

May 15, 2008

PROMOTION RECOMMENDATION  
 UNIVERSITY OF MICHIGAN MEDICAL SCHOOL  
 DEPARTMENT OF PSYCHIATRY  
 DEPARTMENT OF INTERNAL MEDICINE

Brian D. Athey, Ph.D., Associate Professor of Psychiatry, without tenure, Department of Psychiatry, and Associate Professor of Internal Medicine, without tenure, Department of Internal Medicine, Medical School, is recommended for promotion to Professor of Psychiatry, with tenure, Department of Psychiatry, and Professor of Internal Medicine, without tenure, Department of Internal Medicine, Medical School.

Academic Degrees:

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| Ph.D. | 1990 | University of Michigan          |
| B.S.  | 1982 | University of Michigan-Dearborn |

Professional Record:

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| 2003-Present | Associate Professor of Psychiatry and Associate Professor of Internal Medicine, University of Michigan                     |
| 1998-2003    | Assistant Professor of Cell and Developmental Biology and Assistant Professor of Internal Medicine, University of Michigan |
| 1997-2000    | Assistant Professor of Art and Design, University of Michigan  |
| 1995-1998    | Assistant Professor of Anatomy and Cell Biology, University of Michigan  |

Summary of Evaluation:

Teaching: Dr. Athey's creativity in educational programs has complemented his work in Biomedical Informatics, and is a key function in helping Michigan groom a new generation of scholars in this area. His mentoring accomplishments are similar to only a handful of other senior leaders in the field internationally. His positive impact on students from many diverse disciplines serves as an example of his leadership in "Team Science." Collaborative and interdisciplinary research is at the heart of the NIH Translational Research Initiative and Dr. Athey excels in this respect. Partnering with Dr. Gilbert Omenn, he spear-headed the organization of clinical informatics faculty. He also achieved national leadership roles, e.g., organizing the panel at the American Medical Informatics Association (AMIA) Meeting in 2006 that introduced the acting NCCR director, Dr. Barbara Alving, and the first CTSA Informatics awardees.

Dr. Athey has mentored postdoctoral fellows, house officers and junior faculty. He has served on 15 Ph.D. dissertation committees (eight as chair or co-chair). Dr. Athey is in his third year as course master of "Bioinformatics and Computational Biology 526/527," the main graduate course on the Bioinformatics Graduate Curriculum.

Research: Dr. Athey's initial informatics efforts were linked to his early role as a key leader of the National Library of Medicine's (NLM) "Visible Human Project," described by the NLM regents as "spectacularly successful." Subsequently, he was chosen by DARPA to be the overall principal investigator for the Virtual Soldier Project (VSP) in a highly competitive peer-reviewed process. This was a \$10M 18-month DARPA computational biology project that also was perceived as a success. Since the DARPA VSP was "sensitive but not classified," scholarly publication has been delayed. However, release is now possible and publications will ensue. The NLM "Visible Human-Next Generation" and the VSP are poised to positively impact neuroscience and neuroinformatics, as well as other medical specialties and bioengineering. They also positioned Dr. Athey as a creative leader in the field.

As a next phase, Dr. Athey moved into "Translational Bioinformatics" and "Applied Clinical Informatics." Along with a small handful of faculty members at Michigan, he has played a key role in organizing clinical informatics faculty at the Medical School, in partnership with his mentor, Dr. Omenn. In his role as the UM Biomedical Informatics Program Director for the Clinical and Translational Sciences Award (CTSA), he plays a pivotal role in revising our approaches and helping procure funding.

As his skills in these fields advanced, Dr. Athey became the principal investigator of Michigan's National Center for Integrative Biomedical Informatics (NCIBI.org), one of only seven NIH Roadmap National Centers for Biomedical Computing (NCBC). NCIBI focuses on using computational and modeling approaches to integrate diverse information sources to accelerate progress on NIH-funded projects that could benefit from bioinformatics.

In 2003, Dr. Greden arranged to have Dr. Athey join the Depression Center in the Department of Psychiatry as Director of Biomedical Informatics. One of his assignments was to pursue development of an Informatics system to address the large volumes of genetic, neuroimaging, sleep, chronophysiology and clinical outcomes data that would emerge from the Center's translational projects. An early Depression Center initiative was one of three funded projects in NCIBI and involved the genetics of Bipolar Disorder, conducted in collaboration with Drs. Melvin McInnis and Gil Omenn. Dr. Greden, as Co-P.I. of the NIH-Broad Agency Announcement (BAA) "Roadmap" grant worked with Dr. Athey in his role as Informatics Lead in the NHLBI "Re-Engineering the Clinical Research Network" contract. The contract's "Honest Broker" prototype is having national impact, and will benefit the Department of Psychiatry and Depression Center and the University of Michigan Health System as a whole in its eventual application to the study of co-morbidities in a HIPAA-compliant manner. Future research foci includes studying the co-morbidity of depression(s) and bipolar spectral disorders with several other diseases, syndromes, and behaviors; including diabetes, heart disease, cancer(s), cigarette smoking, and drug abuse.

#### Recent and Significant Publications:

Boyd AD, Hosner C, Hunscher DA, Athey BD, Clauw DJ, and Green L: An 'honest broker' mechanism to maintain privacy for patient care and academic medical research. *International Journal of Medical Informatics* 76(5-6):407-411, 2007.

Dai M, Wang B, Boyd AD, Kostov G, Athey BD, Watson SJ, Akil H, Speed TP, and Meng F: Evolving gene/transcript definitions significantly alter the interpretation of GeneChip data. *Nucleic Acids Research* 33(20):e175, 2005.

Kim YJ, Boyd AD, Athey BD, and Patel JM: miBLAST: scalable evaluation of a batch of nucleotide sequence queries with BLAST. *Nucleic Acids Research* 33:4335-44, 2005.

Lee I, Dombkowski AA, and Athey BD: Guidelines for incorporating non-perfectly matched oligonucleotides into target-specific hybridization probes for a DNA microarray. *Nucleic Acids Research* 32:681-690, 2004. PMID: 14088009.

Hacker TJ, Noble BD, and Athey BD: Improving throughput and maintaining fairness using parallel TCP. *INFOCOM 2004, Twenty-third Annual Joint Conference of the IEEE Computer and Communications Societies. Hong Kong. Vol.4:2480-2489, 2004.*

Service: Dr. Athey is highly sought-after on key national panels and extramural service functions. He served as conference co-chair of the 13th Annual Meeting of the International Society for Computational Biology (ISCB), "Intelligent Systems for Molecular Biology" (ISMB), held in Detroit, Michigan. ISMB 2005 hosted over 2000 delegates, and over 80 peer-reviewed papers were published in a special edition of *Bioinformatics (Proceedings of the Thirteenth International Conference on Intelligent Systems for Molecular Biology 2005)*. Dr. Athey is principal chair (and lead author) of the University of Michigan Research Cyberinfrastructure Committee (and its *Cyberinfrastructure Report*).

Dr. Athey was appointed Director of Bioinformatics in the Depression Center in 2003. He helped build the Michigan Center for Biological Information into an internationally respected new Center of Excellence in Biomedical Informatics. This activity has benefited the Medical School and Health System, in addition to other MLSC participants. Sophisticated biomedical informatics is essential for the Depression Center's goal of enhancing understanding of brain dysregulation in depressive illnesses.

External Review:

Reviewer A: "Dr. Athey's scholarship has had a significant impact on the biomedical informatics field and apparently other areas of biomedicine....I would put him easily within the top 5% of his peer group, which is quite a small group at this time. Dr. Athey is in fact the rare type of transdisciplinary individual that is essential for informatics to be integrated into the fabric of biomedical and clinical research."

Reviewer B: "...Dr. Athey is an enormously talented and generous leader and collaborator in the area of bio-informatics. Our field will need many more people like him in the years and decades to come since there is incredible growth of large data rich molecular studies, large data intensive longitudinal clinical studies, and of course very large clinical trials....It would be an enormous loss for Michigan and a loss for the field if we had to operate without his informatics leadership going forward."

Reviewer C: "He remains one of the country's--indeed, the globe's--most impressive facilitators of multi-scale and interdisciplinary biomedical science, bringing multiple techniques and perspectives to bear on each of a gratifyingly wide range of projects."

Reviewer D: “Dr. Athey is an excellent example of a scholar and academician who makes his mark not solely by very specialized work emanating from his laboratory (although his publication record is solid) but also by facilitating the work of a larger community of medical researchers and other scientists.”

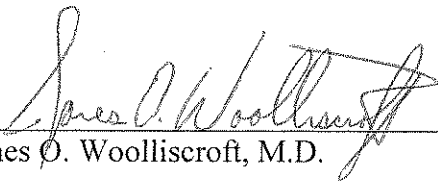
Reviewer E: “Dr. Athey’s scholarship is an important contribution for several reasons. One is, he sits between disciplines – the emerging discipline of informatics is, by its very nature, largely multidisciplinary and as its own identity begins to crystallize, it’s necessary that participants in this field draw upon expertise from a variety of other fields, notably mathematics, computer science and the biological specialty upon which these informational approaches are applied.”

Reviewer F: “Dr. Athey is an internationally recognized leader in the area of biomedical informatics who would meet the criteria for promotion at any of the institutions with which I have been affiliated...”

Reviewer G: “...Dr. Athey’s key skills are in managing large interdisciplinary teams, and taking leadership at the national level of important programs. His value as a colleague and collaborator both locally and nationally is therefore quite high.”

Summary of Recommendation:

Dr. Athey is a leader in the surging academic fields of Biomedical Informatics and Computational Medicine, and has made key contributions in research, clinical translation, and education of a new generation of scholars. Given the central importance of Biomedical Informatics and Bio-IT to the Medical School and University core missions of instruction, research, training, and clinical delivery, this promotion is well-deserved and strategically important. I strongly recommend the promotion of Dr. Athey to Professor of Psychiatry, with tenure, and Professor of Internal Medicine, without tenure.



James O. Woolliscroft, M.D.  
Dean  
*Lyle C. Roll Professor of Medicine*

May 2008