

Education

Montana State University <i>Ph.D. Physics</i>	Bozeman, MT 2009 - 2013
Montana State University <i>M.S. Physics</i>	Bozeman, MT 2006 - 2009
State University of New York at Buffalo <i>M.S. Science Education</i>	Buffalo, NY 2003-2007
Rensselaer Polytechnic Institute <i>B.S. Applied Physics, Minor in Management</i>	Troy, NY 1995 - 1999

Work Experience

Montana State University <i>Research Assistant</i>	Bozeman, MT 2006 - 2013
<ul style="list-style-type: none">• Developed a mixed ionic and electronic conduction solid oxide fuel cell anode for space technology platforms.• Utilized electron and ion spectroscopy techniques to analyze surfaces in ultra high vacuum environments.• Developed computer software to calculate the electronic current distribution within the percolating networks of nickel in a solid oxide fuel cell anode.	
Colorado Center for Lunar Dust and Atmospheric Studies <i>Visiting Scholar</i>	Boulder, CO 2011
<ul style="list-style-type: none">• Assisted with the characterization of the Lunar Dust Experiment, a dust detector on the Lunar Atmosphere and Dust Environment Explorer mission, scheduled to launch in 2013.	
Plug Power Inc. <i>Engineering</i>	Latham, NY 1998-2001
<ul style="list-style-type: none">• Advanced Technologies Engineer (2001): Collaborated with a team of engineers to develop Plug Power's next generation fuel cell systems.• Reliability Engineer (2000-2001): Responsible for all failures within the gas reforming module including control software, electrical systems, components, weldments, fluid systems and catalysts.• Engineering Associate (1998-1999): Developed fuel cell labs and test stations.	

Teaching Experience

Montana State University <i>Teaching Assistant</i>	Bozeman, MT 2006 - 2009
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- Introductory Physics, Engineering Physics, Graduate Experimental Physics

Kendall Jr./Sr. High School

Science Teacher

- Physics, Chemistry, Forensics, Earth Science

Kendall, NY

2003-2006

Publications

N. Childs, A. Weisenstein, S. Sofie, R. Smith: Electrical Conductivity of Sr_2VMoO_6 Double Perovskites, *Accepted, with minor revisions, by the Journal of Applied Physics, March 2013*

N. Childs, A. Shu, A. Collete, K. Drake, M. Horanyi : Indirect Charged Particle Detection: Concepts and a Classroom Demonstration, *Accepted by the Physics Teacher, March 2013*

A. Weisenstein, **N. Childs**, R. Amendola, D. Driscoll, S. Sofie, P. Gannon, R. Smith: **Processing and Characterization of $\text{Sr}_{2-x}\text{VMoO}_{6-\alpha}$ Double Perovskites**, *Materials Chemistry and Physics, February 2013*

N. Childs, C. Law, R. Smith, S. Sofie, C. Key, M. Lerch: Electronic Current Distribution Calculation for a Ni-YSZ Solid Oxide Fuel Cell Anode, *Fuel Cells, February 2013*

C. F. Key, W. Priyantha, J. Regar, H. Chen, J. Eziashi, R. J. Smith, P. Gannon, **N. Childs**, P. Gentile, S. Sofie : **RBS Investigation of Volatile Gases Produced in Solid Oxide Fuel Cell Systems**, *AIP conference proceedings, 2012*

M. Koczyk, W. Priyantha, **N. Childs**, C. Key, M. Lerch, R.J. Smith, D.S. Choi : **Structure of ultra-thin Ti film on the Al(001) surface**, *Surface Science, March 2010*

N. Childs: A Novel Regents Physics Review Exercise: Rutherford Scattering, *Science Teachers Association of New York State Bulletin, Published 2007*

Talks

N. Childs: Electronic Current Distribution Calculation for a Ni-YSZ Solid Oxide Fuel Cell Anode, *Montana Space Grant Consortium Research Symposium, Bozeman, MT April 2011*

N. Childs: Conceptual Demonstration of Hypervelocity Dust Particle Detection, *Montana Space Grant Consortium Research Symposium, Bozeman, MT April 2012*

N. Childs: Conceptual Demonstration of Hypervelocity Dust Particle Detection, *22nd International Conference on the Application of Accelerators in Research and Industry, Fort Worth, TX August 2012*

***N. Childs:** Processing and Characterization of $\text{Sr}_{2-x}\text{VMoO}_{6-\alpha}$ Double Perovskites, *22nd International Conference on the Application of Accelerators in Research and Industry, Fort Worth, TX August 2012*

**invited*

Skills and Awards

Surface Science Analysis Methods : X-ray Photoemission Spectroscopy, Rutherford Backscattering Spectroscopy, Elastic Recoil Detection, Auger Electron Spectroscopy

Computer Related: MATLAB, LabView, C/C++, MS Office

Nationally Registered Emergency Medical Technician: Volunteer for Moonlight Basin Ski Patrol 2010-Current