

Aaron J Reynolds

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EDUCATION

Ph.D (in progress): Nuclear Engineering
Oregon State University, Corvallis, OR, expected June 2020
GPA: 4.00/4.00

Honors Bachelor of Science, Highest Distinction: Electrical Engineering
Montana State University, Bozeman, MT, May 2015
GPA: 3.95/4.00

HONORS & AWARDS

‘*Best Public Speaker*’, American Nuclear Society Local Conference, OSU, 2018
‘*Best Overall Presentation*’, MeV Summer School, 2017
Henry and Janice Schuette Fellowship Recipient 2017-Present
Montana State Presidential Scholar, 2011-2015
State of Montana Governor’s Scholar, 2011-2015
North Western Energy Community Works Scholar

ENGINEERING EXPERIENCE

GRADUATE RESEARCH FELLOW Sept. 2017-Present
Radiation Transport and Reactor Physics, Oregon State University¹ Corvallis, OR

- Developing computational methods and tools to model molten salt reactor phenomena such as on-line refueling and fission-product removal.
- Applying quasi and nodal diffusion methods.
- Identifying appropriate temporal and spatial discretizations in a multi-physics, multi-scale environment.

GRADUATE RESEARCH ASSISTANT Sept. 2016-Sept. 2017
High Temperature Test Facility, Oregon State University² Corvallis, OR

- Certified as a test engineer and calibration technician.
- Performed facility maintenance and testing under an NQA-1 program.
- Installed and verified roughly 350 temperature instruments on a scaled, electrically-heated integral test facility of a modular high temperature gas reactor. This involved intimate understanding of the data acquisition and control system used on the facility.
- Assisted in coordinating the efforts of a small team in a larger group structure.

CONSULTANT July 2015-Mar. 2016
Ronan Donovan (National Geographic Photographer) Bozeman, MT

- Designed modification of a commercial camera to facilitate motion triggering for wildlife photography with the intention of months-long deployment.
- Communicated with client to establish design specifications and project time line.
- Developed a script to interface modified camera with an Arduino micro-controller.

UNDERGRADUATE RESEARCH ASSISTANT
The Optical Remote Sensing Laboratory³ Bozeman, MT Sept. 2013-May 2015

- Redesigned a vegetation health imaging system with the following outcomes: reduced cost by 81.5%, reduced size by 38.2%, simplified image capture process, implemented wireless communication and control, and reduced measurement uncertainty by a factor of 5.
- Assembled infrared cloud imaging (ICI) systems for NASA's Glenn Research Center. Built rugged cabling and housing which facilitated successful deployment of ICI systems in remote areas.
- Improved ICI system stability by porting micro-controller operation to a Debian distribution.

National Science Foundation Bozeman, MT May 2012-Aug. 2012

- Improved accuracy of a surface plasmon chemical analysis tool by incorporating hardware and Labview software changes to facilitate differential analysis.
- Built and operated a scaled surface plasmon detector unit to educate high school students.

MSU Optics Research Group Bozeman, MT Jan. 2012-April 2012

- Developed Labview software to prepare nanostructures for scanning electron microscope inspection. The software aligned and controlled a mechanical cleaving system.
- Measured physical and performance characteristics of nanostructures using optical methods. Aligning optics and maintaining a clean lab environment were critical tasks to maintain the measurement system.

CONTROL ENGINEER INTERN June 2014-Aug. 2014
GE Measurement and Control Minden, NV

- Designed an electronics board to simulate thermocouple signals. This accelerated final product validation by a factor of ten.
- Conducted comprehensive environmental testing to establish product specifications.
- Validated 3rd party hardware under urgent time frames in order to retain valuable customers.

SKILLS

Relevant Courses & Activities: Modeling and Simulation, Molten Salt Reactors, Quasi Diffusion, Nodal Diffusion, Data Analysis, Prototyping, Integral Test Facilities, Experimentation, Modular High Temperature Gas Reactors, Project Management, Team Management, Working in a Team, Project Design, Technical Writing, Radiophysics, Neutronics, Advanced Radiation Detection and Measurement, External Dosimetry and Shielding, Power, Telecommunications, Remote Sensing, Analytic Writing, Tutoring, Circuits, Controls, Electronics, Digital Logic Systems, Microprocessors, Optics, Programming, Statics, Differential and Multivariable Calculus.

Computer Languages & Software: Matlab, Labview, Latex, MCNP, CASMO, Pspice, Altium, SAP, Java, Word, Powerpoint, Excel.

Operating Systems: UNIX, Windows, Android.

OTHER EXPERIENCE

APPRENTICE WATCHMAKER April 2015-June 2016
The Last Wind-Up Bozeman, MT

- Repairing and restoring vintage and modern timepieces to functional condition.
- Modernizing marketing strategies.

TUTOR Nov. 2015-June 2016
Bozeman High School Student Bozeman, MT

- Assisted with homework and exam preparation.
- Focused on geometry and algebra.

CREW LEADER May 2009-Aug. 2010
U.S. Forest Service Bozeman, MT

- Lead two team members in report writing and data collection.
- Presented final report with recommended actions for troubled areas of land.

COMMUNITY SERVICE BOARD MEMBER Nov. 2015-Present
Gallatin Valley Radio Bozeman, MT

- Organized and assisted with fundraiser activities.
- Recruited volunteers and potential board members
- Educated interested parties on the virtues of local public radio.

SHADOW AN ENGINEER VOLUNTEER Feb. 2013
Montana State University Bozeman, MT

- Gave guided tours of campus and classes to high school students considering attendance at MSU.

HEAD VOLUNTEER COORDINATOR Aug. 2012-Sept. 2012
Raise the Rialto Bozeman, MT

- Arranged meetings and coordinated efforts for roughly 20-25 volunteers.
- Participated in fund raising and public outreach.

EXTRA-CURRICULAR ACTIVITIES I am a self-published singer-songwriter practiced on the guitar, banjo, and harmonica. I'm also an avid runner, reader, and amateur watchmaker.

REFERENCES ¹Todd Palmer, Ph.D
Professor and Associate Head of Nuclear Science and Engineering
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