

CURRICULUM VITAE

Sujata D. Pradhan, P.T., Ph.D.

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PERSONAL DATA

Office Address:

University of Washington School of
Medicine
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1959 NE Pacific Street, Box 356490
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Place of Birth : Mumbai, India

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EDUCATION

1994-1998	Bachelor of Science, Physical Therapy	University of Bombay Seth G.S. Medical College & K.E.M. Hospital
1998-2000	Master of Science, Neurologic Physical Therapy	University of Bombay Seth G.S. Medical College & K.E.M. Hospital
2000-2002	Master of Science, Physical Therapy, Focus : Neuromuscular PT	University of Pittsburgh, PA
2002-2007	Doctor of Philosophy, Rehabilitation Science (Physical Therapy)	University of Pittsburgh, PA

POSTDOCTORAL TRAINING

2008-2010	Post doctoral Fellow Advanced Rehabilitation Research Training	Department of Rehabilitation Medicine University of Washington
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FACULTY POSITIONS HELD

Aug 2005- Oct 2007	Predoctoral Fellow	Dept of Physical Therapy, University of Pittsburgh
Oct 2007- July 2008	Visiting Assistant Professor	Dept of Physical Therapy, University of Pittsburgh
Aug 2008-Aug 2010	Senior Fellow Part time lecturer	Dept of Rehabilitation Medicine, University of Washington – Seattle
Aug 2010-July 2012	Part time lecturer	Dept of Rehabilitation Medicine, University of Washington – Seattle
Aug 2012-Present	Assistant Professor	Dept of Rehabilitation Medicine, University of Washington – Seattle

CLINICAL POSITIONS HELD

May 1998- May 2000	Staff Physical Therapist	Seth G.S Medical College & K.E.M. Hospital
May 2000-Aug 2000	Physical Therapist	Jaslok Hospital & Research Centre
Jan 2011- Present	Physical Therapist – Per diem	Life Care Centers of America

AWARDS

June 2007	Promotion of Doctoral Studies Scholarship II (\$15000)	Foundation for Physical Therapy, American Physical Therapy Association
Feb 2008	Bruce Baker education travel fellowship award for junior faculty (\$1000)	University of Pittsburgh
June 2009	Young Researcher Award (70,000 JPY)	International Conference on Rehabilitation Robotics – 2009 Kyoto, Japan.

PROFESSIONAL LICENSURE

2004	Physical Therapy - Colorado # PTL-8687
2004	Physical Therapy - Pennsylvania #PT017277
2008	Physical Therapy - Washington # PT60045920 (Active)

PROFESSIONAL MEMBERSHIPS

2003 - Present	American Physical Therapy Association Neurology & Research Sections
2012 – Present	Society for Neuroscience

TEACHING RESPONSIBILITIES

School of Health & Rehabilitation Sciences, University of Pittsburgh

Undergraduate program in Rehabilitation Sciences

- REHSCI 1225: Introduction to Rehabilitation Science (2005)
Role: Lecturer: 'Neuroprotective therapies in Parkinson's disease', 2 hours, 40 students
- REHSCI 1285: Introduction to Evidence based Rehabilitation (2005-2007)
Role: Group facilitator, 4 hours/1 semester a year, 40 students

Post Professional D.P.T. Program

- PT 2060 : Introduction to Neurosciences (2004-2007)
Role: Lab Instructor: 4 hours/week/1 semester a year, 44 students
- PT 2062:Neuromuscular 2 (2004-2007)
Role: Lecturer: 'Parkinson's disease', 4 hours/1 semester a year, 44 students
Lecturer: 'Technology in Rehabilitation', 4 hours/1 semester a year, 44 students
(2006, 2007)

Post Professional M.S. And Ph.D. Programs

- HRS 2305: Advanced Neurosciences 1 (2002-2007)
Role: Lab Instructor: 4 hours/week/ 1 semester a year, 10-25 students

Department of Rehabilitation Medicine, University of Washington, Seattle

Post Professional D.P.T. and P&O Programs

- REHAB 509: Functional Skills (2008)
Role: Primary Instructor: 4 hours/week/1 quarter, 43 students

Post Professional D.P.T., M.O.T. and P&O Programs

- CONJ 480: Neuroscience for Rehabilitation Professionals (2011)
Roles: Lab Instructor: 4 hours/week/1 quarter, 74 students
Lecturer: Motor Pathways
- Rehab 551: Neurobiology for Rehabilitation (2012 - Present)
Roles: Co-Primary Instructor and course coordinator: 8 hours/week/1 quarter, 79 students

Post Professional D.P.T. Program

- REHAB 523: Applied Neurology (2008-Present)
Role: Lecturer:
 'Technology in Neurorehabilitation: Robotics, Virtual Reality & Brain computer interfaces', 2 hour/1 quarter, 44 students
 'Upper Extremity Examination for Neurological Deficits', 2hours/1 quarter, 44 students
 'Upper Extremity Treatment for Neurological Deficits', 2hours/1 quarter, 44students
Clinical Instructor: for DPT (Year 1 & Year 2) students.
- REHAB 537: Functional mobility skills (2010- Present)
Role: Primary instructor 4 hours/week/1 quarter, 44 students
- REHAB 521: Pathophysiology for Rehabilitation (2010 - 2012)
Role: Co- instructor 5 hours/week/2 quarter, 32 students
- REHAB 536: Patient Evaluation and clinical decision making (2010- 2012)
Role: Co- instructor 4 hours/week/1 quarter, 32 students
- REHAB 566: Interdisciplinary case studies (2010-Present)
Role: Co- instructor 4 hours/week/1 quarter, 32 students

RESEARCH FUNDING

Aug 2005	Pre doctoral Fellowship	Department of Physical Therapy, University of Pittsburgh
Nov 2007	Post doctoral fellowship - T-32 grant titled “Rehabilitation Clinicians for Research Careers” – Awarded and returned on obtaining the faculty position in the department of Physical Therapy, University of Pittsburgh.	Department of Physical Medicine & Rehabilitation, University of Pittsburgh.
May 2008	Keck Futures Initiative - 2007 <i>Futures</i> grant titled “ Robotic Assessment for Quantification of Preclinical Symptoms of Neurodegenerative Disease” - \$75,000. Role – Co-Principal Investigator (University of Pittsburgh)	National Academies
Aug 2008	Post doctoral Fellowship – Advanced Rehabilitation Research Training.	University of Washington
May 2011	Walter C. & Anita C. Stolov Research Award (\$1200) -Responsiveness of fine motor control parameters to clinical disease progression in individuals with Parkinson’s disease – preliminary work toward development of a clinical progression marker for Parkinson’s disease	University of Washington – Dept of Rehabilitation Medicine
May 2012	Walter C. & Anita C. Stolov Research Award (\$1700) - A Simultaneous cognitive and physical virtual game intervention for individuals with mild to moderate Parkinson disease	University of Washington – Dept of Rehabilitation Medicine
June 2013	Traditional exercise vs. gaming for individuals with Parkinson disease (\$28,503)	Royalty Research fund, University of Washington.
June 2013	Multimodal cognitive and physical exercise program in an enriched environment for Individuals with Parkinson disease (\$10,000)	Institute of Translational Health Sciences
June 2015	Physical activity monitoring in individuals with Parkinson disease	Rising Stars Program - ITHS

- Under Review i. Physical activity and its relation to physical function in individuals with Parkinson disease. - R21 – (NIH – Dual assignment requested – NIA & NINDS)

RESEARCH EXPERIENCE

University of Pittsburgh

2007-Present	Co-Principal Investigator	Robotic Assessment for Quantification of Preclinical Symptoms of Neurodegenerative Disease Funding agency: National Academies
2005-2007	Principal Investigator	Impairments in Precision Grip Force Control in Individuals With Parkinson's Disease (Dissertation project)
2005-2006	Principal Investigator	To identify impairments in fine motor coordination in subjects with Parkinson's disease using The PHANTOM haptic interface.
2003-2005 Funding agency: Foundation for Physical therapy	Research Assistant P.I.: Jessie VanSwearingen, PT, PhD, FAPTA	Skilled Acquisition Exercises for Individuals with Parkinson s Disease
2002-2007 Funding agency: NIH 1R01AR/NS45622- 01A1	Research Assistant P.I.: Anthony Delitto, PT, PhD, FAPTA	A Randomized Clinical Trial of Treatment for Lumbar Spinal Stenosis

University of Washington, Seattle

2008-2010	Principal Investigator	Characteristics of precision and power grip control in individuals with Parkinson's disease
2009-2010	Co-Investigator	Defining dimensions of Dexterity
2008-2010	Co-Investigator	Characterization of finger motion during twisting
2009-2011	Co-Investigator	Feedback distortion for rehabilitation
2012-Present	Principal Investigator	Multimodal exercise program for individuals with Parkinson disease

SCHOLARSHIP

Publications:

Peer reviewed journals:

- *Brewer BR, Pradhan SD, Carvell GE, Sparto PJ, Josbeno DA, Delitto A*, Application of Modified Regression Techniques to Validate a Quantitative Assessment for the Motor Signs of Parkinson's disease: *Transactions on Neural Systems & Rehabilitation Engineering*, Dec 2009, 17(6), 568-575.
- *Pradhan SD, Brewer BR, Carvell GE, Sparto PJ, Delitto A, Matsuoka Y*, Assessment of Fine Motor Control Using Force Tracking with a Secondary Cognitive Task in Individuals with Parkinson's disease: *Journal of Neurologic Physical Therapy* 34(1), 32-40, March 2010.
- *Pradhan SD, Scherer R, Matsuoka Y, Kelly VE*. Use of sensitive devices to assess the effect of medication on attentional demands of precision and power grips in individuals with Parkinson disease. *Med Biol Eng Comput*. 2011 Oct;49(10):1195-9.
- *Bowen L.K., Hands G.L., Pradhan SD., Stepp C.E.* "Fundamental Frequency Variability in Parkinson's Disease", *Journal of Medical Speech-Language Pathology* 2014, Volume 21, Number 3, pp. 235–244.
- *Pradhan SD, Scherer R, Matsuoka Y, Kelly VE.*, Grip force modulation characteristics as a marker for clinical disease progression in individuals with Parkinson's disease – a case-control study: *accepted with revisions: Phys Ther.* 2014 Dec 4. [Epub ahead of print]- *Special Issue on Innovative Technologies for Rehabilitation. PMID: 25476717*
- *Levac D., Pradhan SD., Espy D., Fox E., Deutsch J.*, 'Kinect-ing' with clinicians: A knowledge translation resource to support decision-making about video game use in rehabilitation: *Phys Ther.* 2014 Sep 25. [Epub ahead of print] - *Special Issue on Innovative Technologies for Rehabilitation. PMID: 25256741*
- *Grampurohit N., Pradhan SD.*, Efficacy of taping to improve body structure and function outcomes in individuals with stroke – a systematic review. *accepted with revisions: Topics in Stroke Rehabilitation*

Papers in progress:

- i. Relation between physical activity and physical function in individuals with Parkinson disease – Physical Therapy
- ii. Relation between physical function and disease progression in individuals with Parkinson disease – Parkinsonism and Related Disorders

- iii. Effects of traditional exercise versus exercise in an enriched environment in individuals with Parkinson disease – Physical Therapy

Peer reviewed conference papers:

- *Brewer BR, Pradhan SD*, Preliminary investigation of test-retest reliability of a robotic assessment for Parkinson's disease. *Conf Proc IEEE Eng Med Biol Soc.* 2010;1:5863-6.
- *Brewer BR, Pradhan SD, Carvell GE, Delitto A.*, Feature selection for classification based on fine motor signs of Parkinson's disease. *Proceedings of the 31st Annual International IEEE EMBS Conference of the IEEE Engineering in Medicine and Biology Society, Sept 2009*, pg. 214-217.
- *Pradhan SD, Brewer BR, Carvell GE, Sparto PJ, Delitto A., Matsuoka Y*, Relation between fine motor impairment and function in individuals with PD: *Proceedings of the IEEE Conference on Rehabilitation Robotics, June 2009*, pg. 885-892.
- *Scherer R, Pradhan SD, Dellon B, Kim D, Klatzky R, Matsuoka Y*, Characterization of multi-finger twist motion toward robotic rehabilitation: *Proceedings of the IEEE Conference on Rehabilitation Robotics, June 2009*, pg. 812-817.

National & international Presentations:

- *Platform presentation at CSM 2007 (Annual APTA conference) at the Gossman Graduate seminar*: Force tracking characteristics in adults with Parkinson's disease using a robotic devise: a case series.
- *Poster at CSM 2007(Annual APTA conference)*: Relations of clinical performance of lower and upper extremity tasks and physical function in individuals with mild to moderate Parkinson's disease.
- *Platform presentation at CSM 2008 (Annual APTA conference) at the Gossman Graduate seminar*: Fine Motor Control and its Relation to Disease Progression in Individuals with Parkinson's disease.
- *Interactive and Podium Sessions at the International Conference on Rehabilitation Robotics – June 2009, Kyoto, Japan*: Relation between fine motor impairment and function in individuals with PD.
- *Platform presentation at the Future Trends in Rehabilitation Robotics Workshop held in conjunction with the 3rd IEEE RAS & EMBS International conference on Biomedical Robotics and Biomechatronics, Tokyo, September 26, 2010*: Preliminary results for the use of sensitive devices to assess the effect of medication on attentional demands of precision and power grips in individuals with Parkinson's disease
- *Platform presentation at CSM 2011 (Annual APTA conference) at the Neurology section – Degenerative disease SIG, New Orleans, Feb 2011*: Effect of medication on attentional demands of precision and power grips in individuals with Parkinson's disease
- *Poster presentation at CSM 2013, San Diego, Jan 2013*: The use of a gaming device for multimodal intervention in individuals with Parkinson disease.

Local Presentations:

- *Poster at NSF site visit at the University of Pittsburgh.*
Computer-Aided Assessment for Early Detection of Parkinson's disease.
- *Poster at Institute for Rehabilitation Research Day, University of Pittsburgh – June 2007*
Force Tracking Characteristics of a Precision Grip Task in individuals with Parkinson's disease.
- *Invited poster (9th Annual Meeting of the Udall Centers of Excellence for Parkinson's disease Research- Sept - 2007)*
Impairments in Precision Grip Force Control in Individuals with Parkinson's disease
- *Pacific Northwest Neural Engineering workshop, Seattle, WA (Oct 2008)*
Impairments in Precision Grip Force Control in Individuals with Parkinson's disease
- *PT Grand Rounds (Feb 2008)*
Topic: Clinical Progression and Neuroprotection in Parkinson's Disease
- *University of Washington Post Doctoral Association (Nov 2009)*
Best Speaker award for the talk titled "Preliminary work towards development of clinical markers for Parkinson's disease."

PROFESSIONAL DEVELOPMENT

- Institute of Translational Health Sciences – Workshops - 2009-Current
- Future Faculty Fellows Program – Howard Hughes Medical Institute – 2009
- University of Washington - Post doctoral Association – Member – 2009-2010
- Training in Grantmanship for Rehabilitation Research (TIGRR) - 2014

SERVICE

- Program committee – International conference on Virtual reality – 2013, 2014
- Diversity Recruitment and Retention Committee - Member

Reviewer:

Neurorehabilitation and Neural Repair
Cognitive & Behavioral Neurology

Yokyworks : <http://yokyworks.org/>

Non profit organization that develops novel engineering solutions that allow people to experience life beyond their physical or sensory capabilities

Role: Project lead for development of solutions for people with Parkinson's disease

Invited speaker at local area Parkinson disease support groups

References available on request