 03/06/2014-03/07/2014.
2014	Scientific Program Committee Member, ICNR2014 (The International Conference on NeuroRehabilitation), 24-26 June, Aalborg, Denmark.
2013	***Fellow*** - American Institute for Medical and Biological Engineering (AIMBE), Class of 2013. Citation:
2013	Invited Participant; NSF workshop "Mapping and Engineering the Brain", 13-14 August, 2013, Washington DC.
2013	Board of Directors (Appointed), Florida International University Research Foundation. Nov. 25, 2013.
2013	Advensys LLC, selected as one of four EARLY stage finalist to present at 2013 Southeast BIO Investor & Partnering Forum, Richmond, VA
2012	*2012 Top Scholar*, Florida International University.
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
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, 3rd International Conference on Neuroprosthetic Devices, 25-26 Nov, 2011, Sydney, Australia.
2011	External Examiner for Doctoral Dissertation; Indian Institute of Technology, New Delhi, Academic & Examination Section (PGS)
2011-present	Endowed Professorship - *"WH Coulter Eminent Scholar Chair in Biomedical Engineering"*, Florida International University, FL
2010	"*New Florida Scholars Boost Award*", Board of Governors, FL.
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.
2010	Appointed to the "Leadership Development Initiative" of the "Office for Developing Transformational Leaders", Arizona State University (1 of 13 faculty from 6 colleges) by University Provost and Vice President.
2009	"*Commissioner*" Appointed to the *Biomedical Research Commission*, Office of Boards & Commissions, State of Arizona, Phoenix, AZ by Governor Jan Brewer and confirmed by the Senate. (3-yr term)
2008	Appointed to the Technical Advisory Board, Arkansas Science & Technology Authority, Little Rock, AR.
2007	*"Faculty Honoree"*, Ira A. Fulton School of Engineering 2006-2007. Arizona State University, Tempe, AZ.
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. http://www.nsf.gov/funding/pgm_summ.jsp?pims_id=5567&org=OISE
2006	*Senior Member* (Elected); Institute of Electrical and Electronics Engineers (IEEE), Inc.
2006	Selected as one of 100 Participants in the 4th Annual National Academies Keck Futures Initiative Conference on "Smart Prosthetics: Exploring Assistive Devices for the Body and Mind".
2006	Elected as President of Organization for Computational Neurosciences, Inc.
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

2002	*"2002 Science and Engineering Award", Governor's Certificate of Recognition*, Commonwealth of Kentucky
2002	Grand Awards Judge, Intel International Science and Engineering Fair, Louisville, Kentucky, USA.
1998	Invited participant; Institute for Mathematics and its Applications: *Computational Neuroscience*, University of Minnesota, Minnesota, MN.
1997	*Whitaker Foundation Young Investigator Research Award*.
1993- 1995	*"Individual National Research Service Award"*; National Institutes of Health (National Institutes of Neurological Disorders and Stroke).
1992	*"National Research Trainee Award"*; National Institutes of Health; for training in *Methods in Computational Neuroscience,* 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.

AWARDS to MENTORED STUDENTS

FLORIDA INTERNATIONAL UNIVERSITY

Graduate

2017-2019	Caitlyn Myland, Bridge to Doctorate Fellowhsip, Florida International University
2017	Ricardo Siu, Third Place, FIU Graduate Student Appreciation Week Poster presentation
2017	Andres Pena, Graduate & Professional Student Committee travel award, Florida International University
2016	Ricardo Siu, First Place, 6th Annual Graduate Research Day, Dept. of Biomedical Engineering
2016	Andres Pena, Graduate & Professional Student Committee travel award, Florida International University
2015	Ricardo Siu, First Place, 5th Annual Graduate Research Day, Dept. of Biomedical Engineering
2015	Andres Pena, Second Place, 5th Annual Graduate Research Day, Dept. of Biomedical Engineering
2013-2015	Iian Black, Presidential Fellowship, Florida International University
2013-2014	Andres Pena, NSF Florida-Georgia Louis Stokes Alliance for Minority Participation Bridge to Doctorate Fellowship, Florida International University

Undergraduate

2017	Francesca Riccio-Ackerman, Coulter Undergraduate Research Excellence scholarship, Department of Biomedical Engineering.
2017	Valentina Dargam, NACME Fellowship & Ronal E. MccNair Fellowship, Florida International University; Braman Scholars Completion Grant Recipient.
2016	Diego Aguilar, 2nd Place, Undergraduate Research Day, Department of Biomedical Engineering, February 19, 2016.
	Marisol Soula, *World's Ahead* scholar, Florida International University, May 10,2016
	Marisol Soula, *2016 Cuervo Prize* for excellence in Biological Sciences, Florida International University, 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, Florida International University.
2014	Andres Pena, Dean of Engineering Scholarship Award, Florida International University
2014	Juan Loayza, NACME Fellowship, Florida International University
2014	Brett Davis, NACME Fellowship, Florida International University
2013	Andres Pena, First place, Undergraduate Research Day, Department of Biomedical Engineering, March 2013.
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
2013	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"; Florida International University
2012-2016	Elizabeth Gallardo, FIU Biomedical Engineering Wallace H. Coulter Undergraduate Excellence Scholarship (2012-2016)

ARIZONA STATE UNIVERSITY

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; Arizona State University

Undergraduate

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

UNIVERSITY OF KENTUCKY

Graduate

2001	Anil Thota, Best Paper (2nd prize), Rocky Mountain Bioengineering Symposium, Inc. USA
1999	Dan Li, Graduate Fellowship Award, 3rd 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 (2nd prize), Rocky Mountain Bioengineering Symposium
1998	Casey McIntosh, Research Paper Award. Rocky Mountain Bioengineering Symposium
1997	

1996	Bradley Brewer, Research Paper Award. Southern Biomedical Engineering conference, *16th Southern Biomedical Engineering Conference,* Biloxi, MS.
	Bradley Brewer, Second place Award for Presentation. Southern Biomedical Engineering conference, *16th Southern Biomedical Engineering Conference,* Biloxi, MS.
1995	Casey McIntosh, Undergraduate Research and Creativity Award, University of Kentucky
	Bradley Brewer, Howard Hughes Medical Institute Undergraduate Research Fellowship, University of Kentucky

PROFESSIONAL SOCIETY MEMBERSHIPS

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)
2012	Charter Member, National Academy of Inventors (Nov 14, 2012)
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

GLOBAL FIRSTS

- First to develop and fabricate fully implantable, wirelessly controlled, peripheral nerve stimulation system to provide sensory feedback from sensor instrumented myoelectric prostheses to amputees (Class-III medical device; patents filed: 2009, '12, '13, '14; Five patents issued, four additional related patents pending)
- First to receive FDA approval for investigational device exemption of neural-enabled prosthesis for first-in-human study for restoring sensation to upper-limb amputees (2016).
- First to design, develop and demonstrate (in rodents) a neuromorphic adaptive controller for diaphragmatic pacing (patent filed 2015; 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 orthoses for people with lower limb injury (patent issued in 2014; second patent pending)
- 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 (in lampreys) a biohybrid closed-loop system between the spinal cord and a neuromorphic electronic circuit (abstract 1999, manuscript 2001).
- First print publication of *Encyclopedia of Computational Neuroscience* (2015; 4 volumes; Co Editor-in-Chief).

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.

$ indicate direct plus indirect costs

Breakdown for Active and Completed grants:

Total as sole PI/subcontract PI:	**$13,856,358**
Total as sole PI, Co-PI, Co-I or participant:	**$26,417,508**
Total as mentor to student awardees:	**$88,650**

FLORIDA INTERNATIONAL UNIVERSITY (January 2011-present)

RESEARCH

Active

02/01/17-01/31/20	DARPA & ARO: W911NF-17-1-002 (**PI: Ranu Jung**)	$2,212,509 $1,769,155 - Base $443,354 -Option
	" Restoring Sensation with a Neural-Enabled Prosthetic Hand System for Home Use: A First-In-Human-Study "	

02/01/17-06/30/18	DARPA & ARO: W911NF-17-1-0049 (PI: Marco Santello; Co-I: James J Abbas; Q Shi**,** Arizona State University) **Subcontract PI (FIU): Ranu Jung**	Total: $817,277 FIU subcontract: $511,767 (Base+ Option)
	"Sensorimotor Control of Grasping and Manipulation through a Soft-Synergy Prosthetic Hand and Peripheral Neural Interface System"	

09/01/15-08/31/17	Robert Wood Johnson Foundation (PI: Ashley Darcy Mahoney (George Washington University) **Subcontract PI: Ranu Jung**	FIU subcontract: $25,000
	"A Naturalistic Investigation of Brain Neuroplasticity in Children Born Preterm" 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.	

EDUCATION AND TRAINING PROGRAMS

Active

09/15/16-08/31/21	NSF: HRD-1629889 (**Co-PIs**: Kenneth Furton, , M Heithaus, **R Jung,** Suzanna M Rose, Y Darici)	$3,202,167
	"ADVANCE Institutional Transformation at Florida International University" National Science Foundation (Division of Human Resource Development) https://www.nsf.gov/awardsearch/showAward?AWD_ID=1629889 The goal of this grant is conduct a microclimate study of race/ethnicity, nationality, gender, and education and use this to effect change in faculty at the University scale.	

RESEARCH

Completed

	NIH:R01NS086088 **(PI: Ranu Jung)**	$591,870 (additional €255,832 to S. Renaud through ANR, France)

09/01/13-
08/31/17

"CRCNS: Computation-Enabled Adaptive Ventilatory Control System" (NSF/NIH/ANR Joint program)
National Institutes of Neurological Disorders & Stroke (Collaborative Research in Computational Neuroscience – Joint NSF-NIH-ANR US-French Collaboration Program)
The goal of this grant is 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 pending)

NIH:RO1EB008578 **(PI: Ranu Jung)**
(transferred from Arizona State U) $3,366,360

09/30/07-
06/30/16
(NCE)

"Neural-Enabled Prostheses with Sensorimotor Integration"
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., College of Engineering & Computing)
Jorge Orbay, MD (Orthopedics, College of Medicine)
External partners: Arizona State U
James J. Abbas, PhD (School of Biological & Health Systems Engineering)
Harold Sears, PhD, Motion Control, Inc., UT
James Patrick, Cochlear Ltd., Australia
Michael Pack, PT, Artificial Limb Specialists, AZ
Hand Institute, FL
Nikao Inc/CMSI Inc, FL
Ortho Pro, FL
Until 2010- Arizona State University (James J. Abbas, PhD, Ken Horch, PhD, School of Biological & Health Systems Engineering; Stephen Phillips, PhD, Bertan Bakkaloglu, PhD, Sayfie Kaiei, PhD, Electrical, Computer & Energy Eng.; Marco Santello, Department of Kinesiology); Mayo Clinic Arizona (Tony Smith, MD; Cindy Ivy, OT);
The goal of this academic-clinical-industrial partnership was to develop a system that will 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)

DARPA:N66001-12-C-4195 **(PI: Ranu Jung)** $705,424

01/24/12-
01/23/15

"Effective and Reliable Peripheral Interfaces for Prosthetic Control"
DARPA (Microsystems Technology Office)
The grant was for developing reliable electrodes to record peripheral nerve activity in upper limb amputees. (4 Patents granted).

Florida State University System **(PI: Ranu Jung)** $300,000

03/11-
12/31/12

"Board of Governor's Boost Award"
The goal of this Boost award is to support research program of the recipient.

EDUCATION AND TRAINING PROGRAMS
Completed

	NSF: IIS0943753 **(PI: Ranu Jung)** (transferred from Arizona State U) $47,997
09/01/09- 08/31/13	*"Knowledge Transfer in Computational Neuroscience"* National Science Foundation (Division of Information & Intelligent Systems) https://www.nsf.gov/awardsearch/showAward?AWD_ID=0943753&HistoricalAwards=false The grant is 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.

ARIZONA STATE UNIVERSITY (August 2002-2012)
RESEARCH
Completed

	NIH: (PI: Carston Duch) - at Arizona State University $476,732
05/01/11- 04/30/12	*"Acquisition of a Leica TCS SP5 Laser Scanning Confocal Microscope"* National Center for Research Resources Shared Instrument Grant ASU Co-Investigators: Yung Chang, Brenda Hogue, **Ranu Jung**, Kenro Kusumi, Janet Neisewander, Stuart Newfeld, Brian Smith.

	NIH: R01HD049773 (PI: James Abbas) $868,573
07/01/05- 04/30/11	*"Adaptive Electrical Stimulation for Locomotor Retraining"* 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.

	NIH: R01NS054282 **(PI: Ranu Jung)** $1,314,799
08/15/05- 05/31/10	*"Modeling Neuromusculoskeletal Alterations after Spinal Cord Injury"* National Institutes of Neurological Disorders & Stroke (Collaborative Research in Computational Neuroscience – Joint NSF-NIH Program) ASU Co-Investigators: James Abbas, PhD School of Biological & Health Systems Engineering Anshuman Razdan, PhD, PRISM External partners: Thomas Hamm, PhD, Barrow Neurological Institute (Neuroscience), AZ Victoria Booth, PhD, University of Michigan (Mathematics), MI Gary Yamaguchi, PhD, E^{x}ponent 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.

	NIH: R13NS066633 **(PI: Ranu Jung)** $25,000
07/07/09- 06/31/10	*"CNS*2009"* 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

SfAZ: CAA0282-08 **(PI: Ranu Jung)** $274,000

07/01/08-12/31/09

"Promoting Plasticity after Spinal Cord Injury using Neuromuscular Stimulation"

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.

NIH: S10RR019945 **(PI: Ranu Jung)** $1,309,550

06/01/05-05/31/09

"7T/30 Bruker BioSpec Magnetic Resonance Imaging/Spectroscopy System (Previously: PharmaScan 70/16 In-Vivo Spectroscopy/Imaging System)"

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

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.

NSF: SBE-0518697 Supplement **(PI: Ranu Jung)** $22,174

08/15/07-01/31/09

"Catalyst- Minisymposium and Workshop on "Co-Adaptive Learning: Technology for the Aged"

National Science Foundation (Science of Learning Centers- Catalyst, planning grant program)

ASU Co-Investigators: Multiple faculty from Bioengineering, Electrical Engineering, Chemical Engineering, Kinesiology, Mathematics, Computer Science, Biodesign Institute

The grant allowed hosting of an annual symposium and workshop development (third in series; see next item).

NSF: SBE-0518697 **(PI: Ranu Jung)** $110,944

08/15/05-01/31/09

"Catalyst- Center of Excellence for Adaptive Neuro-Biomechatronic Systems (CEANS)"

National Science Foundation (Science of Learning Centers- Catalyst, planning grant program)
https://www.nsf.gov/awardsearch/showAward?AWD_ID=0518697&HistoricalAwards=false

ASU Co-Investigators: Multiple faculty from Bioengineering, Electrical Engineering, Chemical Engineering, Kinesiology, Mathematics, Computer Science, Biodesign Institute

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 has not been made by the NSF since this award was given. (Brief descriptions available at http://ans.asu.edu/events/symposia.php)

NIH: R21 EB003629-A1 **(PI: Ranu Jung)** $403,756

04/01/05-03/31/08

"Active MEMS Neural Clamps"

National Institutes of Biomedical Imaging and Bioengineering

ASU Co-Investigators: Stephen Phillips, PhD, Department of Electrical Engineering
James Sweeney, PhD, Harrington Department of Bioengineering

The grant led to the design of novel neural clamps using MEMS for recording ventral root activity. (Patent pending)

ARMY: W911NF-05-C-0122/STTR **(PI: Ranu Jung)** $750,000

09/28/05-09/27/07 *"Neuromorphic Control of Powered Limb Splints (Phase II)"*

ARMY- Phase II STTR to Advensys, LLC

Co-PI: V. Jung, MBA (Advensys, LLC)

Subcontract: ASU (sub-contract PI: Abbas)

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)

NIH: R01HD40335 **(PI: Ranu Jung)** [transferred from Univ. Kentucky] $775,418

01/17/02-06/30/06 *"A Rodent Model for Locomotor Training with FNS"*

National Institutes of Child Health and Development

ASU Co-Investigator: James Abbas, PhD School of Biological & Health Systems Engineering

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.

ARMY: W911NF-04-L-0071/STTR **(PI: Ranu Jung)** $99,949

08/01/04-01/31/05 *"Neuromorphic Control of Powered Limb Splints (Phase I)"*

ARMY- Phase II STTR to Advensys, LLC

Co-PI: V. Jung, MBA (Advensys, LLC)

Subcontract: ASU (sub-contract PI: Abbas)

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.

BNI **(PI: Ranu Jung)** $19,600

06/01/03-09/01/05 *"Effects of Incomplete Spinal Injury on Reflex and Motoneuron Properties"*

Barrows Neurological Institute (St. Josephs Hospital) (Harrington Dept. of Bioengineering-Whitaker Foundation Funded Seed Grant program)

Co-PI: T. Hamm (Barrow Neurological Institute)

Data from this project was used for competing for grant R01NS054282 through the "Collaborative Research in Computational Neuroscience" NSF-NIH joint program.

ASU **(Co-PIs:** Huey, Willis, **Jung)** $18,000

01/01/03-12/31/03 *"Contractile and Metabolic Adaptations of Skeletal Muscle to Spinal Cord Injury & Rehabilitation "*

ASU- School of Life Sciences Multi-Investigator Proposal Development Grant Program

EDUCATION AND TRAINING PROGRAMS

Completed

NSF-EHR: **(PI: Sethuraman Panchanathan)**

- at Arizona State University (Moved to FIU- hence did not participate) $1,176,519

08/15/11- 07/31/16	*"IGERT: Person-centered Technologies and Practices for Individuals with Disabilities"* 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	
	NSF (PI: Jiping He)	$3,183,931
06/30/00- 07/31/05	*"IGERT: Musculoskeletal & Neural Adaptations in Form & Function"* National Science Foundation (Interdisciplinary Graduate Education, Research and Training grant) **ASU Co-Investigator:** **Jung** amongst several others Member of the steering committee (~'03-'05)	
	NSF (PI: Anthony Garcia)	$878,422
11/01/01- 10/31/06	*"Western Alliance to expand student opportunities"* National Science Foundation (Directorate for Education & Human Resources) **Participant:** **Jung** amongst several others	
	NSF (PI: Anthony Garcia)	$770,000
11/01/01- 10/31/06	*"LSAMP: Biodesigned Bridges to the Doctorate"* National Science Foundation (Directorate for Education & Human Resources) **Participant:** **Jung** amongst several others	
	LTR 09/29/00 (PI: Eric Guilbeau)	$250,000
07/01/00- 06/30/05	*"Program development award third year progress report and extension and continuation grant proposal "* The Whitaker Foundation **Co-Investigator:** **Jung** amongst several others; (joined in 2002)	
	Whitaker Foundation: (PI: Eric Guilbeau)	$1,744,580
07/01/00- 06/30/05	*"Neural & molecular, cell, & tissue bioengineering: a theme for the new department of bioengineering at ASU"* The Whitaker Foundation **Co-Investigator:** **Jung** amongst several others; (joined in 2002)	

FUNDING AS MENTOR ON GRADUATE AND UNDERGRADUATE AWARDS AND FELLOWSHIPS

07/09- 12/09	"*Science Foundation Arizona Graduate Fellowship* " Graduate College Pre-doctoral Trainee: Sathyakumar, SK	$15,500
07/09-12/09	"*Dean's Graduate Fellowship*" Ira A. Fulton School of Engineering Pre-doctoral Trainee: David Guffrey	$10,000
09/03 -07/05	National Science Foundation "Interdisciplinary Graduate Education and Research Training Award in *"Musculoskeletal and Neural Adaptations in Form and Function*" Graduate College Pre-doctoral Trainee: Joe Graham	~ $47,500
08/09-05/10	"*ASU/NASA Space Grant Internship*" School of Earth and Space Exploration Undergraduate Trainee: Jared Bartell, Psychology	$3,600

08/08-05/09	"*ASU/NASA Space Grant Internship*" School of Earth and Space Exploration Undergraduate Trainee: Kristen Boyer, Biology & Society	$1,800
08/08-05/09	"*ASU/NASA Space Grant Internship*" School of Earth and Space Exploration Undergraduate Trainee: Jared Bartell, Psychology	$1,800
08/08-05/09	"*ASU/NASA Space Grant Internship*" School of Earth and Space Exploration Undergraduate Trainee: Robbia Hendirx, Barrett Honors College, Biology	$1,800
08/07-05/08	"*ASU/NASA Space Grant Internship*" School of Earth and Space Exploration Undergraduate Trainee: Ashley Diamond, Biology & Society	$3,600
08/03-05/04	"*Research Thesis Award*" Barrett Honors College Undergraduate Trainee: Taryn Jensen, Bioengineering	$1,300

UNIVERSITY OF KENTUCKY (August 1995-July 2002)

Completed

	KSEF: **(PI: Ranu Jung** & Peter Hardy**)**	$185,739
04/02- 04/04	*"Monitoring Recovery from Spinal Cord Injury Using Magnetic Resonance Imaging"* 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).	
	KSCHIRT:0-9A **(PI: Ranu Jung)**	$268,637
1/01- 1/04	*"Locomotor Training in a Rodent Model of Incomplete Spinal Cord Injury"* 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)	
	NIH: R21-RR12588 **(PI: Ranu Jung)**	$184,901
09/98-08/00	*"Analog VLSI-Spinal Cord Interface for Motor Control"* 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.	
	NSF: IBN-9601345 **(PI: Ranu Jung)**	$115,485
08/96-07/00	*"Dynamical Analysis of Brain-Spinal Cord Interaction in the Lamprey"* 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.	
	NSF: IBN-9601345 REU Suppl 2 **(PI: Ranu Jung)**	$5,749

01/98-08/98

"Fos Expression as a Neuronal Activity Marker in the Lamprey"
National Science Foundation: Division of Integrative Biology & Neuroscience, Research Experience for Undergraduate Student (Leigh Bonta)

02/97-08/97

NSF: IBN-9601345 REU Suppl 1 **(PI: Ranu Jung)** $5,000

"Effects of Environmental Conditions on Lamprey Swim Behavior"
National Science Foundation: Division of Integrative Biology & Neuroscience, Research Experience for Undergraduate Student (Casey McIntosh)

01/97-01/00

KSCHIRT:MAR-9606-K3 **(Co-PIs:** D.Magnuson & **Ranu Jung)** $270,278

"Pathways and Neurons in the Mammalian Spinal Cord Involved in the Generation of Locomotor Output"
Subcontract: Signal Analysis of Neural Activity in Mammalian Locomotor Output
Kentucky Spinal Cord and Head Injury Research Trust
University of Kentucky: **PI on Subcontract** from U Louisville $52,150
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).

05/00 07/00

Conference Grant **(PI: James Abbas)** $10,000

"Biomedical Engineering Approaches to Spinal Cord Injury"
The Whitaker Foundation (Conference Support)
UKY Co-Investigator: Ranu Jung, PhD (Center for Biomedical Engineering)
Jim Geddes, PhD (Department of Anatomy & Neurobiology)
Conference Support for a special session at 6th Annual Kentucky Spinal Cord and Head Injury Research Symposium.

10/00

Equipment Grant **(PI: Ranu Jung)** $72,000

"Peak Motus® System for Kinematic Analysis"
State of Kentucky (Commonwealth Research Equipment Bond to University of Kentucky Medical Center)
This equipment allowed establishment of a small animal motion capture system laboratory.

01/97-12/99

Research Grant **(PI: Ranu Jung)** $209,866

"Brain-Spinal Cord Interactions in the Control of Locomotion"
The Whitaker Foundation
UKY Co-Investigator: Eugene N. Bruce, PhD (Center for Biomedical Engineering)
Consultant: J.T. Buchanan, PhD (Marquette University, Biology)
This project used nonlinear dynamical analysis and intracellular recording approaches to investigate the central nervous system of lampreys for sensorimotor integration.

EDUCATION AND TRAINING PROGRAMS

Completed

10/00

Instructional Funds **(PI: Ranu Jung)** $2440

"EE-579: *Neural Engineering (Merging Engineering with Neuroscience)"*
University of Kentucky, College of Engineering
Note: Funds used to introduce laboratory robotic component to lecture class

	Instructional Funds **(PI: Ranu Jung)**	$3000
1/98	*"*EE-579: *Neural Engineering (Merging Engineering with Neuroscience)"* 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	

FUNDING AS MENTOR ON GRADUATE AND UNDERGRADUATE AWARDS AND FELLOWSHIPS

05/96- 04/97	"*Undergraduate Research and Creativity Grant* " University of Kentucky, College of Engineering Undergraduate Trainee: Casey McIntosh, Mechanical Engineering	$500
08/95-05/96	*"Howard Hughes Medical Institute Undergraduate Research Fellowship"* University of Kentucky, Arts & Sciences Undergraduate Trainee: Bradley Brewer, Biology	$850

OTHER INSTITUTIONS (January 1991-July 1995)

Completed

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

Patents Granted

1. US 9,717,440 B2, August 1, 2017. Mohamed Abdelghani, Ranu Jung, James J. Abbas, Kenneth Horch. "System and Methods for Decoding Intended Motor Commands from Recorded Neural Signals for the Control of External devices or to Interact in Virtual Environments", Priority May 3, 2013.
2. US 9,662,025 B2, May 30, 2017. Adeline Zbrzeski, Ranu Jung. "Low Noise Analog Electronic circuit Design for Recording Peripheral Nerve Activity", Priority May 3, 2013.
3. US 9,563,740 B2, February 7, 2017. Mohamed Abdelghani, Ranu Jung, James J Abbas, Kenneth Horch. "Neural Interface Activity Simulator", Priority Oct 16, 2012.
4. US 9,427,565 B2, August 30, 2016. Sathyakumar S Kuntaegowdanahalli, James J. Abbas, Ranu Jung, Kenneth Horch. "Modular Multi-channel Inline Connector System", Priority Nov 7, 2012.
5. 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.
6. 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
7. 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. Iian Black, Ranu Jung, James Abbas. "Directional Sensitive Extraneural Recording Device". Filed June 27, 2017. (Non-Provisional, pending)
2. Iian Black and Ranu Jung. "Flanged Self-Closing Microchannel Array". Filed October 7, 2016. (Non-Provisional, pending)
3. US 2016287877 A1, Ranu Jung. "System and Method for Neuromorphic Controlled Adaptive Pacing of Respiratory Muscles and Nerves". Filed April 2, 2015. Priority April 2, 2015, pending.
4. 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, pending.
5. 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, pending.
6. 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.
7. 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.

Invention disclosures

1. June 5, 2006. ASU Case # M6-139, "Intrafascicular Active MEMS Neural Clamp", Ranu Jung, Stephen Phillips, James Abbas.
2. December 21, 2005. ASU Case# M6-059, "Active MEMS Neural Clamp". Stephen Phillips, Ranu Jung, Monir Khan.

PUBLICATIONS

- *Students who worked in my research program are designated as follows: postdoctoral = 2X underline; graduate students = 1X underline; undergraduate student = 1X dashed 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.

1986 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.

Books

1. **Encyclopedia of Computational Neuroscience**, First Edition. Edited by Dieter Jaeger and **Ranu Jung**. March 13, 2015; Online 2014. Springer-Verlag, Berlin 2014. 4 volumes, 3180 pages. (Over 100,000 downloads) [http://link.springer.com/referencework/10.1007%2F978-1-4614-6675-8]

2. **Biohybrid Systems: Nerves, Interfaces, and Machines**, First Edition. Edited by **Ranu Jung**. 2011 Wiley-VCH Verlag GmbH & Co. KGaA. [http://onlinelibrary.wiley.com/book/10.1002/9783527639366]

Refereed Book Chapters

1. Ahmed A, Y Bai, JC Ramella-Roman, **R Jung**. "Neurophotonics for Peripheral Nerves", *The Textbook of Advanced NeuroPhotonics and Brain Mapping* (In Press- CRC Press (Taylor & Francis Group- March 2016))

2. 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.

3. Hiilen B and **R Jung**. "Peripheral Nerve Interface Applications, Respiratory Pacing". In Encyclopedia of Computational Neuroscience, D. Jaeger and R. Jung edts., Springer-Verlag, Berlin, 2014. Online 10 April 2014. http://www.springerreference.com/index/chapterbid/348270.

4. Abdelghani, M, J Abbas, **R Jung**. "Peripheral Nerve Interface Applications, EMG/ENG". In: *Encyclopedia of Computational Neuroscience*, D. Jaeger and R. Jung edts., Springer-Verlag, Berlin, 2014. Online 22 August 2014. http://www.springerreference.com/index/chapterbid/348264.

5. **Jung R.** "Merging Technology with Biology". In: *Biohybrid Systems: Nerves, Interfaces, and Machines*, First Edition. Edited by Ranu Jung. 2011 Wiley-VCH Verlag GmbH & Co. KGaA. Published 2011 by Wiley-VCH Verlag GmbH & Co. KGaA; pages 1-10.

6. Venugopal, S, S Crook, M Srivatsan, **R Jung.** "Principles of Computational Neuroscience". In: *Biohybrid Systems: Nerves, Interfaces, and Machines*, First Edition. Edited by Ranu Jung. 2011 Wiley-VCH Verlag GmbH & Co. KGaA. Published 2011 by Wiley-VCH Verlag GmbH & Co. KGaA; pages 11-30

7. Venkatasubramanian G, **R Jung,** JD Sweeney. "Functional Electrical Stimulation", In: T*he Wiley Encyclopedia of Medical Devices and Instrumentation,* 2nd Edition, Editor. J. G. Webster, Wiley, March 2006. ISBN: 0-471-26358-3; Pages: 347-366
Role: Senior Investigator & Mentor. This didactic book chapter is extensviely based on a chapter in Venkatasubramanina's Master's thesis.

8. **Jung R.** Computer simulated models complement experimental investigations of neuromotor control in a simple vertebrate. Invited Commentary on Chapter 4.4 (Simulation of the spinal circuits controlling swimming movements in fish). In: *Biomechanics and Neural Control of Movement*. Eds. J.M. Winter and P.E. Crago, Springer-Verlag, pp 228-230, 2000.

9. **Jung R**. The fractal nature of the locomotor rhythm may be due to interactions between the brain and the spinal pattern generator. Invited Commentary on Chapter 4.7 (Fractal analysis of human walking rhythm). In: *Biomechanics and Neural Control of Movement*. Eds. J.M. Winter and P.E. Crago, Springer-Verlag, pp 263-264, 2000.

10. **Jung R**. and S Generazzo. Response to perturbations of a neural network model of locomotor control in the lamprey. In: *Computational Neuroscience:Trends In Research* Ed. James Bower, Plenum Publishing, New York, pp. 415-421, 1998.

11. **Jung R**, T Kiemel, and AH Cohen. Bifurcation analysis of a neural network model of locomotor control in the lamprey. In: *Computational Neuroscience*. Ed. James Bower, Academic Press, New York, pp. 367-372, 1996.

Refereed Journal Articles

1. Pena, AE, SS Kuntaegowdanahalli, JJ Abbas, J Leavens, J Patrick, KW Horch, **R Jung.** Evaluation of fatigue resistance of an implantable intrafascicular electrode lead system. *Journal of Neural Engineering* (In Press), July 2017
Role: Senior Investigator & Mentor.

2. Chue-Sang, J, Y Bai, S Stoff, M Gonzalez, N Holness, J Gomes, **R Jung**, A Gandjbakhche, VV Cheromordik, J Ramella-Roman. Use of Mueller matrix Polarimetry and Optical Coherence Tomography in the characterization of cervical collagen anisotropy. *J Biomed Opt.* 22(8), 086010 (2017), doi:10.1117/1.JBO.22.8.8.086010.
Role: Collaborator.

3. Frontera, WR, JF Bean, D Damiano, L Ehrlich-Jones, M Fried-Oken, A Jette, **R Jung**, R Lieber, JF Malec, MJ Mueller, KJ Ottenbacher, KE Tansley, A Thompson. Rehabilitation research at the National Institutes of Health: Moving the field forward. *Arch. Phys. Med.. Rehabil. 98(4):795-803*, 2017. Doi:10.1016/j.apmr.2017.02.001 PMID: 28343477. *Neurorehabil Neural Repair*. 2017 Apr;31(4):304-314. doi: 10.1177/1545968317698875. PMID: 28332437. *Am J Phys Med Rehabil*. 2017 Apr;96(4):211-220. doi: 10.1097/PHM.0000000000000700. PMID: 28301426

4. Zbrzeski, A, Y Bronat, B Hillen, R Siu, J Abbas**, R Jung**, S Renaud. Bio-inspired controller on an FPGA applied to closed-loop diaphragmatic stimulation*. Frontiers in Neuroscience, section Neuroprosthetics*. Vol. 10, Issue 275. Published online. 16 June 2016. https://dx.doi.org/10.3389/fnins.2016.00275 (doi: 10.3389/fninf.2016.00275) PMID: 27378844
Role: Senior Investigator & Mentor.

5. Hillen BK, DL Jindrich, JJ Abbas, G Yamaguchi and **R Jung**. Effects of spinal cord injury induced changes in muscle activation on foot drag in a computational rat ankle model. *Journal of Neurophysiology,* 113 (7):2666-2675, 2015. (doi: 10.1152/jn.00507.2014)
Role: Senior Investigator & Mentor. Based on chapter in Doctoral Thesis of Hillen

6. Thota AK, S Kuntaegowdanahalli, AK Starosciak, JJ Abbas, J Orbay, KW Horch, **R Jung**. A system and method to interface with multiple groups of axons in several fascicles of peripheral nerves. *J Neurosci. Methods,* 244:78-84, 2015. (doi: 10.1016/j.jneumeth.2014.07.020.)
Role: Senior Investigator

7. Abdelghani MN, JJ Abbas, KW Horch, **R Jung**. A functional model and simulation of spinal motor pools and peripheral nerve recordings of motoneuron activity. *Frontiers in Neuro*science, Vol. 8, Article 371, 1-14, 14 November 2014. (doi: 10.3389/fnins.2014.00371.)
Role: Senior Investigator & Mentor

8. Hillen, BK, G Yamaguchi, JJ Abbas, **R Jung**. Joint-specific changes in locomotor complexity in the absence of muscle atrophy following incomplete spinal cord injury in the rat. *Journal of NeuroEngineering and Rehabilitation* 2013, 10:97 (doi:10.1186/1743-0003-10-97)
Role: Senior Investigator & Mentor. Based on chapter in Docotroal Thesis of Hillen

9. Zbrzeski A, N Lewis, F Rummens, **R Jung**, G N'Kaoua, A Benazzouz and S Renaud. Low-gain, low-noise integrated neuronal amplifier for artifact-reduction recording system. *Journal of Low Power Electronics and Applications,* 2:279-299, 2013. (doi:10.3390/jlpea3030279)
Role: Mentor

10. Hillen, BK, JJAbbas, **R Jung**. Accelerating locomotor recovery after incomplete spinal cord injury. *Annals NY Acad Sci,* 1279:164-174, 2013.
Role: Senior Investigator & Mentor.

11. Venugopal S, TM Hamm and **R Jung**. Differential contribution of somatic and dendritic K_{Ca} currents to the control of motoneuron excitability after spinal cord injury. *Cognitive Neurodynamics,* 6:283–293, 2012. (doi:10.1007/s11571-012-9191-3.)
Role: Senior Investigator & Mentor.

12. Kanchiku, T, Y Kato, H Suzuki, Y Imajo, Y Yoshida, A Moriya, T Taguchi, **R Jung**. Development of less invasive neuromuscular electrical stimulaiton model for motor therapy in rodents. *J Spinal Cord Medicine* 35(3):162-169, 2012.
Role: Collaborator.

13. Venugopal S, TM Hamm, S Crook, **R Jung**. Modulation of inhibitory strength and kinetics facilitates regulation of persistent inward currents and motoneuron excitability following spinal cord injury. *Journal of Neurophysiology*. 106:2167-2179, 2011. (doi: 10.1152/jn.00359.2011.)
Role: Senior Investigator & Mentor.

14. Kurian M, S Crook and **R Jung.** Motoneuron model of self-sustained firing after spinal cord injury, *Journal of Computational Neuroscience,* 31(3):625-645, 2011. (doi 10.1007/s10827-011-0324-1, 2011.)
Role: Collaborator & Mentor.

15. Hamm, TM, VV Turkin, NK Bandekar, D O'Neill, **R Jung**. Persistent Currents and Discharge Patterns in Rat Hindlimb Motoneurons. *Journal of Neurophysiology.* 104:1566-1577, 2010.
Role: Collaborator

16. Turkin, VV, D O'Neill, **R Jung,** A Iarkov and TM Hamm. Characteristics and organization of discharge properties in rat hindlimb motoneurons. *Journal of Neurophysiology.*104:1549-1565, 2010

Role: Collaborator

17. Fairchild, M, SJ Kim, A Iarkov, JJ Abbas, **R Jung**. Repetitive hindlimb movement using intermittent adaptive neuromuscular electrical stimulation in an incomplete spinal injury rodent model. *Experimental Neurology,* 223:623-633, 2010**.**
Role: Senior Investigator & Mentor. Publication based on a chapter in Doctoral Thesis of Fairchild

18. **Jung R**, A Belanger, T Kanchiku, M Fairchild, and JJ Abbas. Neuromuscular stimulation therapy after incomplete spinal cord injury promotes interlimb coordination during locomotion. *Journal of Neural Engineering*, 2009, 055010 (14pp) (doi:10.1088/1741-2560/6/5/055010)
Role: Senior Investigator & Mentor, Publication based on a chapter in Belanger's Master's Thesis.

19. **Jung R**, K Ichihara, G Venkatasubramanian and JJ Abbas**.** Chronic neuromuscular electrical stimulation of paralyzed hindlimbs in a rodent model. *Journal of Neuroscience Methods*, 183:241-254, 2009 (doi:10.1016/j.jneumeth.2009.06.043).
Role: Senior Investigator & Mentor, Publication based on a chapter in Venkatasubramanian's Masters Thesis**.**

20. Kim S-J, M Fairchild, A Iarkov, JJ Abbas and **R Jung.** Adaptive control of movement for neuromuscular stimulation-assisted therapy in a rodent model. *IEEE Transactions on Biomedical Engineering*, 56(2):452-461, 2009.
Role: Senior Investigator & Mentor, Publication based on a chapter in Fairchild's Doctoral Thesis.

21. Ichihara K, G Venkatasubramanian, JJ Abbas and **R Jung.** Neuromuscular electrical stimulation of the hindlimb muscles for movement therapy in a rodent model. *Journal of Neuroscience Methods*, 176:213-224, 2009. (doi:10.1016/j.juneumeth.2008.09.015)
Role: Senior Investigator & Mentor, Publication based on a chapter in Venkatasubramanian's Master's thesis.

22. [+]Lynskey JV, [+]A Bellanger and **R Jung**. Activity dependent plasticity in spinal cord injury. *Journal of Rehabilitation Research and Development,* 45(2): 229-240, 2008. (Invited review; +These authors contributed equally)
Role: Senior Investigator & Mentor, Publication based on a chapter in Belanger's Master's Thesis

23. [+]Kanchiku T, [+]JV Lynskey, D Protas, JJ Abbas and **R Jung.** Neuromuscular electrical stimulation induced forelimb movement in a rodent model. *Journal of Neuroscience Methods*, 167(2):317-26, 2008. (doi:10.1016/j.jneumeth.2007.08.002 + These authors contributed equally)
Role: Senior Investigator & Mentor

24. Thota A, S Carlson-Watson, E.J. Knapp, BT Thompson, and **R Jung.** Neuromechanical control of locomotion in the rat. *Journal of Neurotrauma*, 22(4): 442-465, 2005.
Role: Senior Investigator & Mentor, Publication based on a chapter in Thota's Master's Thesis

25. Graham J, V Booth and **R Jung.** Modeling motoneurons after spinal cord injury: Persistent inward currents and plateau potentials. *Neurocomputing,* 65-66, 719-726, 2005.
Role: Senior Investigator & Mentor, Publication based on a chapter in Graham's Doctoral Thesis.

26. Wang H and **R Jung.** Variability analyses suggest that supraspino-spinal interactions provide dynamic stability in motor control. *Brain Research*, 930(1-2):83-100, 2002.
Manuscript Figure featured as cover of vol. 933(2), April 2002
Role: Senior Investigator & Mentor, Publication is based on a chapter in Wang's Master's Thesis.

27. Li D and **R Jung**. Tracking rhythmicity in nonstationary quasiperiodic biomedical signals using adaptive time varying covariance. *Computers in Biology and Medicine*, 32(4):261-282, 2002.
Role: Senior Investigator & Mentor, Publication baed on a chapter in Li's Master's Thesis.

28. Mulligan SJ, B Thompson, E Knapp, and **R Jung.** A method for assessing balance control in rodents. *Biomedical Science Instrumentation*, 38:77-82, 2002.
Role: Senior Investigator & Mentor, Publication based on undergraduate independent research by Mulligan.

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Role: Postdoctoral fellow

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Role: Graduate Student

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Role: Graduate Student

In Review

45. Black,i, JJ Abbas, **R Jung**. Off-center electrodes provide signal enhancement and improved selectivity of cuff-like technologies for neural recording.
Role: Senior Investigator & Mentor.

In Prep

46. **Jung, R**, JJ Abbas, S Kuntaegowdanahalli, A Thota. Bionic intrafascicular interfaces for recording and stimulating peripheral nerve fibers.
Role: Senior Investigator & Mentor.

47. Siu, R, BK Hillen, JJ Abbas, A Thota, S Renaud, **R Jung**. Restoring ventilatory control using an adaptive bioelectronic system.
Role: Senior Investigator & Mentor.

Refereed Proceedings Papers

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2. Castelli J, F Kölbl, R Siu, G N'Kaoua, Y Bornat, A Mangalore, B Hillen, JJ Abbas, S Renaud, **R Jung**, N Lewis. An IC-based controllable stimulator for respiratory muscle stimulation investigations. *Proceedings of the 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society*, Jeju Island, Korea. July 11-15, 2017.
Role: Senior Investigator.

3. **Jung R**, R Siu, B Hillen, and JJ Abbas. Adaptive closed-loop neuromotor control after spinal cord injury, IX Congreso Cubano de Ingenieria Mecánica y Metalúrgica, Havana Cuba, 2016.
Role: Senior Investigator & Mentor.

4. Zbrzeski, A, R Siu, Y Bornat, B Hillen, **R Jung**, S. Renaud. A versatile fast-development platform applied to closed-loop diaphragmatic pacing. Proceedings of the 7th International IEEE/EMBS Conference on Neural Engineering, 2015. Pg.791-794. Doi:10.1109/NER.2015.7146742
Role: Senior Investigator & Mentor.

5. Lykholt, L, S Ganeswarathas, A Thota, K 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. In W. Jensen et al. (eds.), Replace, Repair, Restore, Relieve – Bridging Clinical and Engineering Solutions in Neurorehabilitation, Biosystems & Biorobotics 7, 529-536. DOI: 10.1007/978-3-319-08072-7_78, © Springer International Publishing Switzerland 2014.
Role: Senior Investigator & Mentor.

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Role: Senior Investigator & Mentor.

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Role: Senior Investigator & Mentor.

11. Thota AK, S Kuntaegowdanahalli, J Orbay, AK Starosciak, J Abbas, K Horch, **R Jung**. A multi-lead multi-electrode system for neural-interface enabled advanced prostheses. 2013 *29th Southern Biomedical Engineering Conference* (Miami, FL, May 3-5, 2013). pg. 109-110. IEEE Xplore DOI 10.1109/SBEC.2013.63.
Role: Senior Investigator.

12. Thota A, **R Jung**. Specific overground walking kinematic measures are related to degree of spinal injury in the rat. *2013 29th Southern Biomedical Engineering Conference* (Miami, FL, May 3-5, 2013), pg. 165-166. IEEE Xplore DOI 10.1109/SBEC.2013.91.
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Role: Senior Investigator & Mentor.

14. Bhatia D, M Abdelghani, T Bejarano, C Vargas, **R Jung** and D Brunt. Gender differences in muscle coordination patterns during Sit-to-Stand task movements. *2nd International Conference on Biomedical Engineering and Assistive Technologies (BEATS 2012)*, NIT, 6-7th December, 2012, Jalandhar, India. (Winner best paper and presentation award)
Role: Senior Investigator & Mentor.

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Role: Senior Investigator & Mentor.

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Role: Senior Investigator & Mentor.

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Role: Senior Investigator & Mentor.

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Role: Senior Investigator & Mentor.

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Role: Senior Investigator & Mentor.

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Role: Senior Investigator & Mentor.

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Role: Senior Investigator & Mentor.

24. Ichihara K, G Venkatasubramanian, A LaBelle, E Ashton, JJ Abbas, **R Jung.** Muscle stimulation in a rodent model: electrode design, implantation and assessment. *Proceedings of IFESS-FESnet 2004, 9th Annual Conference of the International Functional Electrical Stimulation Society and the 2nd conference of FESnet* (Online: www.ifess.org), pg. 404-406, Edts. Duncan Wood, Paul Taylor, 6th-9th September, 2004, *Bournemouth International Centre, Bournemouth, UK.* (Poster presentation by R Jung)
Role: Senior Investigator & Mentor.

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Role: Senior Investigator & Mentor.

26. **Jung R,** EA Knapp, AK Thota, BT Thompson, S Mulligan, N Ravi, and A. Quick, Quantitative outcome measures for assessing motor control in a rodent model of spinal contusion injury. *Proceedings of the 2nd Joint EMBS-BMES Conference, pg. 2556-2557, Oct 23-26, 2002, Houston, TX, USA* (Talk by R Jung)
Role: Senior Investigator & Mentor.

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Role: Senior Investigator.

28. Wang H and **R Jung**. Site Specific Variability in Spinal Motor Output. *Proceedings of the First Joint BMES/EMBS conference, pg. 416, Oct 13-16, 1999, Atlanta, GA, USA* (Talk by H Wang)

Role: Senior Investigator & Mentor.

29. Brauer EJ, **R Jung**, B Thompsen, and JJ Abbas. Experimental Results of 6 Neuron VLSI Circuit of Lamprey unit Pattern Generator. *Proceedings of the First Joint BMES/EMBS conference, pg. 372, Oct 13-16, 1999, Atlanta, GA, USA.*
Role: Collaborator, hardware circuit implementation is embodiment of compuatational model by Jung

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Role: Senior Investigator & Mentor.

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Role: Collaborator, hardware circuit design is embodiment of compuatational model by Jung.

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Role: Senior Investigator & Mentor.

33. Brewer B and **R Jung**. Sensitivity analysis of a hybrid neural network for locomotor control in the lamprey. *Proceedings of the 16th Southern Biomedical Engineering Conference,* pg. 353-356, 1997, Biloxi, MS, (Poster presentation by B. Brower. The paper won an award. The student received an additional award for the presentation).
Role: Senior Investigator & Mentor.

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Role: Collaborator, hardware circuit analysis confirms comptuaional model analysis by Jung.

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Role: Collaborator, hardware circuit design is embodiment of compuatatioal model by Jung.

Invited National Task Group Reports

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2. **Jung R.** National Academies Keck Futures Initiative: Smart Prosthetics: Exploring Assistive Devices for the Body and Mind: Task Group Summaries, The National Academies Press. 2007, .ISBN-10: 0-309-10466-1 (Contributing task group member Create Hybrid Prostheses That Exploit Activity-Dependent Processes, pp77-86)

Refereed Abstracts in Conference Proceedings

1. Black I, JJ Abbas and **R Jung**. Predicted Effect of Electrode Position on the Amplitude of Recorded Neural Signals Using Cuff-Like Technologies. (Poster (Black) at 2016 NANS- NIC Meeting, June 25th-29th, 2016, Baltimore, MD, USA).

2. Joshi C, Thota A, Pragya U, **R Jung**. EEG Spectral changes before and after an eight-week intervention period of Preksha meditation. (Oral talk (Joshi) at 13th Annual Society for Brain Mapping and Therapeutics World Congress, April 8-10, 2016, Miami, USA).

3. **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

4. Hillen BK, J Abbas, A Zbrzeski, S Renaud and **R Jung**. Adaptive control of ventilation using electrical stimulation in a biomechanical model. (Poster (Hillen and Jung) at 24th Annual Computational Neuroscience Meeting, CNS*2015, July 18-23, 2015, Prague, Czech Republic). P111.

5. A Thota, R Siu, S Ganeswaratha, L Lykholt, **R Jung**. Control of ankle movement by stimulating with longitudinal intrafascicular electrodes. (Oral talk (Thota) at Biomedical Engineering Society (BMES), 2014, 24-27th October, 2012, San Antonio, Texas, USA.)

6. Bejarano T, A Thota, D Brunt, **R Jung**. Comparison of neuromuscular activity during the lateral step task in younger and older adults. (Poster (Bejarano) at Biomedical Engineering Society (BMES), 2014, 24-27th October, San Antonio, Texas, USA.)

7. Loayza J, A Arrinda, A Konjengbam, A Alfred, A Thota, **R Jung**. Quantitative assessment of gait and balance for determining alignment parameters for prosthetic fitting. (Poster (Loayza) at Biomedical Engineering Society (BMES), 2014, 24-27th October, 2012, San Antonio, Texas, USA.)

8. Davis B, R Siu, B Hillen, C Vale, **R Jung**. Assessment of ventilatory function and respiratory muscle electromyograms in rodents for design of an adaptive ventilatory neuromuscular pacing device. (Poster (Davis) at Biomedical Engineering Society (BMES), 2014, 24-27th October, 2012, San Antonio, Texas, USA.)

9. Abdelghani M, J Abbas, K Horch, **R Jung**. Decoding motor intent from simulated multiple longitudinal intrafascicular electrode recordings. (Poster (Abdelghani and Jung) 21st Annual Organization for Computational Neuroscience Meeting, July 2010, San Antonio, TX) Paris, France, July 13-18, 2013.

10. Bejarano T, D Bhatia, M Novo, M Munoz, D Brunt, **R Jung.** Knee movement patterns for identifying biomarkers for sit to stand task. (Oral talk (Bejarno) at Biomedical Engineering Society (BMES), 2012, 24-27th October, 2012,Atlanta, Georgia, USA.)

11. **Jung R.** Adaptive Neurotechnology to Make Neural Circuits Functional. http://meetings.aps.org/link/BAPS.2008.MAR.Y36.7 Online. American Physical Society, March Meeting, March 10-14, 2008. New Orleans, LA. (**Invited Keynote Lecture**).

12. Pizziconi V, J Snyder, K Heinrichs, J Abbas, J Peles, J He, **R Jung**, K Csavina, J Lynskey, R Filley, T Duenning, N Ben, W Maruwo, and M Garisyeje. Empowering Malawians with Disabiltiies. p53, BMES Annual Fall Meeting 2008. (Poster by V. Pizziconi at BMES Annual Fall Meeting, October 2-4, 2008, St. Louis, MO).

13. Seung-Jae Kim, Mallika Mukherjee, Alexandre Iarkov, James Abbas, **Ranu Jung**. Adaptive Control for Neuromuscular Stimulation Therapy in an Intermittent Training Paradigm. BMES Annual Meeting, Los Angeles, CA 2007. P1.133 (Poster by S-J. Kim).

14. Kim S-J, M Mukherjee, A Iarkov, JJ Abbas, **R Jung**. Adaptive control for neuromuscular stimulation movement therapy. *J. Neurotrauma*, 24(7): P236, pg 1288. 2007 doi:10.1089/neu.2007.9972. (Poster at the 25th Annual National Neurotrauma Society Meeting. Missouri, KA 2007 by S-J. Kim).

15. Ichihara K, T Kanchiku, T Taguchi T, **R Jung**. A rodent model for functional neuromuscular stimulation locomotor therapy: electrode design, implantation and Recruitment. 17th Annual Meeting of Division of Chugoku and Shikoku; Japanese Association of Rehabilitation Medicine; Ube, Yamaguchi, Japan, May 28, 2006, (Talk by K. Ichihara)

16. Lynskey JV, A Belanger, T Kanchiku, G Venkatasubramanian, M Mukherjee, A Thota, J Abbas, **R Jung**. Therapeutic Neuromuscular Stimulation Therapy Improves Recovery of Locomotion after Incomplete Spinal Cord Injury in Adult Rats. (Poster at the 11th International Symposium on Neural Regeneration, December 14-18, 2005, Asilomar, CA by J. Lynskey).

17. Venkatasubramanian G, T Kanchiku, M Mukherjee, JJ Abbas, **R Jung**. Functional neuromuscular stimulation after spinal cord injury: a rodent model. *J. Neurotrauma*, 22(10):P307, pg.1241, 2005. (Poster at the 23rd Annual National Neurotrauma Society Meeting, Washington DC, Nov 10-11, 2005).

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21. Ichihara K, G Venkatasubramanian, JJ Abbas, **R Jung**. Electrical stimulation paradigms to assist in locomotor training after spinal cord injury. *J. Neurotrauma*, 20(10):P412 pg.1131, 2003. (Poster at the *National Neurotrauma Society,* Nov. 6-Nov. 7, Biloxi, MS, 2003)

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23. **Jung R.** Interfacing with the nervous system for neuromotor control, *Proceedings of the 2003 Annual Fall Meeting of the Biomedical Engineering Society,* 10.5.5, 2003. Oct 1-3, Nashville, TN (Invited talk by R. Jung)

24. **Jung R**, S Carlson, E Knapp, A Thota, B Thompson, N Ravi, J. Alton and T Coates. Locomotor training in a rodent model of incomplete spinal cord injury. *J. Neurotrauma* 19(10):P359, pg. 1337, 2002. (Poster at the *First Joint Symposium of the National and International Neurotrauma Societies,* Oct. 27-Nov. 1, Tampa, FL, 2002)

25. Thota A, **R Jung** and JJ Abbas. Adaptive control of end-point position by weighted activation of force fields. *Annals of Biomed. Eng.,* vol.29 (Suppl. 1), 10.2.4, pg. S-121, 2001. (Talk by A Thota at *2001 Annual Fall Meeting of the Biomedical Engineering Society,* Durham, North Carolina. Oct. 4-7)

26. Miller A, A Thota, B. Thompson and **R Jung**. Locomotor recovery after incomplete spinal cord injury in the rat. *National Conference on Undergraduate Research.* Lexington, KY, March 13-15, 2001. (Poster presentation by A. Miller)

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29. Miller A, B Thompson, **R Jung**. Kinematic analysis of locomotor recovery in the partial spinal cord injured rat. *Annals of Biomed. Eng.,* vol.28 (Suppl. 1), T11.25, pg. S-113, 2000. (Poster by A. Miller at the 2000 Annual Fall Meeting of the Biomedical Engineering Society, Oct. 12 – 14, Seattle, Washington)

30. Grandhe S and **Jung R.** Presence of brain-spinal cord interactions alters lamprey locomotor response to periodic perturbation. *Proceedings of the Ninth Annual Computational Neuroscience Meeting (CNS-2000),* Brugge, Belgium, July 16-20, pg. 109, 2000. (Talk by S Grandhe)

31. Wang H and **R Jung**. Effects of supraspinal-spinal loops on the dynamic evolution of fictive locomotion *Proceedings of the Eighth Annual Computational Neuroscience Meeting (CNS-99),* Pittsburgh, pg. 89, 1999. (Poster presentation)

32. Li D, DSK. Magnuson, and **R Jung**. Non-stationary analysis of extracellular neural activity. *Proceedings of the Eighth Annual Computational Neuroscience Meeting (CNS-99),* Pittsburgh, pg. 89, 1999. (Poster presentation)

33. Shao M and **R Jung**. Robustness of the CGSA in estimating the Hurst exponent from time series with fractal and harmonic components. *Proceedings of the Eighth Annual Computational Neuroscience Meeting (CNS-99),* Pittsburgh, pg. 89, 1999. (Poster presentation)

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39. Jung J and **R Jung**. Brain-spinal cord feedforward-feedback interactions affect output pattern and intracellular properties of motor networks in the lamprey. *Proceedings of the Seventh Annual Computational Neuroscience Meeting (CNS-98),* Santa Barbara, pg. 89, 1998. (Poster presentation)

40. **Jung R** and S Generazzo. Perturbation of a neural network model of locomotor control in the lamprey. *Proceedings of the Sixth Annual Computational Neuroscience Meeting (CNS-97)*, Big Sky, Montana, pg. 77. July 1997 (Poster presentation)

41. Brewer B and **R Jung**. Effects of external tonic input on the oscillatory output of the lamprey locomotor network. *34th Annual Rocky Mountain Bioengineering Symposium.* Dayton, Ohio, April, 1997. (Talk by B. Brewer)

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Selected Abstracts (other)

1. 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 presentation by R Siu and R Jung-planned)

2. 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 (Oral presentation by A Pena - planned)

3. 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. (Oral presentation by R Siu - planned)

4. 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 presentation by R Siu)

5. **Jung, R**, S Renaud, J Abbas, Y Bornat, B Hillen, A Zbrzeski, R Siu, J Castelli, F Kolbl. "Computation enabled ventilatory control system (CENAVEX)", Collaborative Research in Computational Neuroscience Conference 2016, October 24-26, 2016, Paris, France. (Poster presentation by R Jung)

6. 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.

7. 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 presentation by i Black)

8. 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 presentation by I Black and R Jung)

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12. 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 presentation by R Siu)

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23. Bejarano, T, A K Thota, D. Brunt, **R Jung**, "Comparison of neuromuscular activity during the lateral step task in younger and older adults, San Antonio, October 22-14, 2014 (Poster presentation by T Bejarano)

24. Davis, B, R Siu, B Hillen, C Vale, **R Jung**. "Assessment of ventilatory function and respiratory muscle electromyograms in rodents for design of an adaptive ventilatory neuromuscular pacing device". Biomedical Engineering Society Annual Meeting 2014 (San Antonio, Texas, Oct. 22-25, 2014) (Poster presentation)

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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 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

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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 (News clip by National Academy of Engineering about FDA approval of first-in-human study of investigational device for restoring sensation to amputees)

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/1WGbM0q

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 NCRR, July 12, 2005; "High End Instrumentation Grants" http://www.nih.gov/news/pr/jul2005/ncrr-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

2015-present

Several presentations to the public and for inaugural events, such as for opening of the I-CAVE, the Florida Power & Light solar panel installation, Annual Engineering EXPO, Press presentation regarding Youth-Fair land need for new Engineering building at Florida International University

2017 (selected)

1. *"Welcome Remarks",* International Symposium on Sensor Networks, Systems and Security, Lakeland, FL, August 31, 2017.
2. *"Opening Remarks",* IEEE International Electric Machines & Drive Conference, Miami, FL May 22, 2017.
3. *"Welcome Address",* Fourth Annual Workshop on Origami Design for Integration of Self-Assembling Systems for Engineering Innovation, April 26, Florida International University, Miami, FL.
4. *"FIU Engineering and Computing Engagement Programs",* ASEE Engineering Transitions to Inclusive Diverse Environment (E-TIDE) Meeting, Washington DC, March 17, 2017.
5. *"Welcome Address",* 25th GENI (Global Environment for Network Innovations) Engineering Conference, Miami, Florida, March 14, 2017.

2016

6. *"Millineries, Milliner and Wearing Many Hats"*, AAUW Presentation, University of South Florida, Tampa, FL, April 22, 2016.
7. "*Leadership in STEM and Innovation*" panel; Life Sciences South Florida *Lifees*, eMerge Americas conference, Miami Beach, April 18, 2016.
8. *"Engineering Expansion",* Press Conference, April 12, 2016
9. "*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

10. "*Advances in Orthotics and Prosthetics*", Reveille Symposium, Tampa, FL, Oct 2, 2015.
11. "*Closing the Loop-Nerves, Interfaces and Machines*", 28th Annual Maximus Higher Education Meeting, Miami Beach, FL, September 17, 2015.

2013

12. "*Opportunities for Academic and Industry Medical Device Development Collaborations - The Florida International University Perspective*", BioFlorida- The Saturday Exchange, March 9, 2013, Miami, FL.

2012

13. *"Neurodesign: Neurotechnology for Neurorecovery"*, Oct 8, 2012, Bioflorida 2012, Miami, FL
14. "*Therapeutic and Reparative Neurotechnology*"; FIU in DC: Faculty Expert Series- Alumni Briefing; Washington DC, Jan 19, 2012
15. "*Neural-Mediated Assistive Devices for Rehabilitation of Individuals with Disabilities*", LifeSciences South Florida, Webinar, March 22, 2012, Miami, FL.
16. "*Biomedical Engineering at FIU*"; Congressional Staff Briefings; Washington DC, Jan 19, 2012

2011

17. "*Biohybrid Systems: Nerves Interfaces, Machines*", Miami PREP program for high-school students, July 12, Miami, FL. 2011.
18. "*High-Impact Science*", EDC BioTech 2011: 10th Annual Life Science Conference, May 11, Boca Raton, FL (Invited Speaker)

2010

19. "*Neural Implants are Us*", BioTech Speaker Series, Arizona Science Center, Phoenix, AZ. 2010

2009

20. "*Engineering Faculty Auction*", Society of Women Engineers, Arizona State University Student Chapter, Tempe, AZ (Discussion with students). 2009

2008

21. "*2008 Neurotech Leaders Forum: Technology Transfer Panel*", San Francisco, CA. (Invited Speaker)

2008 22. "*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*

2008 23. "*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 24. "*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

2007 25. "*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

2007 26. "*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 27. Industry/Faculty Discussion Panel, Alpha Eta Mu Beta, Biomedical Engineering Honor Society, Tempe, AZ, 2005

2005 28. "*Bioengineering*", Lecture at the Arizona Bio-EXPO 2005, Phoenix, AZ.

1998 29. "*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 30. "*Biomedical Engineering*", Society of Women Engineers, University of Kentucky Student Chapter), Lexington, KY. **Keynote talk at annual banquet.** 1996

1996 31. 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

2017 32. "*CENAVEX: Computation-Enabled Ventilatory Control System*", NICT-NSF Collaborative Workshop in Computational Neuroscience, Osaka University, Osaka, Japan, January 16, 2017.

2016 33. "*Biohybrid Systems: Restoring Sensation to Upper-Limb Amputees*", Department of Biomedical Engineering, Tel-Aviv University, Tel-Aviv, Israel, May 22, 2016.

2016 34. "*Biohybrid Systems: Restoring Neural Function*", Special Medical Neurobiology Seminar, The Hebrew University- Hadassah Medical School, Jerusalem, Israel, May 15, 2016.

2016 35. "*Closing the Loop: Nerves, Machines and Interfaces*", Distinguished Lecture Series, Department of Electrical and Computer Engineering, University of Toronto, Ontario, Canada, March 18, 2016.

2014 36. "*Closing the Loop: Nerves, Machines and Interfaces*", Lovely Professional University, Punjab, India, April 3, 2014.

2014 37. "*Closing the Loop: Nerves, Machines and Interfaces*", IIT-Delhi, New Delhi, India, March 31, 2014.

2013 38. "*Biohybrid Systems: Nerves, Machines and Interfaces*", Aalborg University, Aalborg, Denmark, June 16, 2013.

2009 39. "*Adaptive Biomimetic Technology to Promote Neural Adaptation",* Biomedical Distinguished Lecture Series, University of Galway, Galway, Ireland, 24 July, 2009.

2008 40. "*Promoting Neuroplasticity*", National Brain Research Center, Manesar, Gurgaon, Haryana, India, December 18, 2008.

2007 41. "*Making Neural Circuits Functional*". The Nobel Institute for Neurophysiology, Department of Neuroscience, Karolinska Institute, Stockholm, Sweden, June 15, 2007.

2006 42. "*Designing Adaptive Engineered Systems To Promote Adaptation in Neural Systems*", Department of Orthopedic Surgery, Yamaguchi University, Hofu, Japan. September 16th, 2006.

2000	43.	"*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

2016	44.	"*Human Sensation*", 13th Society for Brain Mapping and Therapeutics Conference, Miami, FL, USA, April 8, 2016.
2015	45.	"*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	46.	"*A Controlled Study of the Effects of Mahapran and Color Meditation Components of Preksha Dhyan in College Students*", International Conference: Acharya Tulsi and the Making of Modern Jainism, Miami, FL, Nov 1-2,2014 (Joint talk with Samani Unnata Pragya)
2014	47.	"*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	48.	"*Biohybrid Systems: Nerves, Machines and Interfaces*", Aalborg University, Aalborg, Denmark, June 16, 2013.
2012	49.	*"Accelerating Locomotor Recovery after Spinal Contusion",* at Cellular and Network Functions in the Spinal Cord 2012, Madison, Wisconsin, May 22-25, 2012.
2011	50.	*"Biohybrid Systems; Nerves, Interfaces, Machines",* 3rd International Conference on Neuroprosthetic Devices, Sydney, Australia, 26 Nov, 2011. http://neurotechzone.com/icnpd-2011/program
2010	51.	*"Neurodesign: Using Computational Modeling for the Design of Neurotechnology"* at the 19th Computational Neuroscience Meeting, San-Antonio, TX, USA, July 30, 2010. http://www.cnsorg.org/meetings/archives/CNS2010.shtml
2010	52.	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	53.	"*Pervasive Health Monitoring for Adaptive Neurotechnology*", International Congress on Pervasive Computing and Management, Delhi, India, December 14, 2008. ***Keynote Lecture***
2008	54.	"*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***
2008	55.	"*Adaptive Neurotechnology for Making Neural Circuits Functional*", 2008 American Physical Society Annual March Meeting, New Orleans, LA, March 14, 2008. ***Keynote Lecture***
2007	56.	"*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**
2007	57.	"*Neuromorphic Engineering: Cognitive and Behaving Systems- Applications*". 2007 Neuromorphic Spring Meeting, Porto Conte Ricerche, April 13-15, 2007, Tramariglio, Italy.
2005	58.	"*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	59.	"*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	60.	"*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

2017	61. *"Closed Loop Biohybrid Systems for Restoring Neural Function",* Northwestern University, Chicago, Illinois, April 27, 2017
	62. "*Closing the Loop: Nerves, Interfaces and Machines*", University of California, Irvine, CA, February 3, 2017.
2016	63. *"Adaptive Neurotechnology for Restoring Neural Function"*, University of South Florida, Tampa, FL, April 22, 2016.
2015	64. "*Closing the Loop: Nerves, Interfaces and Machines and Interfaces*", Columbia University, New York, NY, October 30, 2015.
2014	65. "*Biohybrid Systems: Nerves, Machines and Interfaces*", Florida International University, Health Sciences Distinguished Speaker Series, Department of Occupational Therapy, Miami, FL, Nov 19, 2014.
2014	66. "*Neuro-Interface for Upper Limb Amputees to Restore Sensation*", Walter Reed National Military Medical Center, Washington DC, Feb 27, 2014.
2013	67. "*Biohybrid Systems: Nerves, Machines and Interfaces*", Georgia Institute of Technology, Atlanta, GA, May 15, 2013.
	68. "*Accelerating Locomotor Recovery after Spinal Cord Injury*", Miami Cure for Paralysis, Miami, FL, April 24, 2013.
2012	69. "*Biohybrid Systems: Nerves, Interfaces and Machines*", University of Washington, Seattle, Nov 1, 2012.
2011	70. "*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	71. "*Neuromorphic Design and Neural Prostheses for Restoring Sensorimotor Function*", New Jersey Institute of Technology, Newark, NJ, April 24, 2010.
	72. "*Neuromorphic Design and Neural Prostheses for Restoring Sensorimotor Function*", City College of New York, NY, April 16, 2010.
	73. "*Neuromorphic Design and Neural Prostheses for Restoring Sensorimotor Function*", Florida International University, Miami, March 29, 2010.
	74. *"Promoting Neural Plasticity after Neurotrauma*", School of Medicine, Temple University, PA, March 16, 2010.
	75. *"Neural Modeling, Neuromorphic Design and Neural Prostheses*", College of Engineering, Temple University, PA, March 15, 2010.
2007	76. "*Synergistic Learning: Adaptive Neurotechnology for Promoting Neuroplasticity*", University of Utah, November 30, 2007.
	77. "*Making Neural Circuits Functional*". Center for Neural Computation and Neural Engineering Seminar Series, University of Chicago, March 13, 2007.
2005	78. "*Making Neural Circuits Functional*", University of Arizona, Bioengineering, Tuscon, AZ, October 3, 2005.
2003	79. "*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	80. "*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	81. *"Modeling and experimental investigations of neural control of locomotion*", Dept. of Biomedical Engineering, University of Miami, Coral Gables, FL. April 1997.
1997	82. "*Modeling and experimental investigations of neural control of locomotion*", Dept. of Bioengineering, The University of Toledo, Toledo, OH. March 1997.

1995	83. "*Experimental and modeling studies of locomotor control in the lamprey*", Dept. of Medicine, Howard University, Washington DC. April 1995**.**
1995	84. "*Modeling and experimental investigations of brainstem control in locomotion*", Dept. of Biology, University of North Carolina, Charlotte, NC. April 1995.
1995	85. "*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	86. "*Ventral medullary organization for cardio-respiratory control*", Dept. of Chemical, Bio, and Materials Engineering, Arizona State University, Tempe, AZ. April 1992.
1991	87. "*Cardiorespiratory baroreflex control in left ventricular dysfunction*", Dept. of Biomedical Engineering, Case Western Reserve University, Cleveland, OH. December 1991.
1991	88. "*Cardiorespiratory responses to glutamatergic antagonists in the rat caudal medulla*", Dept. of Biomedical Engineering, The Johns Hopkins University, Baltimore, MD. Sept. 1991.
1991	89. "*Ventral medullary organization for cardio-respiratory control*", Biomedical Engineering Department, Northwestern University, Evanston, IL. February 1991.
1991	90. "*Cardiorespiratory control and ventrolateral medulla: experimental results and a neural network model*", Dept. of Biomedical Engineering, University of Akron, OH. May 1991.
1990	91. "*Ventral medullary organization for cardio-respiratory control in the rat*", Dept. of Biomedical Engineering, Case Western Reserve University, Cleveland, OH. Nov. 1990.
1981	92. "*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

2017	93. *"Academic Success Initiative",* ASEE Engineering Transitions to Inclusive Diverse Environments (E-TIDE) Conference, March 17, 2017, Washington DC
2016	94. *"Technology in Rehabilitation",* Panel moderator and overview*,* Rehabilitation Research at NIH: Moving the Field Forward, May 25-26, 2016, Bethesda, MD.
2015	95. *"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=fnrx5mw3iT0
2012	96. "*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)
2009	97. "*Frontiers in Bioengineering*", short presentation and panel member; Robotics Technology & Next Frontier in Surgical Care, Scottsdale, AZ, Nov 6-7, 2009.
2007	98. "*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)
2006	99. "*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	100. "*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)
2005	101. 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)
2005	102. Invited Participant, DARPA Advanced Prostheses Workshop, January 10-11, 2005, Ellicott City, Maryland (Discussion)

2003 | 103. "*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 | 104. "*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

2017 | 105. *"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 | 106. *"Effective and Reliable Peripheral Interfaces for Prosthetic Control"*, DARPA RE-NET PI Meeting. November 12, Arlington, VA (Oral Presentation)

2014 | 107. "*Computation-Enabled Ventilatory Control System (CENAVEX*)", CRCNS14- Collaborative Research in Computational Neuroscience, October 16-18, Tempe, AZ. (Oral Presentation with S. Renaud).

2012 | 108. *"Effective and Reliable Peripheral Interfaces for Prosthetic Control"*, DARPA RE-NET PI Meeting, November 14, 2012, New Orleans, LA (Oral Presentation)

2009 | 109. "*Modeling Neuromusculoskeletal Alterations after Spinal Cord Injury*", CRCNS09-Collaborative Research in Computational Neuroscience, June 7-9, Pittsburgh, PA. (Oral Presentation with T. Hamm).

2008 | 110. "*Modeling Neuromusculoskeletal Alterations after Spinal Cord Injury*", CRCNS08-Collaborative Research in Computational Neuroscience, Spring 2008, June 2-4, Los Angeles, CA. (Oral presentation)

2007 | 111. "*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 | 112. "*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 | 113. "*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 | 114. "*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 | 115. "*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 | 116. "*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 | 117. "*Rehabilitation Engineering and Neuroscience and Intelligent Prosthetic Systems"*, DARPA site visitors, The Biodesign Institute, ASU, Feb 12, 2005, Tempe, AZ. (Oral Presentation)

2004 | 118. "*Rehabilitation Neuroscience and Rehabilitation Engineering at ASU*", DARPA-DSO; June 16, 2004. Washington DC. (Oral Presentation)

2002 | 119. "*Research Thrust*", Whitaker Foundation Site Visit team, Arizona State University, Tempe, AZ, Oct 4, 2002. (Oral Presentation)

2000 | 120. "*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 | 121. "*Biohybrid Systems, Nerve, 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 | 122. "*Careers in Science: Biomedical Engineering*", MARC U*STAR and MBRS RISE Programs, Florida International University, Miami, FL, March 19, 2013.

2012 | 123. "*Biohybrid Systems, Nerve, Interfaces and Machines"*, Brown-Bag Luncheon, College of Nursing and Health Science, Florida International University, Miami, FL, April 4, 2012.

2008 | 124. "*Neurotechnology for Making Neural Circuits Functional*", 2nd Annual Arizona State University-Barrow Neurological Institute Neuroscience Symposium, Tempe, AZ, February 16, 2008 (Invited Talk)

2006 | 125. "*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)

2006 | 126. "*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)

2006 | 127. "*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 | 128. "*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 | 129. "*Rehabilitation Neuroscience and Rehabilitation Engineering*", Mayo/ASU Joint Research Forum, Scottsdale, AZ, Dec. 7, 2002. (Seminar and Poster)

2002 | 130. "*Promoting Recovery, Repair, and Regeneration after Spinal Cord Injury*", Department of Bioengineering, Arizona State University, Tempe, AZ, September 11, 2002. (Seminar)

1998 | 131. "*Neural genesis and control of locomotion: Insights from a primitive vertebrate*", Physics Colloquium, University of Kentucky, Lexington, KY. October 23, 1998.

1997 | 132. "*Neural control of locomotion in the lamprey*", Dept. of Electrical Engineering, University of Kentucky, Lexington, KY. February 1997. (Seminar)

1996 | 133. "*Understanding rhythmic motor behavior using dynamical systems analysis*", Dept. of Mathematics, University of Kentucky, Lexington, KY. October 1996. (Seminar)

1995 | 134. "*Overview of biomedical engineering*", Dept. of Biosystems and Agriculture Engineering, University of Kentucky, Lexington, KY. December 1995. (Seminar)

1995 | 135. "*Locomotor control in the lamprey: Nonlinear systems analysis*", Dept. of Physiology and Biophysics, University of Kentucky, Lexington, KY. October 1995. (Seminar)

1995 | 136. "*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 | 137. "*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 | 138. "*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	139. "*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	140. "*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

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

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
2016-2017	Member, Board of Directors, Society for Bran 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

2009-2012	Chartered Reviewer (Appointed-3 Year term), Sensorimotor Integration (SMI) Study Section (3 panels/yr)
2004-2006	Chartered 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
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

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

11/17	*Member*, 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-present	Editor-in-Chief (with Dieter Jaeger): Encyclopedia of Computational Neuroscience (Springer Inc., Berlin (4 volumes, 1st Edition published, 2nd edition in progress).
2017-present	Editorial Board, Bioelectronics Medicine (Launching Fall 2017)
2017-present	Associate Editor, Annals of Biomedical Engineering
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 29th 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-present	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 Physiology (Heart and Circulatory Physiology) Annals of New York Academy of Science Behavioral and Cognitive Neuroscience Reviews Biomaterials Biomedical Science and Instrumentation Experimental Neurology Frontiers in Neuroscience 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 Neuroscience Journal of Neurophysiology Journal of Neuroscience Methods Journal of Pharmacology and Experimental Therapeutics Neurocomputing Neuroimaging PLOS One 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

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, Canada. (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

07/96-07/00	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

2015-present	Member, *Global Council*, Office of Faculty and Global Affairs.
2015-16	Co-Chair, *Incentivize, synchronize, and streamline innovation+entrepreneurial initiatives* workgroup; Accelerate Research Innovation & Entrepreneurship implementation for the *BeyondPossible 2020* Strategic Plan.
2015-2017	Provost's Deans Advisory Council.
2014-2015	Co-Chair, *Carnegie Very High Research* Strategic Planning Committee.
2014-2015	Chair, *Research Advisory Committee*, Division of Research.
2013-2014	Member, *iREAL* Committee.
2013-2014	Faculty Representative, Board of Directors, Florida International University Research Foundation.
2011-present	Provost's Chairs Advisory Council.
2011-2015	Ex-Officio Member, *Council of Chairs*, College of Medicine.
2011-2014	Internship Workgroup member, Office of Engagement, FIU

College of Engineering and Computing

2017-present	Chair, committee for drafting "Diversity, Equity and Inclusion Plan".

Arizona State University

University Committees

2006-2010	Member, President's Academic Advisory Council, Office of the President
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 the 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 undergradaute 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

2016 Comprehensive exam committee for Doctoral students in Biology

Arizona State University

Barrett Honors College and other Undergraduate Honors Theses

2010-11	Stewart Wente, 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 Khairaiche
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

2017-present	Brian K. Hillen, PhD, Research Assistant Professor
2015-present	Liliana Rincon Gonzalez, PhD, Asst. Research Scientist/ Research Assistant Professor(2017)
2014-present	Jefferson Gomes, Laboratory Manager
2012-present	Anil Kumar Thota, MS, Research Associate/Program Manager
2012-2013	Amy Starosciak, PhD, Research Coordinator
2011-present	Sathyakumar Kuntaegowdanahalli, MS, Research 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	Multiple Staff members in the College of Engineering & Computing for Operations, Personnel, Advising, External Programs, Information Technology, Marketing; Program Direcotr for Strategic Initiatives

2011-2015	Senior Coordinator, Department of Biomedical Engineering, FIU
2011-2015	Coordinator, Department of Biomedical Engineering, FIU
2011-2015	Research Coordinator, Department of Biomedical Engineering, 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 Students

2017	Sanjeev Kumar (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	Brian K Hillen (PhD Biomedical Engineering, Arizona State U)
2012-2014	Adeline Zbrzeski (PhD Physics and Engineering Science, University of Bordeaux 1, France) Current Status: Director of Research & Development, Synapse Biomedical.
2011-2014	Mohamed Abdelghani (PhD Neuroscience, University of Toronto, Canada)
2011-2013	Dinesh Bhatia, 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	Amy Starosciak (PhD Neuroscience, Uniformed Services University of the Health Sciences, USA) Current Status: Clinical Research Administrator, Baptist Health South Florida, Miami, FL
2009-2010	Alfred Haas (PhD Electrical Engineering, U Maryland College Park), Nov '09- Dec'10 (co-mentor with Dr. James Abbas)
2008-2010	Sharmila Venugopal (PhD Neuroscience, Ohio State U), Oct'08- Dec'10 Current Status: Research Fellow, University of California, Los Angeles.
2010	Mallika Fairchild (PhD Bioengineering, Arizona State U), Jan'10-Sep'10 Current Status: Patent Examiner, USPTO
06-12/2008	Joe Graham (PhD Bioengineering, Arizona State U), June '08 – Dec'08 Current Status: Research Fellow, EPFL
2006-2008	Seung-Jae Kim (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 - Physical Therapy, AZ School of Health Sciences, 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 '06 Current Status: Assistant 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.

Mentor & Chair of Graduate Student Dissertations (PhD)

2014-present	Mohamed Ahmed, (passed Candidacy exam), Biomedical Engineering, Florida International University
2013-present	Andres Pena (passed Candidacy exam), Biomedical Engineering, Florida International University
2013-present	Iian Black (passed Candidacy exam), Biomedical Engineering, Florida International University
2013-present	Ricardo Siu (passed Candidacy exam), Biomedical Engineering, Florida International University
2005-2012	Brian Hillen, PhD defended July 2012; Bioengineering, Arizona State University Dissertation title: *Experimental and Computational Assessment of Locomotor Coordination and Complexity Following Incomplete Spinal cord Injury in the Rat.* Research Supported by: NIH:R01NS054282 Publications: 3 Journal articles, 1 conference proceeding, 1 refereed abstract, 4 other abstracts
2004-2009	Mallika Fairchild nee Mukherjee, PhD Fall 2009. Bioengineering, Arizona State U Dissertation title: *Strategies for Promoting Neural Plasticity after Spinal Cord Injury.* Research Supported by: NIH:R01NS054282 and Science Foundation Arizona Current Status: Patent Examiner, USPTO Publications: 3 Journal articles, 2 proceedings papers, 5 refereed abstracts
2010	Sambhavi Subramanian, PhD program, Neuroscience, Arizona State U- Did not transfer to FIU
2009-2010	David Guffrey, PhD program, Bioengineering, Arizona State University- Did not transfer to FIU
2009-2010	Sathyakumar SK, PhD program, Bioengineering, Arizona State University - Did not transfer to FIU
2003-2008	Joe Graham, PhD Spring (April 10), 2008. IGERT Fellow and Bioengineering, Arizona State University Dissertation title: *Modeling Motoneurons and the Effects of Spinal Cord Injury* Research Supported by: NIH:R01NS054282 Publications: 1 Journal article Current Status: Postdoctoral Fellow, EPFL-Switzerland.
1996-1998	Breton Losch, PhD program, Center for Biomedical Engineering, University of Kentucky Supported by: NSF (IBN-9601345) Publications: 1 Journal article Transferred to Electrical Engineering

Mentor & Chair of Graduate Student Master's Theses

2017-present	Megan Buchannan Caitlyn Myland; Bridge to Doctorate Fellowhsip
2015-2016	Chintan Joshi, MS defense, November 10, 2016, Biomedical Engineering, Florida International U Thesis title: *EEG Spectral Changes Before & After an Eight- Week Intervention period of Preksha Meditation.* Publications: 1 proceedings paper
2012-2014	Tatiana Bejarano, MS defense, November 12, 2014, Biomedical Engineering, Florida International University Thesis title: *Neuromuscular Changes in Older Adults during the Lateral Step Task* Current Status: Doctoral Student (Health/Medical Physics), University of Miami, FL. Publications: 1 Journal article, 3 proceedings paper, 2 reviewed abstracts.

2014	Vaibhavi Patil, MS Project, Biomedical Engineering, Florida International U (Completed May 2014)
2012-2013	Noah Cohen, MD/MS Project, Biomedical Engineering, Florida International U (Completed May 2013)
2008-2010	Sambhavi Subramanian, MS program, Bioengineering, Arizona State University (Completed Spring 2010) Current Status: PhD student in Neuroscience, Tempe, AZ
2003-2005	Adam Belanger, MS defense, October 7, 2005, Bioengineering, Arizona State University 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 Publications: 2 Journal articles, 1 proceedings paper, 3 reviewed abstracts.
2002-2005	Ganapriya Venkatasubramanian, MS defense July 19, 2005, Bioengineering, Arizona State University 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. Publications: 2 Journal articles, 1 proceedings paper, 1 book chapter, 4 reviewed abstracts.
2000-2002 2003-2004	Anil Thota, MS Aug.'00-Aug'02; Summer '03-April '04, Degree: May'04 Center for Biomedical Engineering, University of Kentucky 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, Florida International University, Miami, FL. Publications: 2 Journal articles, 1 proceedings paper, 5 reviewed abstracts.
2003	KrishnaMohan Veeraghavalu, MS program, Electrical Engineering, Arizona State University (Changed to MS-non thesis option)
1997-2000	Sarvani Grandhe, MS, 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. Publications: 2 Journal articles, 1 proceedings paper, 3 reviewed abstracts.
1997-2000	Dan Li, MS, 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. Publications: 3 Journal articles, 1 proceedings paper, 3 reviewed abstracts.
1998-2000	Heng Wang, MS, 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. Publications: 1 Journal article, 2 proceedings papers, 1 reviewed abstract.

2001-2004	Jayaroop Guallapalli, 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. Current status: unknown Publications: 1 reviewed abstract
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 Wente 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

2017	Valentina Dragan (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 graduate students and lab staff)
2011	Andrew Musto (Senior)
2011-12	Andres Pena (Senior)

2011	Alex Rodriguez (Senior)
2011-12	Tatiana Bejarna (Senior)
2011-2012	Ricardo Siu (Senior Capstone Design Team; *"Erekt-Alert Posture Monitoring System"; Sponsor: WB Engineering*)
	Christian Forment
	Daniel Garcia
	Reynier Santos
2012	Katherine Chacon (Senior Capstone Design Team; "Linear Motion System for the Antalgic-Trak Spinal Decompression Unit"; *Sponsor: CMSI Inc.*)
	Mikel Dualos
	Andrew Mendoza

High School students

	Several high schools students rotate through the lab. especially through a summer program. They are primarily mentored by doctoral students.

ARIZONA STATE UNIVERSITY

Bioengineering

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

Electrical Engineering

Spring 2004	Kyle Komenda (Senior Capstone Design Team; "*Neuromuscular Stimulator*")
	Melise Iglesias

	Vinh Trang

Barrett Honors College

Summer 2010- 2011	Stewart Wente (Senior; Bioengineering major, Independent study Honors Thesis ‘‘Adaptive Diaphragmatic Pacing for Respiratory Rehabilitation Therapy”, 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

Fall 2009 – Fall 2010	Stephen Holly
Fall 2008- Spring 2010	Jared Bartell (Psychology Major; School of Life Sciences Undergraduate Research Apprentice; ASU/NASA Space Grant Intern)
2009	Shifat Ahmed, Senior (independent research)
Summer 2009	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)
Summer 2004	Alexis Pasulka (laboratory participant)

High School students

Summer 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: *Phase Changes during Periodic Pulse Perturbation*
1999	Carissa Coleman (Research in Biology- Independent study)
1998	Justin Kiester (Research in Biology- Independent study) Report Title: *Feedforward and Feedback Contributions to the Central Pattern Generating Model of Locomotion in the Lamprey*
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
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-2)

2013-present	Catalina Mantilla, PhD Program, Department of Biology, FIU, Advisors: Advisor: Phil Stoddard, PhD
2012-2013	Abhay Vasudev, PhD program, Department of Biomedical Engineering, FIU, Co-Advisors: C Li and S Bhansali
2012-2014	Pratikkumar Shah, PhD program, Department of Biomedical Engineering, FIU, Advisor: C Li
2010-2013	Lydia Bilinsky, PhD program, Department of Mathematics, Arizona State U, Advisor: S Baer, PhD
2009-2011	Charla Lindley, PhD program, Bioengineering, Arizona State U, Advisor: JJ Abbas, PhD
2009-2010	Greg Apker, PhD program, Bioengineering, Arizona State U, Advisor: C Buneo, PhD
2009-2010	Daniel Gullick, PhD program, Bioengineering, Arizona State U, Advisor: B Towe, PhD
2007-2010	Yang Chenhui, PhD program, Electrical Engineering, Arizona State U, Advisor: J Si, PhD
2005-2010	Mini Kurian, PhD program, Department of Mathematics, Arizona State U, Advisor: S. Crook, PhD

2005-2013	Allison Conovaloff, 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	Aaron Convaloff, 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 Dosdell, 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 Engienering:1; Biomedical Engineering – 1; Arizona State U- Bioengineering: 12; Electrical Engineering: 1; U Kentucky - Biomedical Engineering: 1)

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 April24, 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	Erin Gaekel, MS defense July 28, 2006, "*Ramping Through A Hopf Bifurcation: New Insights Into The Memory Effect".* Bioengineering,, Arizona State U, Co-Advisors: V Pizziconi, PhD and Steve Baer, PhD
2006	Almir Halilcevic, MS non-thesis, Fall 2006, *"Evaluation of PDA Platform for Development of Closed-Loop Functional Neuromuscular Stimulation Systems".* Bioengineering, Arizona State U, Advisor: JJ Abbas, PhD
2005	Yeochan, Na, MS defense Fall 2005, Bioengineering, Arizona State U. Advisor: J. Mutthuswamy, PhD
2005	Stefani Mulligan, MS, Summer 2005, *"Effect of Deep Brain Stimulation on Postural Control in Parkinson's Disease".* IGERT Fellow & Bioengineering, Arizona State U, Advisor: JJ Abbas, PhD
2003-2004	Munir Khan, MS defense Fall 2005 Electrical Engineering, Arizona State U, Advisor: S Phillips, PhD Supported by R21:EB003629-A1 to R Jung
2006	Inbal Lapid, MS non-thesis, Spring 2006, *"Glycogene Microarrays for Cancer Characterization and Detection".* Bioengineering, Arizona State U, Advisor: L Joshi, PhD
2005	Niral Patel, MS non-thesis, Fall 2005, Harrington Dept. of Bioengineering, Arizona State U. Advisor: J. Mutthuswamy, PhD
2001	Junli Ou, MS 2001,"*Multisegment Movement Control using Functional Neuromuscular Stimulation".* Center for Biomedical Engineering, University of Kentucky, Advisor: JJ Abbas, PhD

COURSES TAUGHT

FLORIDA INTERNATIONAL UNIVERSITY

Undergraduate Courses (Biomedical Engineering)

BME4912	Undergraduate Research in BME (1 credit, Fall 2011; Spring 2012; ongoing)
	Senior Capstone Design Faculty Mentor (Seniors; Group projects with industry (Fall 2011-Spring 2015; Spring 2017)
BME1008	Individual Lectures in BME 1008

Graduate Courses (Biomedical Engineering)

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

ARIZONA STATE UNIVERSITY

Undergraduate Courses (Bioengineering)

ASU 101	The ASU Experience (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	Microcomputer Applications in Bioengineering (4 credit; Spring 2010) Juniors in bioengineering. Lectures plus laboratory course with open ended project.
BME 419	Biocontrols (3 credits; Fall 2007; 2008; 2009; 2010) Seniors in bioengineering. Introduced research paper review in 2007; Added computer project in 2008.
BME 413/513	Bioinstrumentation (3 credits; Fall 2004; 2005) Seniors in bioengineering; (80 students in Fall 2004)
BME 423/523	Bioinstrumentation Lab (1 credit; Fall 2004) Seniors in bioengineering (80 students)
BME 492	Honors Research (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 BME579; 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, 1996, 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, 1999; Fall 2000, 2001) 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.