Anil Kumar Thota

4101 Pine Street, Apt #607, Miami Beach, FL-33140, athota@fiu.edu, 216-870-6764

WORK EXPERIENCE

Florida International University, Miami, FL ***April 2012 – Present***

Visiting Research Associate

- Manage financial tracking, gather and create project reports, attend/initiate project status meetings
- Mentor graduate and undergraduate students
- Lead, participate and manage human clinical and animal studies in neuro-motor control research. This may include, but is not limited to animals/human subject management, data collection, data processing, analysis and technical writing
- Develop new research/industrial projects including experimental protocol preparation
- Support in prototype-to-product engineering stages
- Participate in developing IACUC protocols for animal research and in IRB protocols for human subjects research
- Assist with manuscripts, short papers, presentations, and grant preparation and submission processes
- Provide technical support to laboratory group members in their research projects
- Order equipment and supplies for the laboratory
- Perform setup, calibration, and validation of laboratory equipment
- Provide hardware and software maintenance

Cleveland Clinic, Cleveland, OH ***Sep 2005 – April 2012***

Research Assistant (Jan 2007 – Present) and Research Engineer (Sep 2005 – Jan 2007)

- Implementing, analyzing and reporting projects that evaluate the efficacy of Deep Brain Stimulation parameter adjustments in Parkinson's disease patients.
- Managing, implementing, analyzing and reporting concussion research.
- Functioning in the role of internal consultant for device development, data collection and analysis software requirements for several projects carried out by post-doctoral fellows, research scientists in our research group.
- Developed Biomedical Instrumentation Laboratory course for senior undergraduate students at Case Western Reserve University to teach the fundamentals of acquiring and analyzing biomedical signals.
- Responsible for non-human primate studies

Arizona State University, Tempe, AZ ***Mar 2004 – Sep 2005***

Laboratory Coordinator/ Research Engineer

- Managed resources, personnel and data collection processes for projects involving functional electrical stimulation therapy in incomplete spinal cord injury rodents.
- Documented (written and video) standard operating procedures (SOP) for all the research techniques, protocols and instructions for research equipment use.

Massachusetts Institute of Technology, Cambridge, MA ***Mar 2003 – Feb 2004***

Visiting Scholar

- Performed experiments for the project to understand the synaptic plasticity (memory and learning) involving rodent surgery, management and data analysis.
- Provided technical and analytical assistance to the scientists and post-docs in the lab.
- Modernized research equipment, space re-arrangement and computer hardware.

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University of Kentucky, Lexington, KY ***Aug 2000 – May 2003***

Research Assistant

- Played an active role in projects aimed at understanding the recovery after Spinal Cord Injury by performing rodent surgeries, and animal care, designing experimental setup and analyzing 3-D kinematic data in synchronous with EMG signals using MATLAB and LabVIEW.

Swarn Jayanthi Samudaik Hospital, Mathura, UP, India ***Sep 1999 – Jul 2000***

Biomedical Engineer In-Charge

- Installed various biomedical equipments and designed a layout for different laboratories in a newly commissioned 50-Bed super specialty hospital.
- Provided training for paramedics and orientation programs to doctors for safe equipment handling.
- Maintained warranties and service contracts of laboratory equipments ensured prompt service through vendor co-ordination, performed regular service and troubleshooted malfunctioned equipments.

Osmania University, Hyderabad, AP, India ***Jun 1998 – Aug 1999***

Instructor (Jan 1999 – Aug 1999) and Research Assistant (Jun 1998 – Jan 1999)

- Taught Biomedical Signal Processing (BMSP) laboratory course for final year undergraduate students and maintained computer network at the BMSP center.
- Developed MATLAB routines to reduce speckle noise on digitized ultrasonic.

EDUCATION

Case Western Reserve University, Cleveland, OH ***Aug 2012***

Master of Science in Biomedical Engineering (Specialization: Neural Engineering)

Thesis title: "Biomechanical Assessment of Normal and Parkinsonian Gait in the Non-Human Primate during Treadmill Locomotion"

University of Kentucky, Lexington, KY ***May 2004***

Master of Science in Biomedical Engineering (Specialization: Rehabilitation Engineering and Signal Processing)

Thesis title: "Neuromechanical Control of Locomotion in Intact and Incomplete Spinal Cord Injure Rats"

Osmania University, Hyderabad, India ***Jun 1998***

Bachelor of Engineering in Biomedical Engineering

Thesis title: "Development of Electromyography (EMG) data acquisition system"

PUBLICATIONS

E. B. Beall, M. J. Lowe, J. L. Alberts, A. M. M. Frankemolle, **A. K. Thota,** C. Shah, M. D. Phillips **"**The Effect of Forced-Exercise Therapy for Parkinson's Disease on Motor Cortex Functional Connectivity**,** Brain connectivity 3 (2), 190-198, 2013

A. K. Thota, and J. L. Alberts, "Novel use of retro-reflective paint to capture 3D kinematic gait data in non-human primates", Proceedings of the 29th Southern Biomedical Engineering Conference, Miami: 113-114, 2013, DOI 10.1109/SBEC.2013.65.

A. K. Thota, S. S. Kuntaegowdanahalli, J. Orbay, A. K. Starosiak, J. Abbas, K. W. Horch, and R. Jung, "A multi-lead, multi-electrode system for neural interface-enabled advanced prostheses", Proceedings of the 29th Southern Biomedical Engineering Conference, Miami: 109-110, 2013, DOI 10.1109/SBEC.2013.63.

A. K. Thota and R. Jung, "Specific overground walking kinematic measures are related to degree of spinal injury in the rat", Proceedings of the 29th Southern Biomedical Engineering Conference, Miami: 165-166, 2013, DOI 10.1109/SBEC.2013.91.

Alberts JL, Hallahan K, **Thota A**, Noecker AM, Vitek JL, McIntyre CC, Reducing cognitive-motor declines associated with bilateral subthalamic deep brain stimulation through computational modelling in a Parkinson's disease patient. J Neurol Neurosurg Psychiatry. 81(10), 2010, 1170-2

L. Rosenstein, A. L. Ridgel, **A. Thota,** B. Samame and J. L. Alberts, Effects of Combined Robotic Therapy and Repetitive-Task practice on upper-extremity function in a patient with chronic stroke, American Journal of Occupational Therapy, 62(1), 2008, 28-35

A. K. Thota, S. Carlson, E. Knapp, B. Thompson, and R. Jung, Neuromechanical Control of Locomotion, Journal of Neurotrauma, 24(2), 2005, 442-465.

Thota A., Carlson S., Jung R. Recovery of locomotor function after treadmill training of incomplete spinal cord injured rats, Biomedical Sci. Instrum, 37, 2001, 63-67 (**Oral presentation** at 2001 Annual Rocky Mountain Biomedical Symposium, Copper mountain, CO Engineering Society, April, 2001)

ABSTRACTS AND PRESENTATIONS

A. K. Thota, W. Xu J. R. Hirsch, Z. I. Wang, J. Zhang, J. L. Vitek, J. L. Alberts, Upper extremity motor function assessment for non-human primates, a novel modification of the Klüver board task and computer-assisted analysis of movement kinematics Society of Neuroscience, 459.23/P1, Nov 10-17, 2010, San Diego, CA.

A. K. Thota, I. Z. Wang, K. Baker J. Zhang, W. Xu, J. Vitek J. L. Alberts, Biomechanical assessment of normal and parkinsonian gait in the non-human primate during treadmill locomotion, 271.24/CC52, Society of Neuroscience, Oct 14-21, 2009, Chicago, IL.

A. K. Thota, C. Maks, C. C. McIntyre and J. L. Alberts, Deep brain stimulation parameter selection with quantitative biomechanical and computational models, Society of Neuroscience, 693.4/N6, Nov 3-7, 2007, San Diego, CA.

A. K. Thota, C. Maks, C. C. McIntyre and J. L. Alberts, A Biomechanical And Computational Approach To Deep Brain Stimulation Parameter Selection, Biomedical Engineering Society, P5.94, Sep 27-29, 2007, Los Angeles, CA.

M Mukherjee, A Belanger, T Kanchiku, J Lynskey, **A Thota**, JJ Abbas, R Jung. Functional neuromuscular stimulation after incomplete spinal cord injury in rodents promotes recovery of locomotion, National Neurotrauma Society, Nov 10-11, 2005, Washington, DC. Journal of Neurotrauma 22(10): 1220-1220 P22*2 OCT 2005*

R. Jung, 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. Journal of Neurotrauma 19(10): P359, pg. 1337, 2002.

R.Jung, S.Carlson, E.Knapp, **A.Thota**, B.Thompson, N.Ravi. Kinematics of Rodent Gait After Incomplete Spinal Cord Injury, Society of Neuroscience, 853.4, Nov 2 - Nov 7, 2002 ,Orlando, FL.

Jung R**.**, E.A. Knapp, **A.K. Thota**, B.T. Thompson, S. Mulligan**,** N. Ravi, 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.

Jung, R., Carlson, S., Knapp, L., **Thota, A.**, Thompson, B., Ravi, N., and Coates, T. Locomotor training in a Rodent Model of Incomplete Spinal Cord Injury, 8th Annual Spinal Cord & Head Injury Research Symposium literature. June 24-26, 2002. Embassy Suits Hotel. Lexington, KY.

A. K. Thota, R. Jung and J.J. Abbas. Adaptive control of endpoint position by weighted activation of force fields, Annals of Biomedical Engineering, 29(1), S121, 2001 (**Oral presentation** at 2001 Annual Fall Meeting of the Biomedical Engineering Society, Duke University, Durham, North Carolina. Oct. 4-7, 2001)

A. K. Thota. Kinematic and Electromyographic analysis of treadmill walking after locomotor training in a rodent model of incomplete Spinal cord injury, Department of PM&R, Kentucky Clinic, June 7th, 2001, University of Kentucky, Lexington, KY.