

Exponent®
Engineering & Scientific Consulting

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

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Professional Profile

Dr. Fashanu specializes in mechanical design, mechanics of materials, manufacturing processes and systems, failure analysis, and failure prevention. He provides support for complex investigations related to design, manufacturing, compliance, safety, and quality issues across various industries, including aerospace, automotive, consumer products, and renewable energy such as wind and solar power. Dr. Fashanu has significant experience in carrying out technical analyses related to intellectual property claims. He supports litigation matters concerning industrial and workplace safety. His consulting services cover product recalls, product defect litigation, intellectual property litigation, products liability and workplace safety litigation (including OSHA), and insurance disputes.

Dr. Fashanu leverages his understanding of mechanical design, manufacturing systems, and failure analysis to provide solutions for both litigation and non-litigation projects. He helps clients identify improvements in product design, manufacturing, assembly, and with product compliance and safety evaluations. His experience includes performing standardized and custom testing, conducting hands-on factory floor inspections, and the review of manufacturing processes and procedures.

Dr. Fashanu also performs testing, design, and performance evaluations for both litigation and non-litigation projects involving a variety of products, some of which include automotive components, composite materials, hoses, dampers, bearings, flame retardant materials, and various electrical devices and components. Additionally, he assists clients in understanding and solving challenges related to additive manufacturing.

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.

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)

American Society of Safety Professionals (ASSP)

American Society of Mechanical Engineers (ASME)

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.