

J. JUDSON WYNNE

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EDUCATION

- 2005-present Ph.D. (candidate; emphasis: cave extremophile ecology/ remote sensing of caves), Department of Biological Sciences, Northern Arizona University, Flagstaff
- 2003 M.S. (emphasis: wildlife ecology/ remote sensing), Environmental Science and Policy, Center for Environmental Sciences and Education, Northern Arizona University, Flagstaff
- 1998 Certificate in Ecotechnie (Distinction: Magna cum laude), UNESCO/ Cousteau European Postgraduate Programme of Ecotechnie, Department of Human Ecology, Vrije Universiteit Brussel, Belgium
- 1993 B.S., Major: Communications, Minor: Anthropology, Georgia Southern University, Statesboro

SELECT PUBLICATIONS

- Wynne, J.J. and M. Jhabvala. (*In prep.*). Evaluation of Terrestrial Cave Detection Techniques for Mars Orbiter Platforms and Rover Payload Concepts. *International Journal of Astrobiology*.
- Wynne, J.J., T.N. Titus, and G. Chong Diaz. (*In prep.*). Gaining Inference into Cave Thermal Dynamics using Thermography and Ground-based Temperature Measurements: A Case Study from the Atacama Desert, Chile. *Geophysical Research Letters*.
- Wynne, J.J., C.A. Drost, and K.D. Voyles (*In prep.*). Ecological Inventory of 24 Caves on Grand Canyon-Parashant National Monument, Arizona. *The Southwestern Naturalist*.
- Wynne, J.J., C.A. Drost, N.S. Cobb and J.R. Rihs. (*In Review*). Cave-dwelling Invertebrate Fauna of Grand Canyon National Park, Arizona. *Proceedings of the 8th Biennial Conference of Research on the Colorado Plateau*. University of Arizona Press.
- Boykin, K., C.A. Drost and J.J. Wynne. (*In Review*). A gap analysis of terrestrial vertebrate species of the Colorado Plateau: assessment from the Southwest Gap Analysis Project. *Proceedings of the 8th Biennial Conference of Research on the Colorado Plateau*. University of Arizona Press.
- Wynne, J.J. and W. Pleytez. 2005. Sensitive Ecological Areas and Species Inventory of Actun Chapat, Vaca Plateau, Belize. *Journal of Cave and Karst Studies* 67: 148-157. Download: <http://www.caves.org/pub/journal/PDF/V67/v67n3-Wynne.pdf>
- Jenness, J. and J.J. Wynne. 2004. Cohen's Kappa and Classification Table Derived Metrics: An ArcView 3x Extension for Accuracy Assessment of Spatially Explicit Models. USGS- Southwest Biological Science Center, Open-File Report OF 2005-1363, December 2005. 86pps. Download: http://sbsc.wr.usgs.gov/files/pdfs/ofr_2005-1363.pdf
- Wynne, J.J. 2003. Landscape-scale modeling of vegetation land cover and songbird habitat, Pinaleno Mountains, Arizona, unpublished M.S. thesis. Northern Arizona University, Flagstaff. Pps. 105. Download: http://www.jennessent.com/share/Wynne_thesis.pdf

SELECT PROFESSIONAL EXPERIENCE

- 2005-present Project Leader, Phase 1: Earth-Mars Terrestrial Cave Detection Program, U.S. Geological Survey-SBSC, Colorado Plateau Research Station, Flagstaff, AZ
- 2003-2005 SWReGAP Lead Vertebrate-Habitat Modeler (Arizona Project), U.S. Geological Survey-SBSC, Colorado Plateau Research Station, Flagstaff, AZ
- 2000-2003 Project Coordinator, U.S. Department of Agriculture Forest Service, Rocky Mountain Research Station, Flagstaff, AZ
- 1998-2000 Project Coordinator, U.S. Geological Survey-SBSC, Colorado Plateau Research Station, Flagstaff, AZ

MERITORIA

- 2007 Chair, Special Session on Southwestern Cave Research, 9th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ
- 2007 Instructor, NASA Spaceward Bound!, Mojave Desert, California
- 2006 Fellow National, The Explorers Club

- 2006 Marquis Who's Who in America
- 2006 Director at Large, Cave Conservation and Management Section, National Speleological Society
- 2006 Contributing Scientist, NASA Spaceward Bound!, Atacama Desert, Chile
- 2005 Chair, Special Session on Cave Resource Management, 8th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ
- 2005-present Assistant Curator, Colorado Plateau Museum of Arthropod Biodiversity, NAU, Flagstaff

OUTREACH

- 2007 NAU Department of Biological Sciences Seminar Series, Flagstaff, AZ. Presentation: Astrobiological Implications for Detecting Caves on Mars
- 2006 Needlewood Middle School, Brunswick, GA. Gave lecture to 6th graders on astrobiology, Mars and searching for life underground (students taught: 60).
- 2006 DeMiguel Elementary School, Flagstaff, AZ. Taught 6th graders about bat ecology and conservation (students taught: 26).
- 2006 The Mission Gallery and Coffee House, Grants, NM. Presentation: Astrobiology and the Search for Martian Cave Life (audience size: 10).
- 2006 Flagstaff Festival of Science Twilight Talk Series, AZ. Presentation: Astrobiology and the Search for Martian Cave Life (audience size: ~45).
- 2006 Flagstaff Cultural Partners Annual Fundraiser, AZ. 2006. Presentation: Cave-adaptation and cave-dwelling animals of Arizona and Belize (audience size: ~55).
- 2006 NAU Department of Biological Sciences Seminar Series, Flagstaff, AZ. Presentation: Sensitive Ecological Areas and Species Inventory of Actun Chapat, Vaca Plateau, Belize.
- 2006 USGS-Flagstaff Field Center Monthly Lecture Series. Presentation: Sensitive Ecological Areas and Species Inventory of Actun Chapat, Vaca Plateau, Belize (audience size: ~30).
- 2005 Three Rivers Regional Library Lecture Series, Brunswick, GA. 2005. Presentation: Bats and beasties of arid and tropical caves (audience size: ~20).
- 2005 USGS Open House Lecture Series, Flagstaff, AZ. Presentation: Caves Ecology of Actun Chapat, Belize.
- 2005 Flagstaff Festival of Science Lecture Series, AZ. Presentation: Cave-dwelling Fauna of Arizona and Belize.
- 2003-04 Flagstaff Festival of Science In-Classroom Lecture Series. Developed curricula and taught 1st through 10th graders regarding the importance of bats and caves (students taught: ~100).

RELEVANT RESEARCH EXPERIENCE

Principal Investigator. Phase 2: Earth-Mars Cave Detection Program. Project will be executed in collaboration with NASA-Ames, NASA-Goddard, USGS, Mammoth Caves International Center for Science and Learning, and New Mexico Tech. Caves at four Mars-analog sites across the globe will be investigated, a complete global Mars map of caves and cave-bearing geology will be developed, and payload concepts for a cave explorer robot will be developed and tested.

Contributing Scientist. NASA Spaceward Bound Expedition, Atacama Desert, Chile. Worked with a multidisciplinary team led by NASA-Ames researchers. My primary purpose of participating in this expedition was reconnaissance of caves and cave information related to the Atacama Desert. Four caves were investigated and contacts were established for Phase 2 of the Earth-Mars Cave Detection Program.

Project Leader/ Concept Developer. Ongoing. A Strategy to Identify Instrumentation and Mission Requirements for Finding Subterranean Areas to Investigate for Evidence of Martian Life – Pilot Study. Funded by NASA Exobiology program, this project will use a combination of ground-based measurements and remote sensing of terrestrial caves to develop a strategy to identify instrumentation and mission requirements to search for evidence of Martian cave life.

Principal Investigator. 2005. Baseline Ecological Inventories of Known Caves on the Grand Canyon-Parashant National Monument. We sampled 24 caves within this monument for biological resources, map all features, and identify caves for testing and refinement of rapid ecological inventory protocols of caves.

Co-Investigator. 2005. Wildlife Use of Select Caves on the Arizona Strip. Ten caves were surveyed on BLM-Arizona Strip District lands to obtain a baseline knowledge of wildlife use.

Principal Investigator. 2004. Cathedral Caves Speleological Park. Responsible for coordinating biological research activities at two privately owned caves in northern Arizona. Research to date includes conducting baseline biological inventory including trapping and collecting of invertebrates, and documentation of a seasonal Townsend's big-eared bat colony, tiger salamanders, and potentially a new species of troglobitic millipede.

Principal Investigator. 2001. An ecological inventory of Actun Chapat: A pilot study of Faunal Resources, west-central Belize. Department of Archaeology, Ministry of Tourism and the Environment, Belmopan, Belize, Central America. Conducted an inventory of invertebrates and vertebrates within Chapat cave. Bats were captured, invertebrates collected, and reptiles and amphibians identified.

SCIENTIFIC CONFERENCES AND SYMPOSIA

Co-author. National Speleological Society - Southwest Regional Technical Meeting, Socorro, NM. Boston, P.J., S. Dubowsky, J. S. Plante, J.J. Wynne, J. Thompson, and F. Prinz. Oral: The search for caves on other planets: new technologies from hot holes in the ground to hopping microbots.

Presenter. 2006 National Speleological Society Annual Convention, Bellingham Washington. Wynne, J.J. K.D. Voyles and C.A. Drost. Oral: Cave Ecological Inventory and Species Discoveries, Grand Canyon-Parashant National Monument, Arizona.

Presenter. 2006 National Speleological Society Annual Convention, Bellingham Washington. Wynne, J.J., M.G. Chapman, C.A. Drost, J.S. Kargel, J. Thompson, T.N. Titus, and R.S. Toomey, III. Oral: Cave Detection on Mars- Astrobiology and the Search for Life.

Presenter. 2006 National Speleological Society Annual Convention, Bellingham Washington. Wynne, J.J. and W. Pleytez. Oral: Species Inventory and Sensitive Ecological Areas of Actun Chapat Cave, Vaca Plateau, Belize.

Presenter. 2006 Natural Areas Conference, Flagstaff, AZ. Wynne, J.J. K.D. Voyles and C.A. Drost. Oral: Cave Ecological Inventory and Species Discoveries, Grand Canyon-Parashant National Monument, Arizona.

Presenter. 8th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ. 2005. Wynne, J. J., K. Voyles, C. Drost, B. Solvesky, M. Herder and J. Prather. Oral: Cave ecology of northwestern Arizona.

Presenter. 8th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ. 2005. Wynne, J.J. Oral: Cave Systems- A proposal for a regional ecological network on the Colorado Plateau.

Co-author. 8th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ. 2005. Prather, J.W., J.T. Briggler and J.J. Wynne. Oral: Caves as refugia for non-troglobitic organisms during periods of drought, implications for the southwest.

Co-author. 25th Annual ESRI International Conference, Software Fair, San Diego, CA. 2005. Jenness, J. and J.J. Wynne. Poster: Cohen's Kappa, classification tables and multi-criteria model selection process: an ArcView 3x extension to verify and select spatially explicit predictive models.

PROFESSIONAL SOCIETIES

2006-present The Mars Society
2005-present Western Bat Working Group
2005-present The Karst Conservancy
2004-present National Speleological Society
2004-present Arizona Bat Resource Group
1998-present Bat Conservation International