Approved by the Regents
May 19, 2011

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

Thad A. Polk, associate professor of psychology, with tenure, College of Literature, Science, and the Arts, and associate professor of electrical engineering and computer science, without tenure, College of Engineering, is recommended for promotion to professor of psychology, with tenure, College of Literature, Science, and the Arts, and professor of electrical engineering and computer science, without tenure, College of Engineering.

Academic Degrees:

Ph.D.	1992	Carnegie Mellon University
B.A.	1986	University of Virginia

Professional Record:

2006 – present	Arthur F. Thurnau Professor, University of Michigan
2003 – present	Associate Professor, Department of Psychology and Department of Electrical Engineering and Computer Science, University of Michigan
2002 – 2003	Assistant Professor, Department of Psychology and Department of Electrical Engineering and Computer Science, University of Michigan
1996 – 2002	Assistant Professor, Department of Psychology, University of Michigan
1992 – 1996	Postdoctoral Fellow in Cognitive Neuroscience, University of Pennsylvania

Summary of Evaluations:

Teaching – Professor Polk is one of the best teachers and mentors in the Department of Psychology. He was named a Thurnau Professor because of his consistent high ratings, his creativity in a large course that introduces students to the field of cognitive psychology, and his availability to students. He developed a first-year seminar on the human mind and brain, as well as a graduate course on computational modeling that draws students from across multiple disciplines. Both of these smaller courses also draw high ratings and strong praise from the students. Professor Polk is considered to be a superb research mentor for the undergraduate and graduate students who work in his laboratory. He encourages them to develop their own research direction by helping them set clear, measurable goals. He meets regularly with them in groups and individually to help them assess their success in meeting their current goals, to work on writing, and to provide advice on data analysis.

Research – Professor Polk has broadened his research to include an examination of how neural visual cognition, language, and executive functions change across one's lifespan, and how it differs in individuals with dyslexia. He has demonstrated that both the environment one experiences as well as the genetic control of neural circuit development influence behavioral and neural function. His research program has been successfully funded by grants from the National Institutes of Health (NIH), the National Science Foundation, and the Defense Advanced Research Projects Agency, a clear indication of the importance of his work. He publishes two to three articles in the top journals in his field each year, and shares authorship with his students. His citation rate is approaching one thousand, with several articles cited over one hundred times.

Recent and Significant Publications:

"Neural specialization predicts fluid processing ability in older adults," with J. Park, et al., *Journal of Neuroscience*, 30(27), 2010, pp. 9253–9259.

"The development of abstract letter representations for reading: Evidence for the role of context," with H. P. Lacey, et al., *Cognitive Neuropsychology*, 26(1), 2009, pp. 70-90.

"Nature vs. nurture in ventral visual cortex: A functional magnetic resonance imaging study of twins," with J. Park, et al., *Journal of Neuroscience,* 27(51), 2007, pp. 13921-13925.

"Aging reduces neural specialization in ventral visual cortex," with D. C. Park, et al., *PNAS*, 101(35), 2004, pp. 13091-13095.

Service – Professor Polk is conscientious, thoughtful and thorough in his committee work. He has been engaged in departmental, Rackham Graduate School, and national service throughout his time as an associate professor. He is the director of a Rackham certificate program and has served as the ombudsperson for the Department of Psychology for several years in addition to other committees. He served multiple times on NIH study sections and organized two meetings for scholarly societies. He currently serves as a reviewer for the Institutional Review Board that approves behavioral research with human subjects.

External Reviews:

Reviewer (A)

"Thad has a wide range of expertise spanning from artificial intelligence to rather detailed Neuroscience. I think it is important that a Psychology department have this range if it wants to make progress connecting the mind to the brain. It is rare to find it in one person. …in his neural imaging methodology, I recognize a competent and sophisticated researcher."

Reviewer (B)

"His research is characterized by a combination of cleverness and rigor… I am impressed, too, by his ability to use neuro-imaging techniques to gain additional leverage on long-standing behavioral-research issues…versus using such techniques simply to see what 'lights up.' …it is impressive that Professor Polk has made contributions not only to cognitive/clinical neuroscience, but also to what might be called computational cognition. …I cannot right now think of somebody in the field who combines the same levels of both computational/computer-science skills and imaging/neuroscience skills. Professor Polk is quite unique from that standpoint, which makes him a considerable asset..."

Reviewer (C)

"Thad has been productive, keeping a steady flow of original research findings into the literature. …examination of the Psychology and Neuroscience journals in which he publishes shows that most are among the field's most prestigious journals. … He is a deep and original thinker, whose journey into Cognitive Neuroscience from Computer Science equipped him with unusual strength in formal approaches to cognition, particularly computational approaches."

Reviewer (D)

"Dr. Polk has demonstrated remarkable excellence in his teaching, and considerable service to his field, in particular by his participation on NIH study sections. His funding record is good… The work itself is solid and of high quality, it addresses important questions with well-designed

and well-executed empirical studies and the latest methodologies. …I would expect that your institution would find Dr. Polk's record to be fully deserving of promotion…"

Reviewer (E)
"His fMRI twin studies are a ground breaking contribution to the use of neuroscience to answer deep questions concerning psychology. It is extraordinary that such a substantial new contribution could be made to such a venerable debate. Thousands of articles have been published concerning the nature/nurture debate; very few will have as firm a scientific basis as Dr Polk's work."

Reviewer (F)
"…Polk is an outstanding psychologist and behavioral neuroscientist with a strong background in computational modeling. He has made important conceptual, conceptual, empirical, and methodological contributions to the fields of cognitive aging and behavioral neuroscience…"

Reviewer (G)
"If I were to compile a list of the most significant work to appear in this field recently, the paper by Polk et al. (2007, *J. Neuroscience*) would certainly be part of that list. This is one of the few studies to compare both functional and structural MRI data between monozygotic and dizygotic twins. … This [research] provides important evidence for a specific genetic contribution to certain classes of visual object recognition."

Reviewer (H)
"Thad's more recent work showing that the degree of brain specialization affects cognitive performance, and its association with ageing, is both exciting and surprising. The technique used in this…is a cutting-edge technique and showcases the sophistication of Thad and his students. …Thad is clearly at the forefront of his field. It is his research that is establishing new areas of investigation and confronting us with new ideas."

Summary of Recommendation:
Professor Polk's research is highly regarded. He remains a superb teacher, is generous in his service, and is an invaluable citizen and colleague. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Associate Professor Thad A. Polk be promoted to the rank of professor of psychology, with tenure, College of Literature, Science, and the Arts, and professor of electrical engineering and computer science, without tenure, College of Engineering.

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

David C. Munson, Jr.
Robert J. Vlasic Dean of Engineering
College of Engineering

May 2011