

## NSF BIOGRAPHICAL SKETCH

NAME: Borrelli, R. A.

POSITION TITLE & INSTITUTION: Associate Professor, University of Idaho - Idaho Falls Center for Higher Education

### (a) PROFESSIONAL PREPARATION

INSTITUTION	LOCATION	MAJOR / AREA OF STUDY	DEGREE (if applicable)	YEAR YYYY
Worcester Polytechnic Institute	Worcester, MA	Mechanical/Nuclear Engineering	BS	1996
Worcester Polytechnic Institute	Worcester, MA	Civil/Environmental Engineering	MS	1999
University of California-Berkeley	Berkeley, CA	Nuclear Engineering	PHD	2006

### (b) APPOINTMENTS

2021 - present	Associate Professor, University of Idaho - Idaho Falls Center for Higher Education, Department of Nuclear Engineering and Industrial Management, Idaho Falls, ID
2015 - 2021	Assistant Professor, University of Idaho - Idaho Falls Center for Higher Education, Department of Nuclear Engineering and Industrial Management, Idaho Falls, ID
2012 - 2015	Adjunct Professor, Diablo Valley Community College, Department of Architecture and Engineering, Pleasant Hill, CA
2009 - 2012	Postdoctorate Researcher, University of California-Berkeley, Department of Nuclear Engineering, Berkeley, CA
2007 - 2009	Research Associate, The University of Tokyo, Department of Nuclear Engineering/Management, Tokyo

### (c) PRODUCTS

#### Products Most Closely Related to the Proposed Project

1. Borrelli RA, Delligatti M, Heidrich B. Borated aluminum cask design for onsite intermediate storage - Preliminary neutronics design and certification analysis. Nuclear Engineering and Design. 2020; 363. DOI: 10.1016/j.nucengdes.2020.110666
2. Carter J, Borrelli RA. Neutron physics study of an integral molten salt reactor using Monte Carlo N-Particle code. Nuclear Engineering and Design. 2020; 365. DOI: 10.1016/j.nucengdes.2020.110718
3. Peterson J, Haney M, Borrelli RA. An overview of methodologies for cyber security vulnerability assessments conducted in nuclear power plants. Nuclear Engineering and Design. 2019; 346:75.
4. Lee J, Borrelli RA. Sensitivity analysis and application of advanced nuclear accounting methodologies on the high reliability safeguards model: Use of discrete event simulation for material throughput in fuel fabrication. Nuclear Engineering and Design. 2019; 345:183.
5. Mena P, Borrelli RA., Kerby L. Nuclear reactor transient diagnostics using classification and AutoML. Nuclear Technology. 2021. DOI: 10.1080/00295450.2021.1905470

**Other Significant Products, Whether or Not Related to the Proposed Project**

1. Lee J, Shigrekar A, Borrelli RA. Hazard and operability analysis of a pyroprocessing facility. Nuclear Engineering and Design. 2019; 348:131.
2. Redfoot E, Borrelli RA. Analysis of nuclear renewable hybrid energy systems modeling and nuclear fuel cycle simulators. Nuclear Technology. 2018; 204:249.
3. Borrelli RA. A high reliability safeguards approach for safeguardability of remotely-handled nuclear facilities: 1. Functional components to system design. Journal of Nuclear Materials Management. 2014; XLII:4.
4. Borrelli RA. A high reliability safeguards approach for safeguardability of remotely-handled nuclear facilities: 2. A risk-informed approach for safeguards. Journal of Nuclear Materials Management. 2014; XLII:27.
5. Tacke J, Borrelli R, Roberson D. Advanced frequency-domain compensator design for subsystems within a nuclear generating station. Progress in Nuclear Energy. 2021; 140. DOI: 10.1016/j.pnucene.2021.103914

**(d) SYNERGISTIC ACTIVITIES**

1. American Nuclear Society: Executive Committee - Fuel Cycle and Waste Management Division, Nuclear Nonproliferation Policy Division
2. University of Idaho: Faculty Advisor - American Nuclear Society University of Idaho Student Section
3. Idaho Section of the American Nuclear Society: Board of Directors; Coordinator - Smoke Detector Donation Program