

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

Mohammed Akaaboune, associate professor of molecular, cellular, and developmental biology, with tenure, College of Literature, Science, and the Arts, is recommended for promotion to professor of molecular, cellular, and developmental biology, with tenure, College of Literature, Science, and the Arts.

Academic Degrees:

Ph.D.	1996	Université de Pierre et Marie Curie
D.E.A.	1992	Université de Pierre et Marie Curie
B.S.	1988	University of Fez

Professional Record:

2009	Visiting Professor, Biozentrum, University of Basel
2008 – present	Associate Professor, Department of Molecular, Cellular, and Developmental Biology, University of Michigan
2002 – 2008	Assistant Professor, Department of Molecular, Cellular, and Developmental Biology, University of Michigan
1997 – 2002	Post-doctoral training, School of Medicine, Washington University

Summary of Evaluation:

Teaching – Professor Akaaboune is a dedicated teacher who has contributed in significant ways to the curricula of the neuroscience concentrations and graduate programs. His primary teaching assignments have been a large enrollment course and a small enrollment specialty course. He also organized the graduate course and participated in a required course for first-year neuroscience graduate students. Student evaluations have been very good. Professor Akaaboune has devoted considerable effort to individual training in the research laboratory, mentoring undergraduate and graduate students, and several post-doctoral fellows.

Research – Professor Akaaboune is a neurobiologist who studies the mammalian neuromuscular junction (NMJ), which is a type of chemical synapse formed by a nerve cell and a muscle fiber, and is the structure that allows the nervous system to control muscle activity. He is one of the few investigators in the world capable of applying sophisticated in vivo imaging techniques to important questions in NMJ development and function. Professor Akaaboune has maintained a well funded research program and regularly publishes his work in top tier journals. His standing in his field is evident from the invitations he has received to give seminars, to speak at international scientific conference, and to organize an international scientific symposium.

Recent and Significant Publications:

“Neuregulin/ErbB stabilizes the postsynaptic apparatus of the neuromuscular junction,” with N. Hardel, et al., *Journal of Cell Biology*, 195(7), 2011, pp. 1171-1184.  
“Acetylcholine receptors stability at the NMJ deficient in alpha syntrophin in vivo,” with M.-P. y Valenzuela, et al., *Journal of Neuroscience*, 30, 2010, pp. 12455-12465.

“Calcium/Calmodulin Kinase II-dependent AChR recycling at the mammalian NMJ of living mice,” M.-P. y Valenzuela and M. Chakib, *Journal of Neuroscience*, 30, 2010, pp. 12455-12465.

“Acetylcholine receptor clustering is required for the accumulation and maintenance of scaffolding proteins,” with E. Bruneau, et al., *Current Biology*, 18(2), 2008, pp. 109-115.

Service – Professor Akaaboune has served on important committees in his department and is currently serving as associate chair for research and facilities. At the national and international levels, he serves on the editorial boards of several journals, is an editor for a major journal in his field, co-organized a symposium at an international meeting, and served as an ad hoc reviewer for many scientific journals. He also does consulting for several major granting agencies and foundations here and abroad.

#### External Reviews:

##### Reviewer (A)

“Dr. Akaaboune has continued to make significant and high impact contributions in the four years since he was promoted to associate professor. ... He has established himself as a leader in the field and I have full confidence that his program will continue to make contributions at the highest level.”

##### Reviewer (B)

“Dr. Akkaboune’s work on regulation of the nicotinic receptor at the neuromuscular synapse is widely recognized. His lab is one of the few in the world that is able to perform these experiments in live animals. He is a master at this technique and has used it with great skill. I note that he is well funded... He has given numerous seminars and presentations at important meetings and clearly has achieved international recognition.”

##### Reviewer (C)

“His work has broad application for the understanding of synaptic plasticity, development and neurological disease. ... I am quite certain that Dr. Akaaboune’s expertise and contributions to his field would warrant promotion to [the] level of professor with tenure...”

##### Reviewer (D)

“Throughout his career...Dr. Akaaboune has been able to identify important and relevant questions dealing with various aspects of the neuromuscular junction. This is well exemplified by the fact that he has been able to quickly receive excellent funding from the NIH and other agencies. ... In fact, some of this work has clearly emerged as breakthroughs in the field.”

##### Reviewer (E)

“With his unique *in vivo* imaging technique, he really occupies a niche in the NMJ field and no one else can compete with him. I expect solid and excellent work to come out of this endeavor in the future. ... I strongly recommend his promotion at your institution.”

##### Reviewer (F)

“These papers demonstrated that Dr. Akaaboune has really contributed a lot to our understanding... Importantly, insights provided by his studies cannot be obtained from...studies

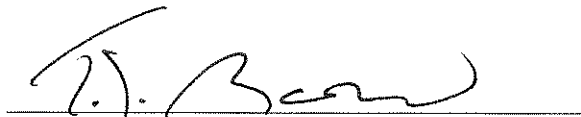
of cultured muscle cells, which many in the field do. To my knowledge, Dr. Akaaboune is one of the few, maybe the only investigator, in the world who has the capability of analyzing in vivo dynamics of synaptic proteins at the neuromuscular junction.”

Reviewer (G)

“I consider his work to be some of the very best and most interesting and exciting done on this synapse in the last decade. ... There is in my opinion no one who can hold a candle to him in terms of creativity, imaginative and innovative scientific technique, clarity of thought, and contribution to our understanding...”

Summary of Recommendation:

Professor Akaaboune has established an international reputation and is identified as a leader in his research field. He is a dedicated teacher and mentor, and has provided valuable service within the university and in his discipline. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Associate Professor Mohammed Akaaboune be promoted to the rank of professor of molecular, cellular, and developmental biology, with tenure, in the College of Literature, Science, and the Arts.



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

May 2012