

AMIT SETHI, PhD, OTR/L

CURRICULUM VITAE

BIOGRAPHICAL INFORMATION

Name: Amit Sethi

Business Address: Department of Occupational Therapy
School of Health and Rehabilitation Sciences
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University of Pittsburgh
Pittsburgh, PA 15260

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EDUCATION and TRAINING

UNDERGRADUATE:

<u>Dates Attended</u>	<u>Name and Location of Institution</u>	<u>Degree Received, Year</u>	<u>Major Discipline</u>
September 1997 to March 2002	Manipal College of Allied Health Sciences, Karnataka, India	Bachelor of Science, 2002	Occupational Therapy

GRADUATE:

<u>Dates Attended</u>	<u>Name and Location of Institution</u>	<u>Degree Received, Year</u>	<u>Major Discipline</u>
August 2004 to December 2005	University of Wisconsin Milwaukee, WI	Master of Science, 2005	Occupational Therapy
August 2006 to December 2010	University of Florida Gainesville, FL	Doctor of Philosophy, 2010	Rehabilitation Science

APPOINTMENTS and POSITIONS

ACADEMIC POSITIONS:

<u>Years Inclusive</u>	<u>Department, Name and Location of Institution</u>	<u>Rank/Title</u>
August 2004 to July 2005	University of Wisconsin Milwaukee Milwaukee, WI	Project Assistant
August 2005 to December 2005	University of Wisconsin Milwaukee Milwaukee, WI	Teaching Assistant
August 2006 to December 2010	Department of Rehabilitation Sciences, College of Public Health & Health Professions, University of Florida, Gainesville, FL	Research Assistant
August 2010 to December 2010	Department of Occupational Therapy, College of Public Health & Health Professions, University of Florida, Gainesville, FL	Teaching Assistant
January 2011 to April 2013	Department of Occupational Therapy, School of Health Professions, University of Texas Medical Branch, Galveston, TX	Assistant Professor
May 2013 to present	Department of Occupational Therapy, School of Health and Rehabilitation Sciences, University of Pittsburgh, Pittsburgh, PA	Assistant Professor

NON-ACADEMIC POSITIONS:

<u>Years Inclusive</u>	<u>Department, Name and Location of Institution</u>	<u>Rank/Title</u>
September 2001 to March 2002	Indraprastha Apollo Hospital New Delhi, India	Intern Occupational Therapist
April 2002 to July 2004	UDAAN for the disabled New Delhi, India	Staff Occupational Therapist
February 2006 to April 2006	The Institute of Rehabilitation & Research Houston, TX	Staff Occupational Therapist
May 2006 to July 2006	Stoney Brook Health Care Center Houston, TX	Staff Occupational Therapist
June 2008 to September 2008	Shands Rehabilitation Hospital Gainesville, FL	Staff Occupational Therapist
May 2009 to September 2009	Oakhammock Assisted Living Gainesville, FL	Staff Occupational Therapist

DISCIPLINE SPECIALIZATION: Neurorehabilitation**CERTIFICATION and LICENSURE****SPECIALTY CERTIFICATION:**

National Board for Certification in Occupational Therapy, #240189 2008 to present

PROFESSIONAL LICENSURE:

Florida State Occupational Therapy License, #13210 2008 to 2013
 Texas State Occupational Therapy License, #114551 2012 to present
 Commonwealth of Pennsylvania Occupational Therapy License, #OC012750 2013 to present

MEMBERSHIPS in PROFESSIONAL and SCIENTIFIC SOCIETIES**ORGANIZATION:**

Texas Occupational Therapy Association
 American Occupational Therapy Association 2011 to present
 North American Society for the Psychology of Sport and Physical Activity
 The Society for Neuroscience
 Fellow Academy of General Education, Manipal Academy of Higher Education

HONORS & AWARDS**SCHOLARLY AWARDS:**

University of Florida Certificate of Achievement 2007-2010
 University of Florida Alumni Pre Doctoral Fellowship 2006-2010
 University of Wisconsin Milwaukee Chancellor's Fellowship Award 2005
 Manipal College of Allied Health Sciences Best Outgoing Student Award 2001
 40th Annual National Conference of All India Occupational Therapists Association, "Kailash Merchant Award" for Best Scientific Paper in Neurology

RESEARCH AWARDS

Outstanding Research Award, College of Public Health and Health Professionals, University of Florida 2010

TRAVEL AWARDS

College of Public Health and Health Professions, University of Florida 2010
 Graduate Student Council, University of Florida 2007, 2009
 Department of Occupational Therapy, University of Florida 2007

PUBLICATIONS**REFEREED ARTICLES**

1. **Sethi A**, Patterson T, McGuirk T, Patten CP, Richards LG, & Stergiou N. Temporal structure of variability decreases in reaching movements in individuals post stroke. *Clinical Biomechanics*. 2013; 28:134-9.
2. Patterson T, Bishop M, McGuirk T, **Sethi A**, & Richards L. Reliability of upper extremity kinematics while performing different tasks in individuals post stroke. *Journal of Motor Behavior*. 2011; 43:121-130.
3. Richards L, Hanson C, Wellborn M, & **Sethi A**. Driving motor recovery after stroke. *Topics in Stroke Rehabilitation*. 2008; 15:397-411.
4. **Sethi A**, & Mukherjee A. To see the efficacy of Hyperbaric Oxygen Therapy over the gross motor abilities of C.P. children of 2-5 years of age, given initially as an adjunct to occupational therapy. *Indian Journal of Occupational Therapy*. 2003; 35:7-11.
5. **Sethi, A.**, Callaway, C., Sejdic, E., Terhorst, L., Skidmore, E.R. Heart rate variability is associated with motor outcome 3-months after stroke. *Journal of Stroke and Cerebrovascular Diseases*. 2016; 25(1): 129-135.

INVITED PAPERS, PROCEEDINGS OF CONFERENCES, SYMPOSIA, MONOGRAPHS, BOOKS, BOOK CHAPTERS***Invited Papers***

1. **Sethi A**, Patterson T, McGuirk T, & Richards LG. Effect of functional task training upon temporal structure of variability of upper extremity post stroke. *Journal of Hand Therapy*. 2013; 26:132-8.

2. **Sethi A.** Movement complexity and adaptability: evidence from reaching dynamics in individuals with stroke. Presentation at Division of Rehabilitation Sciences, University of Texas Medical Branch, April 2011, Galveston, TX.

PUBLISHED ABSTRACTS

1. **Sethi A.**, Patterson T, McGuirk T, & Richards LG. Does rhythm enhance upper extremity movement post stroke? *Journal of Sport and Exercise Psychology*. 2010; S 126.
2. **Sethi, A.**, Callaway, C., Sejdic, E., Terhorst, L., Skidmore, E.R. Heart rate variability is associated with upper extremity recovery after stroke. *Neurorehabilitation and Neural Repair*. 2014; 28(9): 927.
3. Al-Zaiti, S., **Sethi, A.**, Carey, M., Canty, J., & Fallavollita, J. Temporal complexity of depolarization indicates myocardial sympathetic denervation and predicts sudden cardiac arrest in patients with ischemic cardiomyopathy and poor left ventricular ejection fraction. *Journal of Electrocardiology*. 2014; 47; 910-913

OTHER PUBLICATIONS

THESES and DISSERTATIONS

1. **Sethi A.** *The effect of posture on reaching and upper extremity interlimb coordination in cerebral palsied children: Dynamic systems perspective* [master thesis]. Milwaukee, WI, University of Wisconsin; 2005.
2. **Sethi A.** *Understanding variability in reaching movements post stroke: non-linear dynamical systems perspective* [dissertation]. Gainesville, Florida, University of Florida; 2010.

RESEARCH-RELATED PRESENTATIONS, LECTURSHIPS, SEMIARS

Peer-Reviewed Presentations

International

1. Balasubramanian CK, Stoeckli J, Page R, Eldridge D, **Sethi A.** Number of trials required to accurately evaluate spatiotemporal gait variability data using instrumented mats. Poster to be presented at the *International Society for Gait and Posture Research Meeting, June 2014, Vancouver, Canada*.
2. Balasubramanian CK, **Sethi A.**, Neptune RR, Kautz SA.. Understanding the complexity of gait kinematics using non-linear analysis in persons with chronic hemiparesis. Poster presented at the *International Society for Gait and Posture Research Meeting, 2013, Akita, Japan*.
3. **Sethi A.** Guiding principles to improve upper extremity function after stroke. Invited Guest Speaker at the 52nd Annual Conference of the All India Occupational Therapists' Association, 2015, New Delhi, India.
4. **Sethi A.** The connections between brain and heart: implications for motor recovery after stroke. Invited Guest Speaker at the Rehab Rounds at the University of Toronto, Ontario, Canada.

National

1. **Sethi, A.** & Kamm K. Effect of posture on reaching patterns in children with cerebral palsy. Poster presented at American Occupational Therapy Association Annual Conference and Expo, April 2007; St. Louis, MO.
2. **Sethi A.**, Patterson T, McGuirk T, & Richards LG. Movement in stroke more or less variability and its clinical relevance. Poster presented at Annual Society for Neuroscience Meeting, November 2009; Chicago, IL.
3. **Sethi A.**, Patterson T, McGuirk T, & Richards LG. Variability in upper extremity inter-joint coordination post stroke. Poster presented at American Occupational Therapy Association Annual Conference and Expo, April, 2010; Orlando, FL.
4. **Sethi A.**, Patterson T, McGuirk T, & Richards L.G. Reliability of adaptive variability of upper extremity movements post stroke. Poster presented at Annual Society for Neuroscience Meeting, November 2010; San Diego, CA.
5. **Sethi A.**, Patterson T, McGuirk T, & Richards L.G. Quantification of abnormal upper extremity synergy post stroke. Poster presented at Annual Society for Neuroscience Meeting, November 2012; New Orleans, LA.
6. **Sethi A.**, Richards LG, Patten CP, Patterson T, & Stergiou N. Guiding principles for addressing upper extremity impairments in individuals with chronic stroke. Research Paper presented at American Occupational Therapy Association Annual Conference and Expo, April 2014; Baltimore, MD.
7. *Alibjeji NA, Kirsch N, **Sethi A.**, Sharma N. A state synchronization controller for functional electrical stimulation-based telerehabilitation. Research paper presented at the Annual Dynamic Systems and Control Conference of American Society of Mechanical Engineers, October 2014, San Antonio, TX.

* Trainee mentored to presentation **Awarded Best Student Paper**

8. **Sethi, A.**, Callaway, C., Sejdic, E., Terhorst, L., Skidmore, E.R. Heart rate variability is associated with upper extremity recovery after stroke. Poster session presented at the annual meeting American Society of Neurorehabilitation, November, 2014, Washington DC.
9. *Raj, S., Dounskaia, N., & **Sethi, A.** Examining joint control in multi-joint movements in patients with stroke. Poster presentation at the Biomedical Engineering Society Conference, Tampa, FL, October 2015.

* Trainee mentored to presentation

10. *Gustafson, J., Farrokhi, S., **Sethi, A.**, Knee Motion Variability during Walking Exercise in Patients with Knee Osteoarthritis, Podium presentation at the Gait and Clinical Movement Analysis Society, May 2016.

* Trainee mentored to presentation

State, Regional

1. **Sethi A.** Understanding movement variability: novel outlook towards neurorehabilitation. Presentation at Annual Texas Occupational therapy Association Meeting, November 2011; Fresco, TX.

2. **Sethi A**, Sejdic E, Balasubramanian CK, Brixey J, Kumar A, Ottenbacher M, Fisher S.R. The temporal distribution of ambulatory activity discriminates fallers from non-fallers in acutely ill older patients. Poster presented at University of Pittsburgh Aging Institute Day, March 2014; Pittsburgh, PA.

3. *Raj S, **Sethi A**, Piva S, Sowa G, Farrokhi S. Knee joint variability during walking exercise in patients with knee osteoarthritis. Poster presented at University of Pittsburgh, Rehabilitation Institute Day, June 2014; Pittsburgh, PA.

* Trainee mentored to presentation (**Awarded Best Undergraduate Student Poster**)

4. **Sethi A**, Variability analyses reveal novel insights to motor recovery after stroke. Invited Speaker at the Panther Rehabilitation Rounds at the University of Pittsburgh, PA.

5. **Sethi A**. Application of non-linear analyses in rehabilitation. Invited speaker at the doctoral seminar in rehabilitation Sciences at the University of Pittsburgh, PA.

6. *Akanbi, T., Santarechhi, E., Pascual-Leone, A., Munin, M., & **Sethi, A.** *Combining Hand and Brain Electrical Stimulation in Individual with Severe Stroke: A Case Study*. Poster presented at University of Pittsburgh, Rehabilitation Institute Day, May 2016; Pittsburgh, PA.

* Trainee mentored to presentation

7. *Mercader. D., Santarechhi, E., Pascual-Leone, A., Munin, M., Foldes, S, & **Sethi, A.** Neural Mechanisms Underlying the *Combined Brain and Hand Electrical Stimulation in moderate to severe Individuals with Chronic Stroke*. Poster presented at University of Pittsburgh, Rehabilitation Institute Day, May 2016; Pittsburgh, PA.

* Trainee mentored to presentation (**Awarded Best Undergraduate Student Poster**)

PROFESSIONAL ACTIVITIES

TEACHING

COURSEWORK

Courses – Faculty

1. Course Title: Applied Reasoning II (OCCT 5113)

Role: Instructor

Name, Location of Institution: University of Texas Medical Branch, Galveston, TX

Year(s), Number of Students: Spring 2013, 54.

2. Course Title: Applied Reasoning I (OCCT 5110)

Role: Instructor

Name, Location of Institution: University of Texas Medical Branch, Galveston, TX

Year(s), Number of Students: Fall 2012, 54.

3. Course Title: Interventions for Neurological Practice (OCCT 6221)

Role: Instructor

Name, Location of Institution: University of Texas, Medical Branch, Galveston, TX

Year(s), Number of Students: Summer 2012, 52.

4. Course Title: Neurological Lab (OCCT 6226)

Role: Instructor

Name, Location of Institution: University of Texas Medical Branch, Galveston, TX

Year(s), Number of Students: Summer 2011, 51; Summer 2012, 52

5. Course Title: Foundations for Neurological Practice (OCCT 6319)

Role: Instructor

Name, Location of Institution: University of Texas Medical Branch, Galveston, TX

Year(s), Number of Students: Spring 2012, 52; Spring 2013, 54.

6. Course Title: OT Domain: Personal Performance (OCCT 5221)

Role: Instructor

Name, Location of Institution: University of Texas Medical Branch, Galveston, TX
Year(s), Number of Students: Fall 2011, 52; Fall 2012, 54.

7. Course Title: Neurological Practice (OCCT 6424)

Role: Instructor

Name, Location of Institution: University of Texas Medical Branch, Galveston, TX
Year(s), Number of Students: Summer 2011, 51.

8. Course Title: Occupational Therapy Interventions and Adaptations (OCCT 6410)

Role: Instructor

Name, Location of Institution: University of Texas Medical Branch, Galveston, TX
Year(s), Number of Students: Summer 2011, 48.

9. Course Title: Human Anatomy (HRS 2022)

Role: Co-Instructor for Neuroanatomy

Name, Location of Institution: University of Pittsburgh, Pittsburgh, PA
Year(s), Number of Students: Summer 2013; 50.

10. Course Title: Advanced Clinical Practice in Neurorehabilitation (HRS 2594)

Role: Instructor

Name, Location of Institution: University of Pittsburgh, PA
Year(s), Number of Students: Spring 2014, 7.

11. Course Title: Neurobehavioral Science (OT 2109)

Role: Instructor

Name, Location of Institution: University of Pittsburgh, PA
Year(s), Number of Students: Spring 2015, 52; 2016, 59

12. Course Title: Advances in Functional Assessment (OT 3000)

Role: Instructor

Name, Location of Institution: University of Pittsburgh, PA
Year(s), Number of Students: Summer 2015, 5.

13. Course Title: Advances in Functional Assessment Colloquium (OT 3001)

Role: Instructor

Name, Location of Institution: University of Pittsburgh, PA
Year(s), Number of Students: Summer 2015, 5.

Courses – Teaching Assistant

1. Course Title: Neuroanatomy

Role: Teaching Assistant

Name, Location of Institution: University of Florida, Gainesville, FL
Year(s), Number of Students: 2009, 2010

2. Course Title: Therapeutic Skills

Role: Teaching Assistant

Name, Location of Institution: University of Florida, Gainesville, FL
Year(s), Number of Students: 2010

3. Course Title: Anatomy and Physiology I

Role: Teaching Assistant

Name, Location of Institution: University of Wisconsin Milwaukee, Milwaukee, WI
Year(s), Number of Students: 2005

Courses – Invited Lecturer

1. Course Title: Clinical Applications of Motor Control Learning

Role: Guest Lecturer

Name, Location of Institution: University of North Florida, Jacksonville, FL

Year(s), Number of Students: Spring 2009, 51; Spring 2010, 54.

Mentoring and Research Supervision

Mentoring- Students and Post-doctoral associates

1. Sandesh Raj, Bachelor of Science in Bioengineering, Swanson School of Engineering, 2013-2014

Product: Raj S, **Sethi A**, Piva S, Sowa G, Farrokhi S. Knee joint variability during walking exercise in patients with knee osteoarthritis. Poster to be presented at University of Pittsburgh, Rehabilitation Institute Day, June 2014; Pittsburgh, PA.

Awarded: Best Undergraduate Poster.

2. Sandesh Raj, Bachelor of Science in Bioengineering, Swanson School of Engineering, Summer 2015

Product: **Mentor for University Honors College Health Science Fellowship**

3. Stephen Foldes, Post-doctoral associate, Department of Physical Medicine and Rehabilitation, 2015-2017

Product: **Mentor for Craig Nielsen Foundation Post-doctoral Fellowship Grant**

4. Arjun Acharya, Bachelor of Science in Bioengineering, Swanson School of Engineering, Summer, 2016

Product: **Mentor for Rehabilitation Engineering Undergraduate (ASPIRE) Fellowship**

ACADEMIC ADVISING

1. 2010-2011: 10 students
2. 2011-2012: 15 students
3. 2012-2013: 9 students
4. 2014-2015: 4 students
5. 2015-2015: 10 students
6. 2016-2017: 4 students

RESEARCH

GRANT FUNDING

Completed Grant Support

<u>Grant Number</u>	<u>Grant Title</u>	<u>Project Role, Effort</u>	<u>Years Inclusive</u>	<u>Source, Amount</u>
University of Florida, Internal grant	<i>Does rhythmic auditory training enhances the upper extremity flexibility post stroke?</i>	Principal Investigator	2010	College of Public Health Professions, University of Florida, \$1000.00
F_105-2014 University of Pittsburgh, Internal Grant	<i>Individualized hand improvement and tracking system for stroke</i>	Principal Investigator	2015	Center for Medical Innovation, \$18,000

Current Grant Support

<u>Grant Number</u>	<u>Grant Title</u>	<u>Project Role, Effort</u>	<u>Years Inclusive</u>	<u>Source, Amount</u>
University of Pittsburgh Medical Center Internal Grant	<i>Combined brain and hand stimulation to improve hand function after stroke</i>	Principal Investigator	2015-2017	Rehabilitation Institute \$30,000

University of Pittsburgh Internal Grant (project under the NSF-ICORPS)	Customer Discovery for the Individualized hand improvement and tracking system for stroke	Principal Investigator	2016	Innovation Institute, \$3000
F_160-2016 University of Pittsburgh, Internal Grant	Individualized hand improvement and tracking system for stroke	Principal Investigator	2016-2017	Center for Medical Innovation, \$22,000
Pilot Grant	Combined non-invasive transcranial random noise current stimulation and functional electrical stimulation to improve hand movement in individuals with severe impairments after chronic stroke	Principal Investigator	2016-2017	NIH P2CHD086844 Medical University of South Carolina's National Center for Neuromodulation for Rehabilitation, 38,500

Laboratory memberships

Laboratory Name, Principal Investigators

1. Human Movement Performance Laboratory; Richards LG, 2006-2010.
2. Human Movement Research Laboratory; Sethi, Farrokhi and Torres, 2013-present.
3. Upper Extremity Motor Performance Laboratory; Sethi, 2015-present

Journal Refereeing

1. Reviewer, Stroke Research and Treatment, 2012 to present
2. Reviewer, Neurorehabilitation and Neural Repair, 2012 to present
3. Reviewer, Archives of Physical Medicine and rehabilitation, 2013 to present
4. Reviewer, Journal of Rehabilitation Research and Development, 2014 to present
5. Reviewer, Clinical Medicine and Research, 2014 to present
6. Reviewer, American Journal of Occupational Therapy, 2014 to present
7. Reviewer, Occupational Therapy Journal of Research, 2015 to present
8. Reviewer, Medicine, 2103 to present
9. Reviewer, Journal of Motor Behavior, 2015 to present
10. Reviewer, Topics in Stroke Rehabilitation, 2015 to present

Review Committee

1. Reviewer, American Occupational Therapy Association Conference, 2013, 2014, 2015.
2. Reviewer, All India Occupational Therapists' Association Conference, 2015.

SERVICE

INTERNATIONAL, NATIONAL AND REGIONAL ORGANIZATIONS

National Service Organizations

<i>Role, Service</i>	<i>Organization</i>	<i>Dates</i>
1. Member, Online Presence Committee	American Society of Neurorehabilitation	2016

Department of Occupational Therapy Service Activities

<i>Role, Service</i>	<i>Dates</i>
1. Director, Program Evaluation Committee, Master of Occupational Therapy Program, Department of Occupational Therapy, School of Health And Rehabilitation Sciences, University of Pittsburgh	2016- current
2. Member, Occupational Therapy Faculty Search Committee, Department of Occupational Therapy, School of Health Professions, University of Texas Medical Branch	2011-2013

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3. Member, Occupational Therapy Chair Search Committee, Department of Occupational Therapy, School of Health Professions, University of Texas Medical Branch 2011-2013
 4. Chair, Research Committee, Department of Occupational Therapy, School of Health Professions, University of Texas Medical Branch 2011-2013
 5. Chair, Curriculum Committee, Department of Occupational Therapy, School of Health Professions, University of Texas Medical Branch 2011-2013
 6. Chair, Special Events Committee, Department of Occupational Therapy, School of Health Professions, University of Texas Medical Branch 2011-2013
 7. Member, Educational Technology Group: University Ad-hoc Committee, Department of Occupational Therapy, School of Health Professions, University of Texas Medical Branch 2012-2013
 8. Member, University of Texas Medical Branch Stroke Support Group Organizing Committee, Department of Occupational Therapy, School of Health Professions, University of Texas Medical Branch 2012-2013
 9. Graduate Representative, Department of Occupational Therapy, College of Public Health and Health Professions, University of Florida 2010