

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

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

Academic Degrees:

1996	Ph.D.	Université Pierre et Marie Curie
1992	M.S./D.E.A.	Université Pierre et Marie Curie
1988	B.A.	University of Fez, Morocco

Professional Record:

2002 – present	Assistant Professor, Department of Molecular, Cellular, and Developmental Biology, University of Michigan
1997 – 2002	Postdoctoral Fellow, Department of Anatomy and Neurobiology, Washington University School of Medicine

Summary of Evaluation:

Teaching – Professor Akaaboune has successfully taken on two important classroom teaching assignments. After sharing the class for his first two years, he is now the sole instructor in MCDB 422 (Cellular and Molecular Neurobiology), the most popular elective course offered by the Department. In the years he has been involved in the course, enrollment has increased by more than 30% to its current level of 130 students per term. He also developed a new specialty course for undergraduates on “synapse development” that fills to beyond its intended capacity each year. He has been extremely successful in allowing undergraduates to participate in his research program, including gaining co-authorship on important papers.

Research – Professor Akaaboune’s research has led to discoveries that are catapulting him to the top of his field. He has been highly productive at every stage of his career. His graduate work resulted in twelve research papers of which he was first author on six and his postdoctoral fellowship resulted in three papers of exceptionally high quality and impact. Since coming to Michigan in 2002, he has pioneered new approaches and has published seven primary research papers and one review paper, all in highly respected journals. He has been very successful at securing external funding, including grants from the National Institutes of Health, the National Science Foundation, and the Muscular Dystrophy Association.

Recent and Significant Publications:

“The dynamics of the rapsyn scaffolding protein at individual acetylcholine clusters,” with E. Bruneau, *Journal of Biological Chemistry*, 282, 2007, pp. 9932-9940.
“Acetylcholinesterase mobility and stability at the neuromuscular junction of living mice,” with Y. Martinez-Pena and I. Valenzuela, *Molecular Biology of the Cell*, 18, 2007, pp. 2904-2911.
“The dynamics of recycled acetylcholine receptors at the neuromuscular junction in vivo,” with E. Bruneau, *Development*, 133, 2006, pp. 4485-4493.

“Identification of nicotinic acetylcholine receptor recycling and its role in maintaining receptor density at the neuromuscular junction in vivo,” with E. Bruneau, et al., *Journal of Neuroscience*, 5, 2005, pp. 9949-9959.

Service – Professor Akaaboune has served on a variety of departmental committees and on the Executive Committee of the University-wide Graduate Program in Neuroscience. He has provided valuable counseling for neuroscience concentrators, which has quickly become one of the most popular concentrations in the College. A measure of the esteem he has around the world is in the large number of invitations he received to participate in grant review panels from the National Science Foundation, the National Institutes of Health, Veteran Affairs, the Muscular Dystrophy Association, the Alzheimer’s Association, and others.

External Reviews:

Reviewer (A)

“...his papers on AChR recycling are among the most important new developments in the neuromuscular junction field. In my view some would have merited publication in the most prestigious journals.”

Reviewer (B)

“...Akaaboune has made seminal discoveries in the field of receptor trafficking.”

Reviewer (C)

“Dr. Akaaboune’s work is moving the field in new, previously unsuspected directions that will have a major influence on how we think about synapses.”

Reviewer (D)

“Dr Akaaboune has published several exceptionally important papers on the dynamics of nicotinic acetylcholine receptors... ..his productivity since he became independent has been excellent. He published only when the project is complete and he has an important story.”

Reviewer (E)

“...Akaaboune’s work is indeed recognized as pioneering. Accordingly, it is safe to say that Dr. Akaaboune is a leader in the field.”

Reviewer (F)

“...since beginning his own lab, his work has had a significant impact on an important area of cellular neuroscience. ...I strongly support his promotion and the award of tenure.”

Reviewer (G)

“Each of his papers raises a new set of possibilities. He is in the enviable position of having mastery of a kind of in vivo time lapse imaging that is unique and extremely powerful. I look forward to each of his papers as they all break new ground.”

Reviewer (H)

“Dr. Akaaboune is very bright and brimming with good ideas. He presents his research very well.”

Reviewer (I)

“He... has made seminal discoveries in neuromuscular junction formation and maintenance. ...he is a rigorous scientist. His research work is of high quality, creativity, and originality.”

Reviewer (J)

“...he has clearly defined and realistic plans to continue this work in the coming few years. Based on this focused, coherent and technically superb body of work, Mohammed has become a leader in his field of the molecular dynamics of the synapse.”

Summary of Recommendation:

Professor Akaaboune is a highly visible, creative, and productive researcher. He is also a dedicated and conscientious teacher, both in the classroom and in the laboratory. He has provided helpful service to the Department and the University. The Executive Committee of the College of Literature, Science, and the Arts and I recommend that Assistant Professor Mohammed Akaaboune be promoted to the rank of associate 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

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