

PROMOTION RECOMMENDATION
The University of Michigan
College of Literature, Science, and the Arts
School of Kinesiology

Rachael D. Seidler, assistant professor of psychology, College of Literature, Science, and the Arts, and assistant professor of kinesiology, School of Kinesiology, is recommended for promotion to associate professor of psychology, with tenure, College of Literature, Science, and the Arts, and associate professor of kinesiology, with tenure, School of Kinesiology.

Academic Degrees:

1999	Ph.D.	Arizona State University
1995	M.S.	Arizona State University
1992	B.S.	University of Oregon

Professional Record:

2004 – present	Research Assistant Professor, Institute of Gerontology, University of Michigan
2003 – present	Assistant Professor, School of Kinesiology and Department of Psychology, University of Michigan
2001 – 2003	Assistant Research Scientist and Movement Science Faculty, School of Kinesiology, University of Michigan
2000 – 2001	Postdoctoral Associate, Brain Sciences Center, Minneapolis VAMC & Department of Neuroscience, University of Minnesota
1999 – 2000	Research Associate, Arizona State University

Summary of Evaluation:

Teaching – Professor Seidler is a very strong teacher in the classroom and an excellent mentor to students at all levels. She has developed creative approaches to help students master the complex materials that relate to the cognitive and neural processes involved in learning, memory, and movement. She has supervised well over fifty undergraduate students in a range of independent study courses in her lab, including Undergraduate Research Opportunity Program participants. She has also supervised four senior theses, two of which have resulted in conference presentations and forthcoming papers with the students as co-authors. Professor Seidler served as the primary mentor and dissertation chair for two students who recently completed their doctorates and she is currently primary advisor for three graduate students and is serving on a number of dissertation committees.

Research – Professor Seidler's research program is unique and ambitious. She has established an independent line of research focused on how people learn skilled voluntary movements of the limbs, known as motor control and motor learning. Her work is an excellent example of how behavioral and biological measures can mutually inform and constrain on another in an interdisciplinary manner that generates a cumulative understanding of a phenomenon at multiple levels of analysis. Her groundbreaking work was first published in *Science* (2002) and she continues to build on these results, delving deeper into their implications. Professor Seidler's

work is continuing to appear in high visibility in top journals and she is garnering significant external support for her research.

Four Recent & Significant Publications:

“Neuroanatomical correlates of motor acquisition and motor transfer,” with D. C. Noll, *Journal of Neurophysiology*, 99, 2008, pp. 1836-1845.

“Aging affects motor learning but not savings at transfer of learning,” *Learning & Memory*, 14, 2007, pp. 17-21.

“Bilateral basal ganglia activation associated with sensorimotor adaptation,” with D. C. Noll and P. Chintalapati, *Experimental Brain Research*, 175, 2006, pp. 544-555.

“Multiple motor learning experiences enhance motor adaptability,” *Journal of Cognitive Neuroscience*, 16, 2004, pp. 65-73.

“Cerebellum activation associated with performance change but not motor learning,” with A. Purushotham, et al., *Science*, 296, 2002, pp. 2043-2046.

Service – Professor Seidler has completed multiple service assignments in both units, including admission and recruitment committees and Psychology’s Augmented Executive Committee. She also served on the Executive Committee for the interdisciplinary Neuroscience Program and reviewed grant proposals for the Office of the Vice President for Research and the Pepper Center initiatives, among others. She is an ad hoc reviewer for twenty-seven journals and for the National Institutes of Health, the National Science Foundation, and the National Aeronautics and Space Administration.

External Reviews:

Reviewer (A)

“Dr. Seidler’s most significant scientific contribution to date has related to her work on transfer (or generalization) of motor skills. ...[her] program at the University of Michigan which combines a sophisticated behavioral and neuroimaging approach to motor learning...is quite unique in the United States.”

Reviewer (B)

“What really distinguishes Dr. Seidler are her publications in *Science* and *Cerebral Cortex*. These are both very difficult journals to publish in, and really do set her apart. ...I am struck by the fact that there is a clear and coherent message...that emerges across a series of papers. This suggests that each manuscript is important and that the linkage to each other is also important. This linkage is important in establishing an international reputation.”

Reviewer (C)

“...her recent research performed at the University of Michigan is very influential and is making a substantial impact on the field. ... My overall evaluation of Dr. Seidler is very positive. She publishes regularly in good and excellent peer-reviewed scientific journals and has also been very successful in obtaining funding for her research over the past several years.”

Reviewer (D)

“Rachael Seidler is establishing herself as one of the world’s leading experts in the study of neural mechanisms that underlie motor learning. ... The combination of quantitative non-

invasive brain imaging techniques with well thought out behavioral motor task protocols are providing Rachael with tools to answer fundamental questions...”

Reviewer (E)

“Prof. Seidler has established a strong, programmatic and independent line of research during her time at Michigan. Recognition of her standing in the motor control community is evident in her publication record, extensive extramural funding, and service at the national and international level. Prof. Seidler can be expected to continue to make important contributions to the field for many years.”

Reviewer (F)

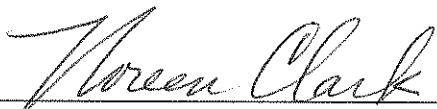
“...Dr. Seidler’s research impact, as quantified by the H-index, is 12 (i.e., she has authored 12 papers have been cited at least 12 times). Her citer [sic] per paper average is 9.4, and cite per year average is 24.2. These are all excellent numbers for someone in her stage of career. ... This is indicative of an exceptionally productive scientist and is a strong indicator of future success.”

Reviewer (G)

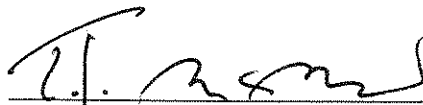
“The research field of the candidate is exceptional. ... I don’t know any other person of similar age around the globe with a similar successful research profile. This research niche is truly unique...”

Summary of Recommendation:

Professor Seidler has an outstanding record in research and as a teacher, and she has demonstrated her commitment to service. The Executive Committees of the School of Kinesiology and the College of Literature, Science, and the Arts and we recommend that Assistant Professor Rachael D. Seidler be promoted to Associate Professor of Kinesiology, with tenure, in the School of Kinesiology, and Associate Professor of Psychology, with tenure, in the College of Literature, Science, and the Arts.



Noreen M. Clark
Myron E. Wegman Distinguished Professor
Director, Center for Managing Chronic Disease
Interim Dean
School of Kinesiology



Terrence J. McDonald
Arthur F. Thurnau Professor
Professor of History, and Dean
College of Literature, Science, and the Arts

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