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EDUCATION

- 2005-present Ph.D. (student; emphasis: biodiversity and biogeography of cave-dwelling arthropods), 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

MANUSCRIPTS IN PREPARATION

- Voyles, K.D. and J.J. Wynne, *In Prep.*, General Cave Inventory of Known Caves on Grand Canyon-Parashant National Monument, Arizona. *USGS Open File Report*.
- Wynne, J.J., T.N. Titus, C.A. Drost, R.S. Toomey III and K. Peterson, *In Prep.*, Annual Thermal Amplitude Curves and Thermal Detection of Southwestern U.S. Caves, *Journal of Geophysical Research-Solid Earth*.
- Wynne, J.J., T.N. Titus, C.A. Drost, R.S. Toomey III and K. Peterson, *In Prep.*, Annual Thermal Amplitude Curves, Thermography and Long-term Datasets of Southwestern U.S. Caves, *USGS Open File Report*.

PUBLICATIONS

- Wynne, J.J., C.A. Drost, and K.D. Voyles, *In Review*. Ecology of Known Caves on Grand Canyon-Parashant National Monument, Arizona.
- Wynne, J.J., T.N. Titus, and G. Chong Diaz. *In Review*. Thermal Behavior and Possible Detection Techniques of Caves in the Atacama Desert, Chile. *Earth and Planetary Science Letters*.
- Cushing, G.E., T.N. Titus, **J.J. Wynne**, and P.R. Christensen. 2007. THEMIS Observes Possible Cave Skylights on Mars. *Geophysical Research Letters*, 34, L17201.
- Wynne, J.J., C.A. Drost, N.S. Cobb and J.R. Rihs. 2007. Cave-dwelling Invertebrate Fauna of Grand Canyon National Park, Arizona. *In Proceedings of the 8th Biennial Conference of Research on the Colorado Plateau* (C. van Riper and M. Sogge, Eds). University of Arizona Press, Tucson, pp. 235-246.
- Boykin, K., C.A. Drost and **J.J. Wynne**. 2007. A gap analysis of terrestrial vertebrate species of the Colorado Plateau: assessment from the Southwest Gap Analysis Project. *In Proceedings of the 8th Biennial Conference of Research on the Colorado Plateau* (C. van Riper and M. Sogge, Eds). University of Arizona Press, Tucson, pp. 235-246.
- 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.
- Jeness, J. and **J.J. Wynne**. 2005. 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.
- Wynne, J.J. 2003. Landscape-scale modeling of vegetation land cover and songbird habitat, Pinalenos Mountains, Arizona, unpublished M.S. thesis. Northern Arizona University, Flagstaff. Pps. 105.

PUBLISHED ABSTRACTS

- Wynne, J.J., T.N. Titus, C.A. Drost, R.S. Toomey III and K. Peterson (2008), Annual Thermal Amplitudes and Thermal Detection of Southwestern U.S. Caves: Additional Insights for Remote Sensing of Caves on Earth and Mars, Abstract #2459, LPSC XXXIX, Houston, TX.
- Halliday, W.R. and J.J. Wynne. 2008. Differentiating Lava Tube Skylights from Pit Craters: A Study of the Cave-Like Structures on Arsia Mons, Mars, Abstract # 133859, In 104th Cordilleran Section and 60th Rocky Mountain Section Joint Meeting, Geological Society of America, Las Vegas, NV, GSA Abstracts Vol. 40 (1).

- Voyles, K.D. and **J.J. Wynne**. 2007. Systematic Inventory and Survey of the Caves in Grand Canyon-Parsashant National Monument, 2006 NSS Convention Abstracts, *Journal of Cave and Karst Studies* 68: 167.
- Wynne, J.J., M.G. Chapman, C.A. Drost, J.S. Kargel, J. Thompson, T.N. Titus, and R.S. Toomey III (2007). Cave Detection on Mars, 2006 NSS Convention Abstracts, *Journal of Cave and Karst Studies* 68: 169.
- Cushing, G.E., T.N. Titus, **J.J. Wynne**, and P.R. Christensen. 2007. THEMIS Observes Possible Cave Skylights on Mars. Abstract #1371, LPSC XXXVIII, Houston, TX.
- Wynne, J.J., T.N. Titus, M.G. Chapman, G. Chong, C.A. Drost, J.S. Kargel, and R.S. Toomey III. 2007. Thermal behavior of Earth Caves: a Proxy for Gaining Inference into Martian Cave Detection. Abstract #2378, LPSC XXXVIII, Houston, TX.

*Most publications and published abstracts listed above may be downloaded via <http://www.caveexplorer.org/vitae.php>.

PROFESSIONAL EXPERIENCE

- 2007-present Principal Investigator/ Cave Research Scientist, Merriam-Powell Center for Environmental Research, NAU, Flagstaff
- 2005-present Cave Research Scientist, U.S. Geological Survey, Southwest Biological Science Center, Colorado Plateau Research Station, Flagstaff, AZ
- 2007 Instructor, Environmental Ecology (ENV 326), Center for Environmental Science and Education, Northern Arizona University, Flagstaff
- 2005-2006 Project Leader, Phase 1: Earth-Mars Terrestrial Cave Detection Program, U.S. Geological Survey, Southwest Biological Science Center, 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/ Biological Technician, U.S. Geological Survey-SBSC, Colorado Plateau Research Station, Flagstaff, AZ

MERITORIA

- 2007 Instructor, Cave Biological Inventory, NPS/BLM Cave and Karst Resources Management Training Course, Las Vegas, NV
- 2007 Chair, Special Session Cave Research in the Western U.S., 9th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ
- 2007-08 Marquis Who's Who in America
- 2007 Instructor, NASA Spaceward Bound!, Mojave Desert, California
- 2006 Fellow National, The Explorers Club
- 2006-present 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 Associate Curator, Colorado Plateau Museum of Arthropod Biodiversity, NAU, Flagstaff

OUTREACH

- 2008 Lowell Observatory, Flagstaff, AZ. Presentation: Thermal Detection of Caves on Earth and Cave-Like Structures on Mars (*February 2007*).
- 2007 Three Rivers Regional Library Lecture Series, Brunswick, GA. Presentation: Thermal Detection of Caves on Earth and Cave-Like Structures on Mars (audience: 25).
- 2007 Outreach Coordinator, USGS-Colorado Plateau Research Station, Science in the Park, Flagstaff Festival of Science (attendees: ~100; inclement weather resulted in low community turnout).
- 2007 DeMiguel Elementary School, Flagstaff, AZ. Gave presentation to entire six grade on cave detection in the thermal infrared and the search for Martian cave life (students: 60).
- 2007 NAU Department of Biological Sciences Seminar Series, Flagstaff, AZ. Presentation: Astrobiological Implications for Detecting Caves on Mars.

- 2007 Lowell Observatory, Flagstaff, AZ. Presentation: If there's life, it's underground! The search for caves on Mars (audience: 60).
- 2007 NAU Department of Biological Sciences, NAU, Guest lecturer for Biology 101 Classes. Presentation: Cave invertebrates of Arizona and Belize (students: 40).
- 2006 Needlewood Middle School, Brunswick, GA. Gave lecture to 6th graders on astrobiology, Mars and searching for life underground (students: 60).
- 2006 DeMiguel Elementary School, Flagstaff, AZ. Taught 6th graders about bat ecology and conservation (students: 26).
- 2006 The Mission Gallery and Coffee House, Grants, NM. Presentation: Astrobiology and the Search for Martian Cave Life (audience: 10).
- 2006 Flagstaff Festival of Science Twilight Talk Series, AZ. Presentation: Astrobiology and the Search for Martian Cave Life (audience: ~45).
- 2006 Flagstaff Cultural Partners Annual Fundraiser, AZ. Presentation: Cave-adaptation and cave-dwelling animals of Arizona and Belize (audience: ~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: ~30).
- 2005 Three Rivers Regional Library Lecture Series, Brunswick, GA. Presentation: Bats and beasties of arid and tropical caves (audience: ~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: ~100).

RESEARCH EXPERIENCE

Project Leader (2008-11; Funding Pending). Phase 2: Earth-Mars Cave Detection Program. Project will be executed and administered through NASA-Ames/ SETI in conjunction with NASA-Goddard, USGS and University of Tennessee-Knoxville. Caves at two Mars-analog sites will be investigated (Atacama Desert, Chile and Mojave Desert, CA) and several areas on the Martian surface will be evaluated for caves and cave-bearing geology.

Instructor/ Contributing Scientist (2008). NASA Spaceward Bound Expedition, Mojave Desert, California. I will be working with a multidisciplinary team led by NASA-Ames researchers. My primary purpose of this expedition was to assist in teaching K-12 science teachers how scientists search for life on other planets. In particular, we will be collecting ground-based thermal images of caves over a 24 hour period, and testing robotic technologies for cave exploration.

Principal Investigator (2007-08). Ecological Inventories of Caves on Grand Canyon-Parashant and El Malpais National Monuments. Responsibilities include field sampling for arthropods, bats and other wildlife use at all caves studied, analyzing data, developing models of cave biodiversity and biogeography, as well as drafting and submitting reports and manuscripts for publication.

Project Leader/ Concept Developer (2005-08). 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.

Instructor/ Contributing Scientist (2007). NASA Spaceward Bound Expedition, Mojave Desert, California. Worked with a multidisciplinary team led by NASA-Ames researchers. My primary purpose of this expedition was to assist in teaching K-12 science teachers how scientists search for life on other planets. In particular, we collected a combination of ground-based temperature data and thermal images. We also used a hot air balloon platform in a predictive capacity to search the landscape for cave entrances.

Contributing Scientist (2006). 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.

Co-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-Principal 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-present). Cathedral Caves Speleological Preserve. 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 troglotic 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.

PROFESSIONAL PRESENTATIONS

Co-Author, 59th Annual Astronautical Congress, Glasgow, Scotland. Allner, M.M., C.P. McKay, L.K. Coe, J. Rask, V.Y. Rygalov, J. Paradise, and **J.J. Wynne**. NASA's Explorer School and Spaceward Bound! Programs: Engaging, Educating and Inspiring Students, Parents and Communities to Support International Space Initiatives. 2008.

Co-author. 104th Cordilleran Section and 60th Rocky Mountain Section Joint Meeting, Geological Society of America, Las Vegas, NV. Halliday, W.R. and **J.J. Wynne**. Differentiating Lava Tube Skylights from Pit Craters: A Study of the Cave-like Structures on Arsia Mons, Mars. 2008.

Co-author. Astrobiology Science Conference 2008, SETI Institute, Santa Clara, CA. Azúa-Bustos, A., C. Gonzáles, R. Vicuña, **J.J. Wynne** and C.P. McKay. Possible Cave-limited Cyanobacteria from the Atacama Desert, Chile. 2008.

Co-author, Space Explorers Educators Conference, NASA-Johnson Space Center, Houston TX. D.J. Loewen, D. Wray and **J.J. Wynne**. To Live and Work on Mars. 2008.

Presenter. 9th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ. Wynne, J.J. Regional Cave All Taxa Biological Inventory. 2007 (*Invited Paper*).

Presenter. 9th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ. Wynne, J. J. A Comparison of cave dwelling invertebrate communities from the North Rim and Interior Grand Canyon. 2007.

Presenter. 9th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ. Wynne, J.J., G.E. Cushing, T.N. Titus, C.A. Drost, R.S. Toomey III, M. Jhabvala, P.J. Boston, K. Peterson and R. Harter. Thermal Behavior of Southwestern U.S. Caves and Pit Craters on Arsia Mons, Mars. 2007.

Presenter. 10th Annual Mars Society Conference, Los Angeles, CA. Wynne, J.J., G.E. Cushing, T.N. Titus, M.G. Chapman, C.A. Drost, R.S. Toomey III, M.D. Jhabvala, P.J. Boston, G. Chong Diaz, K. Peterson, and R. Harter. Thermal Behavior of Earth Caves and Pit Craters on Arsia Mons, Mars. 2007.

Presenter. National Speleological Society Convention, Marengo, IN. Wynne, J.J. N.A. Cabrol, P.J. Boston, G.E. Cushing, T.N. Titus, C.A. Drost, R.S. Toomey III and R. Harter. Mars Analogue Sites and Their Importance in the Search for Caves on Mars. 2007 (*Invited Paper*).

Presenter. National Speleological Society Convention, Marengo, IN. Wynne, J.J., G.E. Cushing, T.N. Titus, M.G. Chapman, C.A. Drost, R.S. Toomey III, M.D. Jhabvala, P.J. Boston, G. Chong Diaz, K. Peterson, J.E. Moresch, J. Thompson and R. Harter. Thermal Behavior of Earth Caves and Possible Cave-like Structures on Mars. 2007 (*Invited Paper*).

Presenter. 38th Annual Lunar Planetary and Science Conference, League City, TX. Wynne, J.J., T.N. Titus, M.G. Chapman, G. Chong, C.A. Drost, J.S. Kargel, and R.S. Toomey III. Poster: Thermal behavior of Earth Caves: a Proxy for Gaining Inference into Martian Cave Detection. 2007.

- Co-author. 38th Annual Lunar Planetary and Science Conference, League City, TX. Cushing, G.E., T.N. Titus, **J.J. Wynne**, P.R. Christensen. Poster: THEMIS Observes Possible Cave Skylights on Mars. 2007.
- 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. 2006.
- 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 WA. 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 WA. 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 (*Invited Paper*).
- 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