Exponent®
Engineering & Scientific Consulting

Colin Reagle, Ph.D., P.E., CFEI

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Professional Profile

Dr. Reagle is a licensed professional mechanical engineer and certified fire and explosion investigator. He specializes in performing failure analysis and providing design support for problems involving thermal fluid flows, thermal energy release and sustainable energy systems. Dr. Reagle is an expert in using IR thermography to understand complex ignition and heat transfer problems.

At Exponent, he has inspected structure fires, involving kitchen appliances and various consumer products, and vehicles where carbon monoxide poisoning was suspected. He has conducted large scale battery risk assessments including cryogenic fault detection and fault recreation testing. He has conducted testing of respirators for asbestos filtration efficiency. He has sampled hazardous gas, such as methane and hydrogen released from the combustion of samples, to evaluate sensors and detection systems. He has contributed to projects involving flammability testing and thermal evaluation of consumer products, design evaluation of gas burning appliances, investigation of vegetation and vehicle fires, assessing safety and fire risk in roll on-roll off cargo operations, and hazardous materials release from railroad tank cars.

Prior to joining Exponent, Dr. Reagle was an associate professor of Mechanical Engineering at George Mason University. As the first faculty hire for the program, he helped build the program through teaching and service. He has held a variety of temporary academic and industrial research positions focused on propulsion, power, and energy. His graduate research applied his expertise to heat transfer and aerodynamic characterization of turbomachinery hardware at transonic speeds and particulate laden flows at high temperatures.

Academic Credentials & Professional Honors

Ph.D., Mechanical Engineering, Virginia Polytechnic Institute and State Univ, 2012

M.S., Mechanical Engineering, Virginia Polytechnic Institute and State Univ, 2009

B.S., Mechanical Engineering, Virginia Polytechnic Institute and State Univ, 2007

Leadership Legacy Program, George Mason University, 2019-2020

Sustainability Hero, George Mason University, 2018

Outstanding Achievement Award, George Mason University, 2015

Licenses and Certifications

Professional Engineer, Virginia, #0402060200

40-Hour Hazardous Waste Operation and Emergency Response Certification (HAZWOPER)

Certified Fire and Explosion Investigator (CFEI)

Academic Appointments

Associate Professor, Mechanical Engineering, George Mason University, 2019-2023

Associate Chair, Mechanical Engineering, George Mason University, 2019-2023

Director of Undergraduate Programs, Mechanical Engineering, George Mason University, 2016-2019

Assistant Professor, Mechanical Engineering, George Mason University, 2014-2019

Prior Experience

Associate Professor, Mechanical Engineering, George Mason University, 2019-2023

Associate Chair, Mechanical Engineering, George Mason University, 2019-2023

Director of Undergraduate Programs, Mechanical Engineering, George Mason University, 2016-2019

Assistant Professor, Mechanical Engineering, George Mason University, 2014-2019

Research Engineer, Techsburg, 2012 & 2013

Post-Doctoral Research Assistant, Mechanical Engineering, Virginia Tech, 2012-2013

Adjunct Professor, Mechanical Engineering, Virginia Tech, 2012-2013

Graduate Research Assistant, Mechanical Engineering, Virginia Tech, 2008-2009 & 2010-2012

Praktikant, Alstom Power, 2009-2010

Teaching Assistant, Mechanical Engineering, Virginia Tech, 2007

Intern, Tractor Test and Technical Support, Caterpillar, 2007

Projects Engineer, Honeywell Engines & Systems, 2006

Professional Affiliations

American Society of Mechanical Engineers

Publications

Reagle, C.J., & Barton, O., 2023 “Assessing the Impact of Student Choice of Electives“, ASEE Southeastern Section Conference 2023, #36505

Altaii, K., Reagle, C.J., and Handley, M., 2017, “Flipping an Engineering Thermodynamics Course to Improve Student Self-Efficacy,” ASEE Annual Conference & Exposition, #17858

Reagle, C.J., Maggioni, V., Boicu, M., Albanese, M., Joshi, M., Sklarew, D., and Peixoto, N., 2017, “From idea to prototype: introducing students to entrepreneurship”, IEEE Integrated STEM Education Conference (ISEC)

Reagle, C. J., & Barton, O., & Ball, K. S., & Caraballo, S. A., & Eftekhari, A., & Napisa, R. (2016, June), Developing a Sustainable Collaboration Between a Four-Year and a Two-Year College to Enhance Student Access into Mechanical Engineering, ASEE Annual Conference & Exposition, 10.18260/p.26734

Reagle, C.J., Delimont, J.M., Ng, W.F., and Ekkad, S.V., 2014 “Study of Microparticle Rebound Characteristics Under High Temperature Conditions,” J. Eng. Gas Turbines Power, 136(1), 011501

Singh, S., Tafti, D.K., Reagle, C., Delimont, J., Ng, W.F., and Ekkad, S.V., 2014, “Sand Transport in a Two Pass Internal Cooling Duct with Rib Turbulators,” Int. J. Heat Fluid Flow, Vol. 46, p. 158-167

Reagle, C.J., Delimont, J.M., Ng, W.F., Ekkad, S.V., and Rajendran, V.P, 2013, “A Novel Optical Technique for Measuring the Coefficient of Restitution of Microparticle Impacts in a Forced Flowfield,” Meas. Sci. Technol. 24 105303

Reagle, C., Newman, A., Xue, S., Ng, W., Ekkad, S., Moon, H.K. and Zhang, L., 2010, “A Transient Infrared Technique for Measuring Surface Heat Transfer In A Transonic Turbine Cascade,” GT2010-22975

Bolchoz, T., Nasir, S., Reagle, C., Ng, W.F., and Moon, H.K., 2009, “An Experimental Investigation of Showerhead Film Cooling Performance In A Transonic Vane Cascade At Low and High Freestream Turbulence,” GT2009-59796