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**Richard M. Jones**  
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EDUCATION

Ed.D.	Curriculum and Instruction, Science Education Specialization	MONTANA STATE UNIVERSITY Bozeman, MT	2009
M.S.	Natural Science Geology/Geography Emphasis	UNIVERSITY OF WYOMING Laramie, WY	1990
B.S.	Secondary Science Education	UNIVERSITY OF WYOMING Laramie, WY	1989
B.S.	Geology	UNIVERSITY OF WYOMING Laramie, WY	1984

PROFESSIONAL EXPERIENCE

**Assistant Professor Science Education (August 2010 – Present)**

University of Hawai'i – West O'ahu  
Division of Education  
Pearl City, HI,

- Teaching Elementary Science Methods which focuses on grades PK-6.
- Developed and teaching GEOL 122, Introduction to Earth Science. This Physical Science Designated course meets the general education requirements for education and non-science majors.
- Developed and taught MET 207, Introduction to Atmospheric Science. This Physical Science Designated course meets the general education requirements for education and non-science majors.
- Developed and will teach MET 209, Introduction to Climate Science. This Physical Science Designated course meets the general education requirements for education and non-science majors.
- Supervision of Student Teachers. Assigned as faculty supervisor responsible for field observations and evaluations of six student teachers per semester.
- Research focused on science teaching time and practice for teachers with a large percentage of at risk students.
- Development of middle and high school science methods courses as well as education division specific science content courses for pre-service educators (GEOL 122 and GEOL 168/168L).
- Developed three new Geology (GEOL 101/101L, 200/200L and 168/168L) courses to be offered beginning Spring 2013 with GEOL 101/101L.

**Adjunct Professor of Science Methods (September 2009 – December 2009)**

Montana State University - Billings

College of Education  
Billings, MT

- Teaching Graduate Elementary Science Methods course for non-traditional students in a second career program. This course provided methods and content for the future PK-8 educator.

**Doctoral Fellow (May 2002 – May 2009)**

Center for Learning and Teaching in the West  
Montana State University  
Bozeman, MT, <http://cltw.org/>

- The National Science Foundation Center for Learning and Teaching in the West (CLTW) is a consortium of 5 universities, including Montana State University (Lead Institute), University of Montana, University of Northern Colorado, Colorado State University and Portland State University. The Fellowship includes tuition and research stipends.
- Graduate Teaching Assistant, Elementary Science Methods, Montana State University (Fall 2004 – Spring 2005)
- State Science Coordinator, The National Science Foundation eMSS (electronic Mentoring for Student Success) Program (June 2004 – June 2007)
- Graduate Research Assistant, The National Science Foundation Center for Learning and Teaching in the West (CLTW) Science Inquiry Group (SIG) Professional Development Outreach Program working with teachers on or near the Crow and Northern Cheyenne Reservations, Montana.

**High School Science Teacher (August 2006 – June 2010)**

Senior High Freshman Academy, Billings Public School District  
Billings, MT,

- Teaching responsibilities included Earth Science and Honors Earth Science.

**High School Science Teacher (August 2005 – May 2006)**

Crossroads Alternative High School, Billings Public School District  
Billings, MT

- Teaching responsibilities included General Science, Earth Science, Biology, Physics, and facilitation of online university courses
- Implemented Inquiry Based Science Instruction program
- Advisor for Student Government
- Coach for elementary school First Lego League Robotics team.

**High School Science Teacher (August 2003 – June 2004)**

Senior High Freshman Academy, Billings Public School District  
Billings, MT

- Teaching responsibilities included Earth Science and Honors Biology.
- Lead District Earth Science Summative Assessment Revision Team.

**Albert Einstein Distinguished Education Fellow (August 2002 – July 2003)**

United States Department of Energy  
Washington, DC

- Responsibilities include curriculum development, designing and facilitating professional development opportunities, and budget planning and oversight for various programs.
- Development of National Fuel Cell Car Challenge.
- Design and implementation of Department of Energy presence at National Educators Conferences.
- Editor for Office of Science Program Guidebook and 2004 Journal of Undergraduate Research.
- Evaluation of educational programs at Department of Energy National Laboratories

**High School Science Teacher (August 1993 – June 2002)**

Senior High, Billings Public School District  
Billings, MT

- Teaching responsibilities included Earth Science, Biology, Honors Biology, Physics, Honors Physics, and Honors Physics II.
- Implemented Inquiry and Technology Based Science Instruction program for Physics.
- Class Advisor.
- Coach for Science Bowl team.
- Designed and Instituted High School Student Science Outreach to Elementary Schools.
- Co-director Family Science Festival.
- Science Department Chair responsible for scheduling classes and managing departmental budget.

**Middle School Science Teacher (August 1991 – August 1993)**

Riverside Middle School, Billings Public School District  
Billings, MT

- Teaching responsibilities included Physical Science and Life Science.
- Implemented Microscale Chemistry and Thematic Based Science Instruction program.
- Awarded Mini Grants to develop “Science Discovery Centers” and to create Peer Mentoring Outreach Program.

**Middle School Science Teacher (August, 1990 – June 1991)**

Kauai High and Intermediate School, Hawaii Public Schools  
Lihue, HI

- Teaching responsibilities included Health, Earth Science and Life Science.
- Awarded Mini Grants to develop “Science Discovery Centers”.
- Member Environmental Education Cadre.
- Drug and Substance Abuse Team Leader.

EDUCATIONAL SUPERVISION

**Practicum/ Student Teacher Supervision (August 2010 – Present)**

Responsibilities included site visits and monitoring of six pre-service teachers and providing individual mentoring through Face-to-Face interaction. Provided guidance regarding curriculum development and classroom management techniques.

**Moodle Pilot Facilitator (September 2007 – August 2008)**

Design and facilitation and monitoring of electronic seminar for doctoral students enrolled in dissertation credit course. Montana State University, Bozeman, MT

- Responsibilities include design, facilitation, and daily monitoring of online discourse between doctoral students and graduate faculty.

**Montana Science Coordinator (June 2004 –June 2007)**

National Science Foundation eMSS (electronic Mentoring for Student Success) Program  
Montana State University, Bozeman, MT

- Responsibilities include designing recruitment materials, recruitment and selection of mentor and mentee participants, daily monitoring of online discourse, Design and development of online Inquiry Curriculum (Effective Labs). Coordination of Face-to-Face activities and facilitation of discussions. Management of day-to-day activities and liaison with Principal Investigator and National Scale-up team.

**Mentor Teacher (1995 – 1998, 2003 - 2004)**

National Science Foundation STEP (Systemic Teacher Education Preparation) Program 1995-1998. National Science Foundation eMSS (electronic Mentoring for Student Success) Program  
Montana State University, Bozeman, MT

- Responsibilities included daily monitoring of online discourse of early career science teachers, individual mentoring via electronic media and Face-to-Face interaction.
- Facilitated content specific discussions.

**Science Department Chair (August 1996 – June 2001)**

Senior High, Billings Public Schools  
Billings, MT

- Responsibilities included scheduling classes and managing departmental budget for twelve science teachers, Planning Pupil Related Instruction (PIR) Day activities including technology integration, content specific professional development, and safety training.
- Participation in monthly faculty council meetings and coordination of school policy within science department. Participation in district science chair meetings and facilitation of district policy within science department.

**Teacher on Special Assignment (August 1998 – June 1999)**

Science Curriculum Specialist, Billings Public Schools  
Billings, MT

- Responsibilities included monitoring and inventory of school chemical supplies. Acted as science safety compliance officer. Worked with Maxcom to bring all school up to federal code. Initiated installation of Ground Fault Interrupt (GFI) in all science teaching labs.
- Coordinated and facilitated Science Process Skills and Inquiry Curriculum development group. Lead development of ABC (All Billings Curriculum) Inquiry K-12 guidelines.

**Supervisory Teacher (1991 – 1998, 2001, 2003)**

Student Teachers: 1995, 1997, 1998 Montana State University, Bozeman, MT  
Student Teacher: 2003 Montana State University-Billings, Billings, MT  
Sophomore and Junior science methods practicum students: 1991 – 1996, 2001  
Montana State University-Billings, Billings, MT

- Responsibilities included daily monitoring of pre-service teachers and individual mentoring through Face-to-Face interaction. Provided guidance regarding curriculum development and classroom management techniques.

## RESEARCH ACTIVITIES & INTERESTS

### **Dissertation**

Science Teaching Time and Practice, and Factors Influencing Elementary Teachers' Decisions about Both in Rural and Reservation Schools.

### **Current Projects**

Current projects include: Sea Urchins for Reefs Future (SURF) Project: Climate Stewardship and content specific Professional Development for K-6 teachers at Hale Kula Elementary in Central Oahu. Teachers and students are engaged in Citizen Science as they raise collector urchins for release into Kaneohe Bay to remediate invasive algae infestation. Oceanographic and Climatological Research and transfer to student learning, designing effective professional development for teachers of Hawaiian Students, the use of probeware, robotics and engineering design in the science classroom, increasing teacher content and pedagogical content knowledge in mathematics and science via Face-to-Face, distance learning, and online mentoring, coordination of regional Science Olympiad and, facilitation of online Earth System Science courses, and research on the changing mental models of female students in regards to science.

### **Research Interests**

Relationships between professional development and student achievement, pre-service preparation of science teachers, the integration of technology into the teaching and learning of science, undergraduate outreach programs, community based education, and effective professional development for science teachers, informal learning, and teachers as researcher.

## PUBLICATIONS

- Jones, R. (2012). Investigating the Mercalli Intensity Scale through “Lived Experience”, *Science Scope*, In Press, NSTA Press, Arlington, VA.
- Jones, R. (2011). Telescopes-for-Teachers T4T: Galileoscopes in Montana, *The Earth Scientist*, 27(3), pp 17-19. NESTA, Liverpool, NY.
- Bangert, A. & Jones, R. 2010. “Two Montana Teachers at Sea”, *The Earth Scientist*. 26 (1), NESTA, Liverpool, NY.
- Jones, R., & Swanson, E. 2009. “Understanding Elementary Teachers’ Use of Science Teaching Time: Lessons from the Big Sky Science Partnership”, *Journal of Mathematics and Science: Collaborative Explorations*. 11. Virginia Mathematics and Science Coalition, Richmond, VA.  
[http://www.math.vcu.edu/g1/journal/Journal\\_11/10\\_Jones\\_Swanson.pdf](http://www.math.vcu.edu/g1/journal/Journal_11/10_Jones_Swanson.pdf)
- Jones, R., & Bangert, A. 2006. “The CSI Effect: Changing the Face of Science”, *Science Scope*. 30 (3), NSTA Press, Arlington, VA.
- Walden, V., Ellison, M., Brandt, R., Town, M., Hudson, S., & Jones, R. 2005. “Properties of Super-Cooled Water Clouds over South Pole”. In the proceedings of the 8<sup>th</sup> Conference on Polar Meteorology and Oceanography.  
<http://ams.confex.com/ams/pdfpapers/87694.pdf>
- Clark, T. & Jones, R. 2004. “Fuel-Cell Drivers Wanted”. *Science Scope*. 27 (9), NSTA Press, Arlington, VA.

- Journal of Undergraduate Research. US Department of Energy Office of Science. Managing Editor. V. 3, 2003.  
[http://www.scied.science.doe.gov/scied/JUR\\_v3/Default.htm](http://www.scied.science.doe.gov/scied/JUR_v3/Default.htm)
- Office of Science Program Guidebook, US Department of Energy Office of Science. Managing Editor. V. 2, 2003.
- Walden, V., Warren, S., Spinhirne, J., Heymsfield, A., Brandt, R., Rowe, P., Town, S., Hudson, S., & Jones, R. 2001. "The South Pole Atmospheric Radiation and Cloud Lidar Experiment (SPARCLE). In the proceedings of the 6<sup>th</sup> Conference on Polar Meteorology and Oceanography. <http://ams.confex.com/ams/pdfpapers/19970.pdf>
- Jones, R. 1997. Legends of the Fault, MSM the Joint Journal of MSTA/MCTM, 1(1).
- Jones, R. 1996. Curriculum Compacting Project, Montana AGATE, Winter Newsletter.
- Jones, R. 1995. CD - Roms For Science, MSTA Newsletter, 12 (3).
- Jones, R. 1995. CD - Roms For Science, MCCE News, 8 (4).

#### EXTENSION COURSES AND INVITED PRESENTATIONS

- Presenter "Climate Science and Earth Science through the Curriculum" and "Investigating the Mercalli Intensity Scale through "Lived Experience" at the NSTA Regional Conference, Phoenix, AZ (December 6-8, 2012)
- Presenter "El Nino/La Nina and global climate" and Grant Writing Dos and Don't at the HaSTA Annual Conference (September 08, 2012)
- Presenter "Elementary Sea Urchin Project: Building Reef Health One Classroom at a Time" NOAA Education Showcase, Bishop Museum, Honolulu, HI (June 12, 2012)
- Presenter "Elementary Science Methods Students Perception of a Scientist at Work: Product of the CSI Effect?" Oceanic Popular Culture Association Conference (May 26, 2012)
- Presenter "Case Study: NOAA Climate Stewards on Oahu" Climate Change Here and Now: Impacts on Pacific Islands, Coastlines, and Ocean, Waikiki Aquarium (April 28, 2012)
- Presenter "The Face of Science Through the Eyes of Future Teachers" International Conference on Education (January 5, 2012)
- Presenter "Climate Science and Earth Science through the Curriculum" NSTA Regional Conference, Seattle, WA (December 7-10, 2011)
- Presenter "El Nino/La Nina and global climate" at the HaSTA Annual Conference (October 22, 2011)
- Presenter "Giving Creativity a Change: Moving Beyond the Term Paper" Oceanic Popular Culture Association Conference (May 28, 2011)
- Presenter "I Feel the Earth Move Under My Feet: Understanding the Mercalli Scale through 'Lived' Experience" NSTA National Conference, San Francisco, CA (March 11-15, 2011)
- Online Course Facilitator, Local Implementation Team (LIT) Leader and online mentor for three American Meteorology Society on-line college courses for K-14 teachers offered through State University of New York – Brockport: Real Time Weather, 3 semester graduate credits; Water in the Earth System, 3 semester graduate credits: Real Time Ocean Studies, 3 semester graduate credits: Real Time Climate Studies, 3 semester graduate credits. (Fall 2000 –Present).
- Alternative Energy in the Classroom, North Carolina Center for the Advancement of Teaching (NCCAT), Cullowhee, NC, (Summer 2004).
- Adjunct Professor, Montana State University, Bozeman, MT, Math and Science Integration for Teachers, 1 semester graduate credit (Summer 1996, 1997).

- Adjunct Professor, University of Wyoming, Laramie, WY, Processes of Earth Science for Elementary Teachers, 2 semester graduate credits (Summer 1989-1995). Field Oriented Activities in Environmental Science for Teachers, 2 semester graduate credits (Summer 1990 – 1995).
- KTVQ-2 “Science Guy”, weekly presentation of hands-on minds-on science on local CBS affiliate morning news program. (February 1997 – June 2002).
- Presenter, “Science in the Extreme with Robert Ballard”, Billings, MT. (October 1999).
- Presenter, “Science at the Bottom of the World”, Montana State University – Billings. (March 2003).
- Presenter, “Making Science ‘reel’”, 1994 American Fisheries Society Regional Conference, Billings, MT

### MAJOR WORKSHOPS

- Presenter, Climate Stewardship and Citizen Science in your Classroom. Sea Urchins in your classroom to restore Oahu’s reefs. (August 2012)
- Presenter for Title II Professional Development Workshops The Intersection of Multiple Literacies: English Language Arts, Science, and Technology (2011 – 2012)
- Presenter for Title II Professional Development Workshops: Literacy in the Content Areas: English, Math & Science (2010 – 2011)
- BSSP Science Content and Pedagogy Workshops (Summer 2007 – Spring 2010)
- Crow and Northern Cheyenne Science Inquiry Group (Fall 2004 – Spring 2007)
- Workshop presenter at Annual Meeting of the Rocky Mountain American Educational Research Association, Jackson Hole, WY. (2005, 2007, 2009, 2011)
- Workshop presenter at National Association Research in Science Teaching Conference, Dallas, TX. (2005)
- Workshop presenter at 8 NSTA Regional and National Conventions (1996 - 2011)
- Workshop presenter at Montana Education Conference (1992 – 2009)
- Workshop presenter at Virginia Association of Science Teachers Conference (2004)
- Wyoming Association of Science Teachers Conference (2003-2004)
- Idaho Association of Science Teachers Conference (2003)
- Workshop Presenter at NSTA Global Summit on Science, San Francisco, CA. (1996)
- Facilitator, CBL-TI82 Science/Math Integration Workshops, Lewistown, Big Timber, and Billings, MT (1996-1997)
- Workshop presenter, Science Extravaganza, Museum of the Rockies (1995 – 1998)
- Workshop presenter, Outreach and Enrichment programs at Billings Elementary Schools (1992 – Present)
- Trainer, Jason VII District Trainer for High School Educators (1996)
- Trainer, Metnet for STEP Early Career Participants (1995 -1996)
- Facilitator, 1994 Montana Science and Math Education Community Dialogues
- Workshop presenter, Montana Environmental Education Convention (1994, 1998)
- Presenter, AGATE Discovery Day, MSU - Billings (1993, 1995)

### OTHER PROFESSIONAL EXPERIENCES

- NOAA - Climate Stewards Program – Coordinating Sea Urchin for Reef Recovery Project with public schools and Hawaii Department of Natural Resources, (August 2010 – present)
- NOAA - Teacher at Sea Alumni - Global Climate Research, (January 2010)
- Member Montana Mentor Taskforce, Montana Office of Public Instruction (2005 – 2009)

- Member Clarks Fork Environmental Restoration Project education advisory board. (2005-2009)
- Member of the Board of Directors, Montana Learning Center at Canyon Ferry Lake. (2004 - 2010; Co-Chair 2006 - 2009), <http://www.montanalearning.org/index.html>
- Albert Einstein Distinguished Education Fellow – US Dept. of Energy (2002 - 2003), <http://www.trianglecoalition.org/ein.htm>
- National Board Certified Teacher - A. Y. A. Science (2000), <http://www.nbpts.org/>
- TEA - Teacher Experiencing Antarctica - Atmospheric Research South Pole Station, (2000), <http://www.metnet.mt.gov/Special/Antarctica/HTM/Antarctica.shtml>
- NOAA - Teacher at Sea - Global Climate Research, (1998 and 2010), [montanateachersatsea@blogspot.com](mailto:montanateachersatsea@blogspot.com)
- <http://www.metnet.mt.gov/Special/FOV7-001039B8/I0025E605.0/NOAAArk.pdf>
- Lead Developer, Engineering Challenge Program, Space Education Initiatives, De Pere, WI. (2005), <http://www.spaceed.org/home/projects.html>
- Consultant, Kids Inventing! A Handbook for Young Inventors, by Susan Casey, Jossey-Bass, (2005), [http://www.ideafinder.com/resource/books/featured\\_books/raa165.htm](http://www.ideafinder.com/resource/books/featured_books/raa165.htm)

### AWARDS AND GRANTS

- Title III Mini Grant: Classroom Seismograph, School Weather Station, and TASA Geology Interactive Software, \$3184.00 equipment grant (2012)
- UHWO B&R Committee Professional Development grant to present and attend National Science Teachers Regional Conference in Seattle, WA \$1101.21 (2011)
- CLTE Professional Development Grant to attend Hawaii Great Teacher Seminar, \$1200.00 (2011)
- Title III Mini Grant: Pasco Spark Science Probware System, \$23,364.30 equipment grant (2011)
- UHWO B&R Committee Professional Development grant to present and attend National Science Teachers National Conference in San Francisco, CA \$615.81 (2011)
- Title III Mini Grant: Flip Your Teaching, \$2052.44 equipment grant (2011)
- NOAA Climate Stewards Project Mini Grant, \$500.00 for seed funds (2011)
- KTVQ “One Class at a Time” \$250.00 Grant for NOAA Research Experience (2009)
- eInstruction Classroom Performance System, \$2100.00 equipment grant (2008)
- Billings Education Foundation \$1,000.00 grant for Hydrogen Fuel Cells (2008)
- Smarter Kids Foundation, \$750.00 equipment grant (2005)
- Center for Learning and Teaching in the West (CLTW) Fellowship. Fellowship includes tuition, books, laboratory fees, and research stipends up to \$50,000.00 (2002-2009)
- Albert Einstein Distinguished Education Fellow – US Dept. of Energy stipend \$50,000.00 (2002 - 2003)
- Shell Science Teaching Award – semi finalist (2002)
- Billings Public Schools Federal Programs, \$12,500 to send early career teachers to National Conventions (2000)
- Billings Public Schools Federal Programs \$1,200.00 grant for travel to NSTA National Convention (1999)
- Billings Clinic Research Division, \$70,000.00 equipment grant (1998)
- Billings Gazette Community Grant \$2000.00 for 1998 Family Science Festival
- Education Foundation \$1,000.00 for 1998 Family Science Festival
- Billings Gazette Community Grant \$2000.00 for 1997 Family Science Festival
- Billings Education Foundation \$1,000.00 for 1997 Family Science Festival
- US West/NEA Teacher Network Award and Laptop Computer, \$3,000.00 (1997)
- Award for Excellence in Teaching - Montana State University – Billings (1997)



- Montana Science Teachers Association Physics Teacher of the Year (1997)
- Tandy Technology Scholar Award, \$2,500.00 (1997)
- National Presidential Award for Excellence in Science Teaching, \$7,500.00 (1996)
- Montana Science Teachers Association Earth Science Teacher of the Year (1996)
- \$400.00 for Teachers to Attend the Montana Math and Science Leadership Conference (1996)

#### CIVIC INVOLVEMENT

- Team Member Leeward Regional Science Olympiad Team (2011 – Present)
- Participate in Community Outreach through presentations at Career Days, Nanakuli, Pearl City Palisades, and Pear Ridge Schools. (2011 - 2012)
- Judge Windward Regional Science Fair (2011)
- Judge Hanalani Science Fair (2011)
- Participant Project Aware Oahu Reef Cleaning Team (2011)
- **Regional Coordinator** National Middle School Science Bowl (2004 – 2010)
- Science Expo Advisory Board (1998 – 2010)  
[http://www.scied.science.doe.gov/nmsb/Regional\\_Sites/MT\\_and\\_WY.htm](http://www.scied.science.doe.gov/nmsb/Regional_Sites/MT_and_WY.htm)
- Conoco Citizens Advisory Council Member (1998 – 2002)
- KTVQ-2 “**Science Guy**”, weekly presentations on local CBS morning news, (1997 - 2002)
- Science Math Consortium Northwest Schools (SMCNWS) - Montana Advisory Board, (1996 – 2000)
- **Chairman**, Billings Family Science Festival (1997 – 1999)

#### TEACHING CERTIFICATION

- Hawaii Advanced 5-12 Science Teaching License AL004726, Issued 09/01/11 valid through 08/31/2015
- Montana, Class 1 Professional, Folio Number 56713, Broadfield Science 5-12, Earth Science (1991 – Present), renewed 01/11 valid through 06/30/2016
- National Board Certified Teacher, Adolescence and Young Adulthood/Science, Certificate Number 220006698 (11/2000 – 11/2010)

#### PROFESSIONAL ORGANIZATIONS

- Albert Einstein Fellows Alumni Association, Charter Member and Organizational Board (2011– present)
- University of Hawaii Professional Assembly (2010 – present)  
Attended NEA-RA for UHWO in Washington, DC (June-July 2012)
- Hawaii Science Teachers Association (1990 – 1991, 2010 – present)  
**University or Hawaii-West Oahu Division of Education Liaison** (2012 – present)
- National Earth Science Teachers Association (1993 – present)  
**Editor E-News and Board Member** (2011 – present)  
**North Central Regional Director** (2006 - 2011)
- National Science Teachers Association (1988 – present)  
**District XV Director** (2001 – 2004)
- Phi Delta Kappa, Yellowstone Valley Chapter (1994 – present)  
**Vice President**-Membership (1996-1998)
- Montana Science Teachers Association (1991 – present)  
**President** (2001-2003) Life Member

- Association Presidential Awardees Science Teaching (1997 – present)  
**District 8 Director** (2003 – 2009)
- Montana Association of Presidential Awardees (1997 – present)
- National Education Association (1988 – Present)
- Montana Education Association/Montana Federation of Teachers (1991 – Present)
- Phi Kappa Phi (1989 – present)
- Gamma Theta Upsilon (1989 – present)