Biographical Sketch

Patricia A. Shewokis, PhD
Associate Professor
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A. PROFESSIONAL PREPARATION

College/University	Major	Degree &Year
East Stroudsburg State College	Health & Physical Education	BS, 1981
East Stroudsburg University	Biophysical Human Movement	MS, 1984
University of Georgia	Adult Fitness	EdS, 1985
University of Georgia	Psychology of Motor Behavior	PhD, 1993

B. ACADEMIC/PROFESSIONAL APPOINTMENTS

2008-present	Faculty, Human Cognitive Enhancement Major Research Initiative, Drexel University, Philadelphia, PA
2007-present	Faculty, Neuroengineering Major Research Initiative, Drexel University
2007-present	Joint Appointment, School of Biomedical Engineering, Science and Health Systems, Drexel University
2006-present	Joint Appointment, Doctor of Nursing Practice (DrNP), College of Nursing and Health Professions (CNHP), Drexel University
2005-present	Graduate Faculty, CNHP, Drexel University
2005-present	Graduate Support Research Faculty, CNHP, Drexel University
2004-present	Tenured, CNHP, Drexel University
2001-present	Associate Professor, Rehabilitation Sciences, Drexel Unversity
1999-2001	Tenured, Associate Professor and Graduate College Faculty, Kinesiology, Bowling Green State University, Bowling Green, OH
1993-1999	Assistant Professor and Graduate College Faculty, Kinesiology, Bowling Green State University,

C. PUBLICATIONS
Publications Most Closely Related to Proposal

1. Ayaz H, Shewokis PA, Bunce S, Schultheis M, Onaral B. (2009). Assessment of cognitive neural correlates for a functional near infrared-based brain computer interface system. *Lecture Notes in Computer Science and Artificial Intelligence,* 5638, 699-708.
2. Lauer RT, Smith BT, Shewokis PA, McCarthy JJ, Tucker CA. (2007). Time-frequency changes in electromyographic signals after hamstring lengthening surgery in children with cerebral palsy. *J Biomechanics,* 40(12), 2738-2743.
3. Lauer RT, Stackhouse CA, Shewokis PA, Tucker CA, Smith BT, McCarthy JJ. (2007). A time-frequency based electromyographic analysis technique for use with cerebral palsy. *Gait & Posture,* 26, 420-427.
4. Shewokis PA. (2003). Memory consolidation and contextual interference effects with learning computer games. *Perceptual and Motor Skills,* 97, 581-589.
5. Shewokis PA, Del Rey P, Simpson KJ. (1998). A test of retroactive inhibition as an explanation of contextual interference. *Research Quarterly for Exercise and Sport,* 69, 70-74.

Other Significant Publications

1. Pierce SR, Barbe MF, Barr AE, Shewokis PA, Lauer RT. (2007). Co-contraction during passive movements of the knee joint in children with cerebral palsy. *Clinical Biomechanics*, 22, 1045-48.
2. Stackhouse C, Shewokis PA, Pierce S., Smith B, McCarthy JJ, Tucker CA. (2007). Gait initiation in

children with cerebral palsy. *Gait & Posture*, 26, 301-308.
3. Pierce SR, Lauer RT, Shewokis PA, Rubertone JA, Orlin MN. (2006). Test retest reliability of isokinetic dynamometry for the assessment of spasticity of the knee flexors and knee extensors in children with cerebral palsy. *Archives in Physical Medicine and Rehabilitation,* 87, 697-702.
4. Shewokis PA. (1997). Is the contextual interference effect generalizable to computer games? *Perceptual and Motor Skills*, 84, 3-15.
5. Del Rey P, Shewokis PA. (1993). Appropriate KR summary lengths for learning timing tasks under conditions of high and low contextual interference. *Acta Psychologica*, 83, 1-12.

D. SYNERGISTIC ACTIVITIES
1. From 2002-2007, I served as vice-chair or chair of an IRB at Drexel University. Throughout my time as chair and afterwards, I continue to work with undergraduate and graduate students as well as faculty colleagues on the submission of IRB protocols and discussing various ethical issues associated with research.
2. My teaching responsibilities included developing the statistics curriculum for the College of Nursing and Health Professions at Drexel which includes an online introduction to biostatistics course, a web-enhanced intermediate biostatistics course and a web-enchanced interpretation of data course which focuses on statistical power and effect sizes. Inclusion of graduate students from various disciplines, nursing, rehabilitation science, and biomedical engineering has resulted in my current writing of a statistics textbook incorporating examples from the above disciplines that could be used for online and inperson courses.
3. My interdisciplinary research endeavors through the Drexel Optical Brain Sensor team membership, Neuroengineering and Human Cognitive Enhancement Research Initiative memberships and being selected as a National Academies Keck Futures Initiative participant in Smart Prothetics in 2006, has facilitated multiple collaborative research experiences. Throughout these endeavors, I have developed collaborative teams where faculty from various disciplines, graduate students and undergraduate STAR Scholars and co-op students are involved in synergistic laboratory research projects.

COLLABORATORS AND OTHER AFFILIATIONS
Collaborators Over The Last 48 Months:
Scott Bunce – (Penn State University – College of Medicine) – fNIR and EEG learning and performance
Jose Contreras-Vidal – (University of Maryland) – Feedback control for smart prosthetics and fNIR/EEG
R. Brent Gillespie – (University of Michigan) – Feedback control for smart prosthetics
Meltem Izzetoglu – (Drexel University) – fNIR learning, performance and data processing
Kurtulus Izzetoglu – (Drexel University) – fNIR learning, training and cognitive index development
Yasufumi Kuroda, Bukkyo University, Japan – fNIR and mathematical problem solving in education
Richard Lauer – (Temple University) – functional data analysis of EMG
Marcia K. O'Malley – (Rice University) – Feedback control for smart prosthetics
Banu Onaral – (Drexel University) – fNIR applications and BCI
Sam Pierce – (Widener University) – reliability of spasticity assessments
Robi Polikar – (Rowan University) – fNIR and EEG learning and performance
Kambiz Pourrezaei – (Drexel University) – fNIR – EEG integrated sensor applications
Maria Schultheis – (Drexel University) – fNIR reliability and BCI

Graduate and Postdoctoral Advisors
Patricia Del Rey – University of Georgia - retired

Thesis Advisor and Postgraduate Scholar Sponsors over the Last Five Years:
Graduate Students: Anne K. Galgon (PhD 2009 – Drexel University-Rehabilitation Sciences);
                            Hasan Ayaz (PhD candidate – Drexel University- BIOMED)
Total Number of Graduate Students advised: 14
Total Number of Postdoctoral Scholars Sponsored: 0