ROBERT ANGELO BORRELLI
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UNIVERSITY OF IDAHO · IDAHO FALLS CENTER FOR HIGHER EDUCATION
NUCLEAR ENGINEERING AND INDUSTRIAL MANAGEMENT
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EDUCATION AND TRAINING

University of California-Berkeley · Doctor of Philosophy · Nuclear Engineering 2006
Worcester Polytechnic Institute · Master of Science · Civil/Environmental Engineering 1999
Worcester Polytechnic Institute · Bachelor of Science · Mechanical/Nuclear Engineering 1996

RESEARCH AND PROFESSIONAL EXPERIENCE

University of Idaho · Idaho Falls Center for Higher Education
Nuclear Engineering and Industrial Management Department

Associate Professor	May 2021 -
Assistant Professor	July 2015 - May 2021
Coordinator - NPP Decommissioning and Used Fuel Management Certificate	August 2019 -
Affiliate - Boise State University Energy Policy Institute	August 2019 -
State of Idaho Professional Engineer, Faculty Restricted	October 2019 -

University of California-Berkeley · Department of Nuclear Engineering · Postdoctorate Researcher 2009-12

The University of Tokyo · Department of Nuclear Engineering/Management · Research Associate 2007-09

SELECTED AWARDED PROJECTS

(1) Michael Haney (PI), R. A. Borrelli (co-PI), Dakota Roberson (co-PI), Constantinos Kolias (co-PI) - University of Idaho, Ben Lampe (co-PI), Sean McBride (co-PI) - Idaho State University. Secure Cyberspace and Resilient Industrial Systems Workforce Development. Idaho Global Entrepreneurial Mission (IGEM) – Higher Education Research Council **$700,000.** 2024.07.01 - 2025.06.30. [*Borrelli PI 2024.07.01*]

(2) Kathleen Araújo (PI), Cassie Koerner (co-PI) - Boise State University, R. A. Borrelli (co-PI) - University of Idaho, with multiple universities. Common ground: Legitimacy in consent-based siting for interim nuclear waste storage. Department of Energy Consent-Based Siting for Interim Storage Program - Community Engagement Opportunities. **$2,000,000.** 2023.09.29 - 2025.09.28.

(3) Michael Haney (PI), R. A. Borrelli (co-PI), Dakota Roberson (co-PI), Constantinos Kolias (co-PI) - University of Idaho, Ben Lampe (co-PI), Sean McBride (co-PI) - Idaho State University. Secure Cyberspace and Resilient Industrial Systems Workforce Development. Idaho Global Entrepreneurial Mission (IGEM) – Higher Education Research Council **$700,000.** 2023.07.01 - 2024.06.30.

(4) Michael Haney (PI), R. A. Borrelli (co-PI), Dakota Roberson (co-PI), Constantinos Kolias (co-PI) - University of Idaho, Ben Lampe (co-PI), Sean McBride (co-PI) - Idaho State University. Secure Cyberspace and Resilient Industrial Systems Workforce Development. Idaho Global Entrepreneurial Mission (IGEM) - Higher Education Research Council **$693,000.** 2022.07.01 - 2023.06.30.

(5) R. A. Borrelli (PI), Michael Haney (co-PI) - University of Idaho. Cyber-informed design, education, and training for cyberthreat resiliency with real-time nuclear reactor simulation. University of Idaho. Operation: Resubmission Support. **$34,122.** 2022.04.30 - 2022.09.30.

(6) Thomas A. Ulrich (PI) - Idaho National Laboratory, R. A. Borrelli (co-PI) - University of Idaho. User evaluation of the NuScale simulator at the Center for Advanced Energy Studies. CAES programmatic funding. **$50,000.** 2022.03.01 - 2022.09.30.

(7) R. A. Borrelli (PI), Jason Barnes (Senior Adviser) - University of Idaho. Experimental determination of interactions between the radiation fields of Dragonfly's MMRTG and Titan's environment. Idaho NASA EPSCoR Research Initiation Grant. 2021.05.01 - 2022.04.30 **$82,962**.

(8) Richard N. Christensen (PI), R. A. Borrelli, Michael G. McKellar, Michael Haney, David Arcilesi (co-PIs) - University of Idaho, Richard Jacobson (co-PI) Idaho State University. NuScale Simulator at the Center for Advanced Energy Studies. Department of Energy Scientific Infrastructure Support for Consolidated Innovative Nuclear Research. **$321,525.** 2019.10.01 - 2022.09.30

(9) R. A. Borrelli (PI), Richard N. Christensen (co-PI) - University of Idaho, Brian J. Jaques (co-PI) - Boise State University, Piyush Sabharwall (co-PI) - Idaho National Laboratory, Mark Delligatti (co-PI) - Table Rock, LLC, Sakae Casting USA, LLC (co-PI). Modeling and design of borated aluminium cask for used fuel cooling. Idaho Global Entrepreneurial Mission (IGEM) - Idaho Commerce, **$237,898.** 2018.01.01-2019.05.31

(10) R. A. Borrelli (PI), Lee Ostrom (Senior Advisor) - University of Idaho, Stephen G. Johnson (Senior Advisor) - Idaho National Laboratory. Performance assessment of americium as fuel in radioisotope thermoelectric generators for deep space exploration. Idaho NASA EPSCoR Research Initiation Grant. **$55,000.** 2017.08.01-2018.04.30

Relevant Publications

(1) Borrelli, R. A., Araújo, Kathleen, Koerner, Cassie, Djokić, Denia, 2024. Consent based siting for Spent Nuclear Fuel – The Common Ground Consortium Focus on Research and Public Conversations. Las Vegas, Nevada: Proc., American Nuclear Society Annual Meeting.

(2) Manwaring, Nathan, Johnson, Matt, Borrelli, R. A., 2024. At-power Subcritical Multiplication in the Advanced Test Reactor during Nuclear Requalification Testing. Nuclear Engineering and Design 426, 113399.

(3) Root, Sam J., Throckmorton, Porter, Tacke, Jonathan, Benjamin, Jacob, Haney, Michael, Borrelli, R. A., 2023. Cyber Hardening of Nuclear Power Plants with Real-time Nuclear Reactor Operation – 1. Preliminary Operational Testing. Progress in Nuclear Energy 162, 104742.

(4) Redfoot, Emma K., Verner, Kelley M., Borrelli, R. A., 2022. Applying analytic hierarchy process to industrial process design in a nuclear renewable hybrid energy system. Progress in Nuclear Energy 145, 104083.

(5) Mena, Pedro, Borrelli, R. A., Kerby, Leslie, 2022. Survey of markets for nuclear power in Western North America. International Journal of Energy, Environment, and Economics 29, 17.

(6) Mena, Pedro, Borrelli, R. A., Kerby, Leslie, 2022. Expanded Analysis of Machine Learning Models for Nuclear Transient Identification Using TPOT. Nuclear Engineering and Design 390, 111694.

(7) Redfoot, Emma K., McKellar, Michael G., Borrelli, R. A., 2022. Allocating heat and electricity in an integrated energy system coupled with a water purification system. Nuclear Engineering and Design 397, 111902.

(8) Calvin, Olin, Ganapol, Barry D., Borrelli, R. A., 2022. Introduction of the adding and doubling method for solving Bateman equations for nuclear fuel depletion. Nuclear Science and Engineering , 10.1080/00295639.2022.2129950.

(9) Carter, John P., Borrelli, R. A., 2020. Neutron physics study of an integral molten salt reactor using Monte Carlo N-Particle code. Nuclear Engineering and Design 365, 10.1016/j.nucengdes.2020.110718.

(10) Lee, Jieun, Shigrekar, Amey, Borrelli, R. A., 2019. Hazard and operability analysis of a pyroprocessing facility. Nuclear Engineering and Design 348, 131.

Relevant Courses Taught

University of Idaho · Idaho Falls Center for Higher Education

NE527: Nuclear material storage, transport, disposal

NE535: Nuclear Criticality Safety I & II

NE585: Nuclear Fuel Cycle Analysis

TM529: Risk Assessment
University of California-Berkeley · Department of Nuclear Engineering
E124: Ethics and the Impact of Technology on Society
The University of Tokyo · Department of Nuclear Engineering/Management
Technical English for Scientists
Diablo Valley Community College (CA) · Department of Architecture and Engineering
ENGIN110: Introduction to Engineering

SYNERGISTIC ACTIVITIES

(1) American Nuclear Society University of Idaho Student Section – Faculty Advisor
(2) American Nuclear Society National Program, Screening, Student Sections Committees – Member
(3) Idaho Section of the American Nuclear Society – Treasurer, Community Service