

Kyle S. Saleeby, Ph.D.

R&D Staff Member

Oak Ridge National Laboratory

Manufacturing Automation and Controls Group, Manufacturing Demonstration Facility

saleebyks@ornl.gov | kylesaleeby@gmail.com

I. Research Interests

Digital Manufacturing, Hybrid Manufacturing, Industrial Sensors and Industry 4.0, Smart Manufacturing Architectures, Manufacturing Cybersecurity

5-Axis Subtractive and Additive CNC Programming and Operations, Rapid Electromechanical Prototyping, Electromechanical Systems Integration

II. Education

Ph.D., Mechanical Engineering, February 2021

Georgia Institute of Technology

Atlanta, Georgia

Dissertation: Multi-Agent Open Architecture for Process Monitoring and Part Certification

Advisor: Dr. Thomas Kurfess

Committee: Drs. Christopher Saldana, Katherine Fu, Vincent Paquit, Lonnie Love, Tommy Gardner

Concentration: Digital Manufacturing

M.S., Mechanical Engineering, May 2019

Georgia Institute of Technology

Atlanta, Georgia

Thesis: Development of a Low-Cost Wireless Accelerometer Sensor Platform (WASP) for Machine Monitoring Applications

Advisor: Dr. Thomas Kurfess

Committee: Drs. Christopher Saldana, Lonnie Love

Concentration: Digital Manufacturing

B.S., Mechanical Engineering, May 2017

Massachusetts Institute of Technology

Boston, Massachusetts

Thesis: Design of Soft-Body Robot with Wireless Communication for Leak Detection in Large Diameter Pipe Systems

Advisor: Dr. Kamal Youcef-Toumi

III. Journal Articles

K. Saleeby, T. Feldhausen, L. Love, and T. Kurfess, "Rapid Retooling for Emergency Response with Hybrid Manufacturing," *Smart and Sustainable Manufacturing Systems*, ASTM, 2020

Feldhausen, T., Saleeby, K., Kurfess, T., "Spinning the Digital Thread with Hybrid Manufacturing," *Manufacturing Letters*, 29, p. 15-18, 2021.
<https://doi.org/10.1016/j.mfglet.2021.05.003>

Feldhausen, T., Raghavan, N., Saleeby, K., Love, L., and Kurfess, T., "Mechanical properties and microstructure of 316L stainless steel produced by hybrid manufacturing," *Journal of Materials Processing Technology*, 290, p. 116970., 2021.

Kurfess, T. R., Saldana, C., Saleeby, K., and Dezfouli, M. P., "A Review of Modern Communication Technologies for Digital Manufacturing Processes in Industry 4.0," *J. Manuf. Sci. Eng.*, 142(11), 2020.

D. Newman, M. Parto, K. Saleeby, T. Kurfess, and A. Dugenske, "Development of a Digital Architecture for Distributed CNC Machine Health Monitoring," *Smart and Sustainable Manufacturing Systems* 3, no. 2 (2019): 68-82. <https://doi.org/10.1520/SSMS20190038>

IV. Conference Presentations and Articles

Saleeby K. S., Feldhausen T. A., Love L., and Kurfess T. R., "System-Level Control for Deposition Toolpaths in Hybrid Manufacturing," in *ASTM International Conference on Additive Manufacturing*, ASTM International, 2020.

Saleeby K. S., Feldhausen T. A., Love L., and Kurfess T. R. "Feedback Control of Hybrid Manufacturing Processes with Infrared Thermal Measurements and Low-Cost Sensors", *International Symposium on Flexible Automation*, 2020.

Saleeby K. S., Kurfess T. R., Feldhausen, T., and Love, L., "Production of Medium-Scale Metal Additive Geometry With Hybrid Manufacturing Technology.", *Manufacturing Science and Engineering Conference*, 2020.

Saleeby K. S., Kurfess T. R., "Low cost wireless accelerometer sensor platform with internet-of-things for manufacturing (IOT4MFG) applications," *Proc. SPIE 10982, Micro- and Nanotechnology Sensors, Systems, and Applications XI*, 1098210 (13 May 2019);
<https://doi.org/10.1117/12.2517437>

Kurfess T., Lynn R., Saleeby K., Tucker T., Saldana C., "Multi-axis voxel-based CNC machining of centrifugal compressor assemblies", *American Helicopter Society Forum* 74, 2018

V. Patents and Intellectual Property

Saleeby, Karandikar, Feldhausen, Smith, Schmitz - Stability Boundary and Optimal Stable Parameter Identification in Machining (Provisional Patent filed 11/24/20)

Feldhausen, Saleeby, McNay, Wilson – Hybrid Machine Tool with Hot Wire Welding Additive Head (Provisional Patent filed 02/26/2021)

VI. Honors

SME's Manufacturing Engineering "30 Under 30" Recipient, 2021

West Point McDonald Cadet World Leadership Conference, Student Fellow, 2016

ARA Student Employee Award company-wide, 2015

Proton Onsite \$100k Competition Winner, 2013

Coca-Cola Scholar, 2013

Eagle Scout, 2013

VII. Memberships

2019 – present SME Member