

PROMOTION RECOMMENDATION
University of Michigan-Flint
College of Arts and Sciences
Department of Computer Science, Engineering, and Physics

Olanrewaju Aluko, assistant professor of mechanical engineering, Department of Computer Science, Engineering, and Physics, College of Arts and Sciences, is recommended for promotion to associate professor of mechanical engineering, with tenure, Department of Computer Science, Engineering, and Physics, College of Arts and Sciences.

Academic Degrees:

Ph.D.	2007	Howard University, Washington D.C.
M.S.	1995	University of Ilorin, Nigeria
B.S.	1989	University of Ilorin, Nigeria

Professional Record:

2009 – Present	Assistant Professor of Mechanical Engineering, University of Michigan-Flint
2007 – 2008	Senior Lecturer of Mechanical Engineering, Michigan Technological University
2007 – 2007	Research Associate, Howard University
2007 – 2007	Visiting Assistant Professor, Texas A&M University-Kingsville
2001 – 2006	Graduate Research Assistant/Graduate Teaching Assistant, Howard University
1999-2001	Lecturer I/Industrial Coordinator, University of Ado-Ekiti, Nigeria

Summary of Evaluation:

Teaching – Professor Aluko is an excellent teacher who uses combined approaches to engage students in investigation of realistic problems in a manner consistent with the best practices in engineering. Students rate him very highly in their assessment of his teaching. His teaching is vital to the growing major of Mechanical Engineering as he is responsible for a large portion of the required classes in that discipline. Overall Professor Aluko is a fine teacher and his students are well served by his pedagogy.

Research – Professor Aluko has produced a significant corpus of work on an important area of materials engineering. His work has been widely published in significant peer reviewed venues and competitive conferences. He has concentrated on the topic of combining analytic methods with computer simulations to better understand damage and failure of composite systems. This work has important implications for industries that use composite systems such as aerospace and telecommunication sectors which are vital to modern society. He has a research agenda that will carry this important work into the future.

Recent and Significant Publications:

Refereed Journal Articles

- O. Aluko and B. Moore. "The Failure Characterization of Composite Pinned Joints," *Mechanics of Advanced Materials and Structures*, Taylor and Francis, (published online), DOI: 10.1080/15376494.2012.708821, August 2013.
- O. Aluko. "Analysis of Contact Stress Distribution and Strength in Orthotropic Pin-Loaded Plate," *Journal of Mechanics Engineering and Automation*, Vol. 2, No 11, November 2012.
- O. Aluko. "An Analytical Method to Determine Characteristic Dimensions of Composite Pinned Joints Without Testing," *Composites: Mechanics, Computations, Applications*, Vol. 3, Issue 1, March 2012.
- O. Aluko and Q. Mazumder. "The Accuracy of Characteristic Lengths Method on Failure Prediction of Composite Pinned Joints," *Journal of Mechanics Engineering and Automation*, Vol. 1, No 3, August 2011.
- O. Aluko and H. A. Whitworth. "Strength and Failure Analysis of Elliptical Pin-Loaded Holes in Orthotropic Plates," *JP Journal of Solid and Structures*, Vol. 5, No. 1, March 2011.
- O. Aluko and B. Moore. "Failure Characterization of Mechanically Fastened Composite Joints," *ASME Early Career Technical Journal*, Vol. 9, No. 1, October 2010.
- O. Aluko. "An Analytical Method to Determine the Compressive Characteristic Length for Composite Joints," *ASME Early Career Technical Journal*, Vol. 8, No. 1, October 2009.

Refereed Conference Articles

- O. Aluko. "A Parametric Study on Failure Load of Pin-Loaded Unidirectional-Woven Composites Joints," Proceedings of 2013 ASME International Mechanical Engineering Congress and Exposition, San Diego, California, November 15-21, 2013.
- O. Aluko. "Teaching Stress Transformation Through Laboratory Experiments," Proceedings of 2013 ASME International Mechanical Engineering Congress and Exposition, San Diego, California, November 15-21, 2013.
- O. Aluko, H. Whitworth, and G. Owolabi. "Effect of Friction on Contact Stress Distribution in Pin Loaded Orthotropic Plates," Proceedings of 2012 ASME International Mechanical Engineering Congress and Exposition, Houston, Texas, November 9-15, 2012.
- G. Owolabi, H. Whitworth, and O. Aluko. "On Fatigue Strength Reduction Factor: State-of-the-Art," Proceedings of 2012 ASME International Mechanical Engineering Congress and Exposition, Houston, Texas, November 9-15, 2012.
- O. Aluko and H. Whitworth. "Application of Progressive Failure to Pin-Loaded Unidirectional-Woven Composite Joint," Proceedings of Canadian Society of Mechanical Engineer International Conference, Manitoba, Canada, June 4-6, 2012.
- O. Aluko and H. Whitworth. "Bearing Strength Analysis of Pin-loaded Elliptical Holes in Laminated Composite Joints," Conference Proceedings of the 2011 ASME International Mechanical Engineering Congress and Exposition, Denver, Colorado, November 11-17, 2011.
- O. Aluko. "An Analytical Method for Failure Prediction of Composite Pinned Joints," Proceedings of the 2011 International Conference of Mechanical Engineering, London, U.K., July 6-8, 2011.
- O. Aluko and H. Whitworth. "Contact Stress Analysis Around Elliptic Pin-Loaded Holes in Orthotropic Plates," Conference Proceedings of the 2010 ASME International Mechanical Engineering Congress and Exposition, Vancouver, British Columbia, Canada, November 12-18, 2010.
- O. Aluko and Q. Mazumder. "The Accuracy of Characteristic Length Method on Failure Load Prediction of Composite Pinned Joints," Proceedings of the 2010 International Conference of Mechanical Engineering, London, U.K., June 30 - July 2, 2010.

Q. Mazumder and O. Aluko. "A Pre-Engineering Program to Motivate High School Students Towards Engineering," Conference Proceedings of the 2010 ASEE Annual Conference, Louisville, Kentucky, June 20-23, 2010.

Service – Professor Aluko has contributed significantly in service to the Department of Computer Science, Engineering, and Physics. Similarly, he has participated meaningfully to service to the College of Arts and Sciences and university level governance at the University of Michigan-Flint. He is an outstanding academic citizen of UM-Flint and serves the organizations with which he interacts with skill and integrity.

External Reviewers:

Reviewer (A):

"The candidate;s [sic] publications have been mainly in the area of failure of composite joints damage. The area is wide, and this early focus could develop both vertically, in more depth, or with horizontal migrations to related aspects. Such a focus is not considered to be deficient by any means."

Reviewer (B):

"Overall, Dr. Aluko has done good job as a researcher and a teacher."

Reviewer (C):

"Dr. Aluko approaches this topic with a strong mathematical foundation, built upon Lekhnitskii's classical theory on anisotropic plates. He makes his case in a rigorous manner, validating his method with respect to published experimental results and other approaches. Dr. Aluko's [sic] has published in peer-reviewed conference proceedings and in recently established journals in the area of mechanics."

Reviewer (D):

"In conclusion, in the area of 'Research, Scholarly and Creative Activities,' it seems that Professor Aluko is an active faculty member in his department, and there is an interaction between him and the related professional community. He has the potential to expand his research activities by including contemporary issues in his field."

Reviewer (E):

"He looks to have done a fairly good work [sic]."

Reviewer (F):

"On reading Dr. Aluko's publications and assessing the quality of papers, I find that they are of a high quality and published at reputable venues. The ASME annual congress (IMECE) is the premier meeting for mechanical engineers and he has presented his research over a period of time, successfully incorporating novel analytical methods in his research."


Reviewer (G):

"Dr. Aluko's research falls within the scope of analytical research in pinned joints in composite materials. The quality of the work is good, ... There are numerous synergistic works being pursued in the field of composite joints."

Summary of Recommendation:

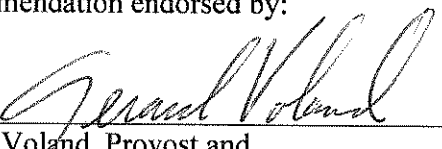
Professor Aluko is a fine teacher, very productive scholar, and an excellent colleague. I fully concur with the Executive Committee of the College of Arts and Sciences and recommend that Olanrewaju Aluko be promoted to associate professor of mechanical engineering, with tenure, Department of Computer Science, Engineering, and Physics, College of Arts and Sciences.

Recommended by:

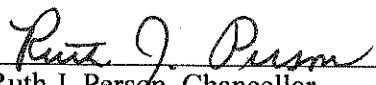


Albert C. Price, Interim Dean
College of Arts and Sciences

Recommendation endorsed by:



Gerard Voland, Provost and
Vice Chancellor for Academic Affairs



Ruth J. Person, Chancellor
University of Michigan-Flint

May 2014