Exponent®
Engineering & Scientific Consulting

Okanmisope Fashanu, Ph.D., P.E.

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Professional Profile

Dr. Fashanu has an interdisciplinary background in mechanical, subsea, and materials engineering with a focus on the mechanics of materials. His mechanics of materials background includes extensive knowledge on quasi-static, medium, and high strain material behavior and failure, impact, and fracture analysis.

Dr. Fashanu specializes in mechanical behavior and characterization of metals and composites. He also has extensive experience in finite element analysis. At Exponent, he employs his expertise in assisting clients with different complex mechanical design problems some of which include material characterization, product testing, stress, and failure analysis: Dr. Fashanu also helps clients understand and find solutions to additive manufacturing problems.

Prior to joining Exponent, Dr. Fashanu completed his Ph.D. at the Missouri S&T on additively manufactured (3D printed) cellular structures. During his studies, he performed research in collaboration with Honeywell Federal Manufacturing and Spirit AeroSystems to understand the mechanical performance of additively manufactured metallic solids and cellular structures. Additionally, he worked on the mechanical characterization of microwave cured carbon fiber reinforced polymers and the numerical and performance optimization of coaxial horizontal axis hydrokinetic turbine systems. He has experience in experimental design and data analysis using MATLAB.

Academic Credentials & Professional Honors

Ph.D., Mechanical Engineering, Missouri University of Science and Technology, 2021

M.S., Subsea Engineering, University of Strathclyde, 2015

B.S., Metallurgical and Materials Engineering, University of Lagos, 2012

Tau Beta Pi Engineering Honor Society

Licenses and Certifications

Professional Engineer Mechanical, California, #41912

Professional Affiliations

American Society for Testing and Materials (ASTM)

National Society of Black Engineers (NSBE)

Publications

O. Fashanu, S.P. Isanaka, J. Newkirk, K. Chandrashekhara, B. Brown, J. Porter, and R. Deering, "Influence of Defects on the Effective Properties of Selective Laser Melted Cellular Structures," The International Journal of Advanced Manufacturing Technology, vol. 116, pp. 1259-1270, 2021.

O. Fashanu, M. Rangapuram, A. Abutunis, J. Newkirk, K. Chandrashekhara, H. Misak, D. Klenosky, "Mechanical Performance of Sandwich Composites with Additively Manufactured Triply Periodic Minimal Surface Cellular Structured Core," Journal of Sandwich Structures and Materials, vol. 24(2), pp. 1133-1151, 2021.

S.K. Dasari, M. Rangapuram, O. Fashanu, K. Chandrashekhara, N. Iyyer, N. Phan, "Manufacturing and Experimental Evaluation of Microwave Cured Carbon/Epoxy Composites," Applied Composite Materials, vol. 28, pp. 2087-2103, 2021.

M. Spratt, J. Newkirk, O. Fashanu, K. Chandrashekhara, "Effect of the Melt Pool Boundary Network on the Anisotropic Mechanical Properties of Selective Laser Melted 304L," Journal of Manufacturing and Materials Processing, vol. 5(4), 110, 2021.

A. Abutunis, M. Fal, O. Fashanu, K. Chandrashekhara, and L. Duan, "Coaxial Horizontal Axis Hydrokinetic Turbine System: Numerical Modeling and Performance Optimization," Journal of Renewable and Sustainable Energy, vol. 13, 024502, 2021.

O. Fashanu, D. Murphy, M. Spratt, J. Newkirk, K. Chandrashekhara, B. Brown, J. Porter. "Effective elastic properties of additively manufactured metallic cellular structures using numerical unit-cell homogenization," Progress in Additive Manufacturing, vol. 5, pp. 355-366, 2020.

O. Fashanu, M.F. Buchely, M. Spratt, J. Newkirk, K. Chandrashekhara, H. Misak, M. Walker, "Effect of SLM Build Parameters on the Compressive Properties of 304L Stainless Steel", Journal of Manufacturing and Materials Processing, vol. 3, pp. 1-16, 2019.

Presentations

O. Fashanu, M.F. Buchely, R. Hussein, S. Anandan, M. Spratt, J. Newkirk, K. Chandrashekhara, H. Misak, M.A Walker, "The Influence of Build Parameters on the Compressive Properties of Selective Laser Melted 304L Stainless Steel", Solid Freeform Fabrication 2018: Proceedings of the 29th Annual International Solid Freeform Fabrication Symposium – An Additive Manufacturing Conference, pp. 1327-1333, 2018.

O. Fashanu, D. Murphy, M. Spratt, J. Newkirk, K. Chandrashekhara, B. Brown, J. Porter, "Effective Elastic Properties of Additively Manufactured Metallic Lattice Structures: Unit-cell Modeling," Solid Freeform Fabrication 2019: Proceedings of the 30th Annual International Solid Freeform Fabrication Symposium – An Additive Manufacturing Conference, pp. 2223-2229, 2019.