

## Dave Ward's Professional and Public Service Activities

### Montana State University

#### College and University

MSU Leadership Conference lecture on grant writing, 3/99

Convener, Extremophile Symposium, Yellowstone National Park 125<sup>th</sup> Anniversary Symposium, Bozeman, MT, 5/98

Resource Person, joint MSU, Nat. Ctr. for Appropriate Technol. project on Biogas Technology Assessment, funded by Montana DNRC, Renewable Energy Alternatives Program

Resource Person, Montana Energy Resource and Conservation Institute, sponsored by Dept. of Energy, 1978, 1979

Participant in MSSE course on Thermal Biology, 7/03

#### Microbiology Dept.

Symposium convener and speaker, Am. Soc. Microbiol. branch meeting, 1988

Co-organizer and symposium convener, Am. Soc. Microbiol. branch meeting, 1981

#### Land Resources and Environmental Sciences Dept.

Curriculum Committee

Promotion and Tenure Committee

### Bozeman Community

#### Museum of the Rockies

Landforms: Life Forms exhibit, scientific advisor

Lecture to Museum of the Rockies docents, 9/96, 10/98, 10/99, 10/04

Exhibit design for vacated space in Landforms: Life Forms exhibit, 2004-?

Public lecture entitled "The History of Life on Earth (and Elsewhere?), presented as a part of a program entitled "Our Cosmic Connections, co-sponsored by the MSU Thermal Biology Inst. and the Montana Space Grant Consortium, 24 September 2004.

Sponsored undergraduate intern to develop a course in microbiology for elementary students (Molly Ward was the MOR project supervisor)

#### School Activities:

Montana (formerly Bridger) Outdoor Science School presentation (1999, 2000, 2001)

Lecture for Sacajawea Middle School at Museum of the Rockies (4/98)

Discussions with students from Monforton School, Morningstar School (12/95, 4/98)

Lectures at Bozeman high school (1994)

Enrichment classes for the Bozeman Public Schools Gifted and Talented Program, 1986, 1987

Bozeman Alternative High School lab visit, 2004

### Montana and Rocky Mountain Region

#### Yellowstone National Park:

Seasonal Ranger Education Program (invited lecturer and leader of field trips)--1983, 1985, 1988, 1990, 1998

Advisor to Yellowstone National Park on issues related to National Park/industry relationships

- Workshop meeting in Costa Rica, January 1996

Education and outreach activities concerning thermophilic microorganisms

- Old Faithful Visitor Education Center Scientific Advisory Board member, 2002-present
- NASA Astrobiology Inst. projects with YNP Division of Interpretation
  - Planning meetings 9/01, 02
  - Resources and Issues Manual
    - Developed Thermophiles chapter

- Raised funds for first ever color publication in 2004
  - Signage
    - Developed sign plan for microbiology/astrobiology wayside signs
    - Currently helping to develop 5-8 signs for boardwalks
- Thermal Biology Institute projects with YNP Division of Interpretation
  - ParKids program
    - Participant 2003, 2004
    - Sponsored development of extremophiles curriculum with YNP Div. of Interpretation, successfully piloted in Su 04 with ~80 junior-high kids
  - Camp Wildness
    - Sponsored development of extremophiles curriculum with YNP Division of Interpretation, successfully piloted in Su04 with ~20 Upward Bound high school kids
    - Participated in Su 2004 1 field day and 3 lab days to conduct research on molecular diversity
  - Electronic Field Trips
    - developed with YNP Division of Interpretation “Hot Colors: Windows into Hidden Worlds”, a ~50 screen tour of microbiology in 3 typical thermal environments in YNP targeted to junior high classes ([www.windowsintowonderland.org](http://www.windowsintowonderland.org))
- Participant “Zooming in to Hayden Valley” ([www.windowsintowonderland.org](http://www.windowsintowonderland.org))
- Participant on fieldtrip to interpret microbiology of Norris Geyser Basin, 2003
- Office of Interpretation workshop on the new Old Faithful Visitor Center
- Education/outreach workshop, October 1996
- Roundtable participant at Yellowstone Microbiology meeting, September 1995
- October 1994 meeting in Mammoth

Yellowstone Association: Yellowstone Institute course entitled “Yellowstone’s Charismatic Microorganisms”, 2002, 2003; participant in Yellowstone Institute summer courses on Yellowstone thermophilic microorganisms, 1998, 1999

Participant in Univ. So. Cal. Wrigley Institute/Agouon Inst. Geobiology 2003 fieldcourse, 6/2003.

World Foundation for Environment and Development, scientific advisor for projects related to education/outreach on thermophilic microorganisms and new paradigms in conservation in Yellowstone National Park (97-present)

- Video “Yellowstone Revealed” premiered for Yellowstone tourist sales, premiered 5/99
- Pamphlet for the Midway Geyser Basin (co-sponsored by Am. Soc. Microbiol.) (completed in summer 1999)
- White paper report on bioprospecting

Major Yellowstone-related media interactions:

- Interview for British Discovery Channel documentary about the Universe at the millennium’s end, 1999
- NPR radio spot on the origin of life for Rensselaer Polytechnic Inst., 1/99
- Swiss TV interview on Yellowstone thermophiles, 1999
- Arts and Education Cable Network’s The Bill Kurtis New Explorer’s program entitled “From Yellowstone to Mars” on thermophilic microorganisms in Yellowstone National Park, scientific advisor, 9/1997 (segment aired in spring 98)
- Discovery Channel program entitled “Three National Parks”, which includes a segment on Yellowstone’s thermophilic microorganisms, scientific advisor, 9/97 (segment aired spring 98)
- CNN Science News special on microbial diversity and bioprospecting in Yellowstone National Park, scientific advisor, 4/98 (segments aired on CNN in 8/98 and on CNN International in 9/98)
- ABC Science News segment on microbial diversity and bioprospecting in Yellowstone National Park, 5/98 (segment aired in summer 98)

- NHK Japanese Broadcasting Company, "This Miracle Planet", scientific advisor, 1985
- National Geographic Magazine, scientific advisor, 1985-86

Microcosmos Program (K-12 educator outreach program), field trip leader, summer 1994, 1995  
 Montana Academy of Science, Microbiology Section Vice President, 1980  
 Museum of Natural History, Salt Lake City program for encouraging kids from low-income homes in science, presentation at MSU, 2001

#### National/International

##### Grant Proposal Review

###### Panels

- NASA Astrobiology Science and Technology for Exploring Planets panel (Aug. 2002)
- NSF Biocomplexity Preproposal (Mar. 1999)
- NSF Life in Extreme Environments (LExEN) (June 1997)
- NSF Ecology Program (1990-95)

Ad Hoc grant proposal review for National Science Foundation, National Aeronautics and Space Administration, the Natural Environment Research Council, UK, Natural Sciences and Engineering Research Council of Canada, Wisconsin Sea Grant College Program, Netherlands Organization for Scientific Research

##### Manuscript review

###### Editorial Boards

- Environmental Microbiology 1998-present
- Advances in Microbial Ecology 1991-2000
- Applied and Environmental Microbiology 1981-1984
- Geobiology, 2003-present

Ad hoc review for Applied and Environmental Microbiology, Marine Chemistry, Marine Environmental Research, Chemical Geology, Science, Photosynthesis Research, Geochimica et Cosmochimica Acta, Archives of Microbiology, Proceedings National Academy of Sciences (USA), Astrobiology, Nature, Extremophiles

##### NASA

- Lunar and Planetary Institute Astrobiology Teacher's Workshop, July 2002
- Workshop on Life in Extreme Environments, March 2000
- Workshop entitled "Life: From local origins to global persistence", June 1998
- Mars Exobiology Strategy Document writing team, October 1994
- Workshop on Mars Exobiology Science Strategy, April 1994
- Planetary Protection Workshop, June 1991

##### Intl. Soc. Microbial Ecology

Co-organizer for a symposium on microbial community analysis for the Intl. Symp. Microbial Ecology, Sao Paulo, Brazil, August/September, 1995

##### American Society for Microbiology

Symposium co-convenor, annual meeting, June 1999

##### American Academy of Microbiology

- Workshop on "The Microbial World: Foundation of the Biosphere", Palm Coast, FL, January 1996 (participant/group discussion leader)
- Workshop on "The global genome question: microbes as the key to understanding evolution and ecology", Longboat Key, FL 11-13 October 2002

Participant in National Center for Ecological Analysis and Synthesis workshop on "Patterns in Microbial Diversity", Santa Barbara, CA, 20-23 March and 12-15 December 2003

NSF Frontiers in Integrative Biology Research workshop entitled "Do species matter in microbial communities", designed and hosted in conjunction with the Montana State University Thermal Biology Inst., Bozeman, MT, June 2004