

J. Judson Wynne, Ph.D.

Assistant Research Professor
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Cave Ecology Lab: <https://nau.edu/biological-sciences/cave-ecology-laboratory/>

Professional: <http://www.jutwynne.com>

Qualified by: Nearly 20 years of experience developing, funding and executing research projects on three continents, maintaining an active lecturing schedule, and providing tractable recommendations to further both conservation of sensitive resources and planetary caves studies. Skills include statistical analysis, experimental design, community ecology, cave biology, imperiled species assessments, remote sensing, GIS, expedition planning, and high angle rope work.

I. BACKGROUND & ACCOMPLISHMENTS

Summary

- ***Statistical Analysis:*** >10 years of experience using R and other statistics programs.
- ***Grant Writing:*** More than two million in research funding secured for novel projects in ecology and planetary science since 2005.
- ***Published works:*** 32 peer-reviewed papers (plus 3 accepted book chapters) and over 50 other publications including published abstracts, white papers, technical reports, and popular science articles.
- ***Editorial & Peer Review:*** Associate editor, *Ambient Science*; Editor, *Cave Ecology: Drivers of Diversity and Diversification* (to be published early-2021). Peer review: *Bishop Museum Occasional Papers*, *Entomologia Experimentalis et Applicata*, *International Journal of Speleology*, *Journal of Cave and Karst Studies*, *Journal of Natural History*, *PeerJ*, *PLoS One*, *Scientific Reports*, *Subterranean Biology*, *Vadose Zone*, *Advances in Space Research*, *Engineering Geology*, and *Planetary and Space Science*.
- ***Academic Services:*** Reviewer on Exploration Fund Grants (for graduate students and post-docs), The Explorers Club (2014–present); Hooper and Urdea Undergraduate Research Awards, Northern Arizona University (NAU; 2020); John Prather Memorial Scholarship in Conservation Biology, NAU (2010–2018).
- ***Foreign Languages:*** Spanish (professional working proficiency); French (limited working proficiency); Mandarin (very limited proficiency).

Professional Preparation

Ph.D. (2014), Biology (emphasis ecology), Northern Arizona University (NAU)

Title: *On Sampling, Habitat, and Relict Species of Cave-dwelling Arthropods of the American Southwest and Easter Island*

M.S. (2004), Environmental Science & Policy (emphasis wildlife ecology/ remote sensing), NAU

Title: *Landscape-scale Modeling of Vegetation Land Cover and Songbird Habitat, Pinaleños Mountains, Arizona*

Certificate in Ecotechnie (1998), UNESCO-Cousteau European Programme of Ecotechnie, Vrije Universiteit Brussel, Belgium

Professional Experience (since 2008)

2019-Present Interim Division Curator, Colorado Plateau Museum of Arthropod Biodiversity, Northern Arizona University (NAU), Flagstaff

2014-Present Assistant Research Professor, Department of Biological Sciences, NAU, Flagstaff, AZ

- 2011-Present Research Ecologist, Merriam-Powell Center for Environmental Research, NAU, Flagstaff, AZ
- 2014-2017 Research Scientist, The SETI Institute, Carl Sagan Center, Mountain View, CA
- 2008-2011 Research Ecologist, Colorado Plateau Research Station, NAU, Flagstaff, AZ
- 2008-2011 Research Associate, The SETI Institute, Carl Sagan Center, Mountain View, CA

Appointments, Awards, & Fellowships

- 2018 Fellow, Royal Canadian Geographical Society
- 2017 Fellow Finalist, AAAS Science & Technology Policy, Washington D.C.
- 2016 Fulbright Visiting Scholar, Comisión de Fulbright, Chile. Project: Research & Conservation of Endemic Insects of Easter Island
- 2015 Fellow, Planetary Sciences Summer School, NASA, Jet Propulsion Laboratory
- 2013 Elected Member, Cave Research Foundation
- 2012 Elected Member, Sigma Xi
- 2011 Research & Creative Award, "Most Promising Graduate Student Researcher," Northern Arizona University
- 2009 Fellow, Royal Geographical Society
- 2007 Awardee, Theodore Roosevelt Memorial Fund, American Museum of Natural History
- 2006 Fellow, The Explorers Club

Publications (^oundergraduate student author)

Peer-Reviewed

30. Mammola, S., [...], **J.J. Wynne** & 30 others. 2020. Fundamental research questions in subterranean ecology. *Biological Reviews*. DOI: 10.1111/brv.12642.
29. Hershauer, S.^o, S.Y. Pakarati, & **J.J. Wynne**. 2020. Notes on the arthropod fauna of Salas y Gómez Island, Chile. *Revista Chilena de Historia Natural* 93: 1–6.
28. Feng, Z., **J.J. Wynne**, F. Zhang. 2020. Four new hypogean pseudoscorpions (Pseudoscorpiones, Neobisiidae) from Guizhou, China. *Subterranean Biology* 34: 61–98.
27. Feng, Z., **J.J. Wynne**, F. Zhang. 2019. Two new subterranean-adapted pseudoscorpions (Pseudoscorpiones: Neobisiidae) from Beijing, China. *Zootaxa* 4661: 145–160.
26. Liu, W., **J.J. Wynne**. 2019. Cave millipede diversity with descriptions of six new species from Guangxi, China. *Subterranean Biology* 30: 57–94.
25. Mammola, S., [...], **J.J. Wynne** & 19 others. 2019. Scientists' warning on the conservation of subterranean ecosystems. *BioScience* 69: 641–650. DOI: 10.1093/biosci/biz064.
24. Wynne, J.J., J.R. Boyero Gallardo, E. Pardo Igúzquiza, S. Hershauer^o, O. Tejedor Huerta, R. Ferrer Martín, J. Cuenca Rodriguez, M. París. 2019. La biota de las cuevas del Parque Natural de la Sierra de las Nieves, Andalucía, con recomendaciones para futuras investigaciones y gestión. *Andalucía Subterránea* 31: 30–50.
23. Wynne, J.J., F.G. Howarth, S. Sommer, B.G. Dickson. 2019. Fifty years of cave arthropod sampling: techniques and best practices. *International Journal of Speleology* 48: 33–48. DOI: 10.5038/1827-806X.48.1.2231.
22. Gao, Z., **J.J. Wynne**, F. Zhang. 2018. Two new species of cave-adapted pseudoscorpions (Pseudoscorpiones, Neobisiidae, Chthoniidae) from Guangxi, China. *Journal of Arachnology* 46: 345–354.
21. Wynne, J.J., S. Sommer, F.G. Howarth, B.G. Dickson, & K.D. Voyles. 2018. Capturing arthropod diversity in complex cave systems. *Diversity and Distributions* 24: 1478–1491. DOI: 10.1111/ddi.12772.
20. Bernard, E.C., **J.J. Wynne**. 2017. *Disparrhopalites naasaveqw* n. sp. from caves on Wupatki National Monument, Arizona, and synonymy of *Dietersminthurus* Palacios-Vargas, Cuéllar & Vázquez, 1998 with *Disparrhopalites* Stach, 1956 (Collembola: Sminthuridae). *Zootaxa* 4319: 77–90.
19. Cotoras*, D.D., **J.J. Wynne***, L. Flores, C. Villagra. 2017. The spiders of Rapa Nui revisited. *Bishop Museum Occasional Papers* 120: 1–17 (*contributed equally).

18. Wynne, J.J. 2017. White-nose syndrome decontamination procedures for backcountry subterranean projects. *Park Science* 33: 16–28.
17. MacKenzie, S., [...], **J.J. Wynne**, & 19 others. 2016. THEO Mission Concept: Testing the Habitability of Enceladus's Ocean. *Advances in Space Research* 58: 1117–1137.
16. Wynne, J.J., W.A. Shear. 2016. A new millipede (*Austrotyla awishashola*, n. sp., Diplopoda, Chordeumatida, Conotylidae) from New Mexico, USA, and the importance of cave moss gardens as refugial habitats. *Zootaxa* 4084: 285–292.
15. Taiti, S., **J.J. Wynne**. 2015. The terrestrial Isopoda (Crustacea, Oniscidea) of Rapa Nui (Easter Island), with descriptions of two new species. *ZooKeys* 515: 27–49.
14. Bernard, E.C, F.N. Soto-Adames, **J.J. Wynne**. 2015. Collembola of Rapa Nui (Easter Island) with descriptions of five endemic cave-restricted species. *Zootaxa* 3949: 239–267.
13. Harvey, M.S., **J.J. Wynne**. 2014. Troglomorphic Pseudoscorpions (Arachnida: Pseudoscorpiones) of northern Arizona, with descriptions of two new short-range endemic species. *Journal of Arachnology* 42: 205–219.
12. Wynne, J.J., E.C. Bernard, F.G. Howarth, S. Sommer, F.N. Soto-Adames, S. Taiti, E.L. Mockford, M. Horrocks, L. Pakarati, V. Pakarati-Hotus. 2014. Disturbance relicts in a rapidly changing world: the Rapa Nui (Easter Island) factor. *BioScience* 64: 711–718.
11. Wynne, J.J., K.D. Voyles. 2014. Cave-dwelling arthropods and vertebrates of North Rim Grand Canyon, with notes on ecology and management. *Western North American Naturalist* 74: 1–17.
10. Peck, S.B., **J.J. Wynne**. 2013. *Ptomaphagus parashant* new species (Coleoptera: Leiodidae: Cholevinae: Ptomaphagini): the most troglomorphic cholevine beetle known from Western North America. *The Coleopterists Bulletin* 67: 309–317.
9. Wynne, J.J. 2013. Inventory, conservation and management of lava tube caves at El Malpais National Monument, New Mexico. *Park Science* 30: 45–55, +appendix.
8. Mockford, E.L., **J.J. Wynne**. 2013. Genus *Cyptophania* Banks (Psocodea: Lepidopsocidae): Unique features, augmented description of the generotype, and descriptions of three new species. *Zootaxa* 3702: 437–449.
7. Allner, M., C. McKay, L. Coe, J. Rask, J. Paradise, **J.J. Wynne**. 2010. NASA's explorer school and Spaceward Bound programs: Insights into two education programs designed to heighten public support for space science initiatives. *Acta Astronautica* 66: 1280–1284.
6. Shear, W.A., S.J. Taylor, **J.J. Wynne**, J.K. Krejca. 2009. Cave millipeds of the United States. VIII. New genera and species of polydesmidan millipeds from caves in the southwestern United States (Diplopoda, Polydesmida, Polydesmidae and Macrosternodesmidae). *Zootaxa* 2151: 47–65.
5. Azua-Bustos, A., C. Gonzalez, R. Mancilla, L. Salas, R. Palma, **J.J. Wynne**, C.P. McKay. 2009. Ancient photosynthetic eukaryote biofilms in an Atacama Desert coastal cave. *Microbial Ecology* 58: 485–496.
4. Wynne, J.J., T.N. Titus, G. Chong Diaz. 2008. On developing thermal cave detection techniques for Earth, the Moon and Mars. *Earth and Planetary Science Letters* 272: 240–250.
3. Cushing, G.E., T.N. Titus, **J.J. Wynne**, P.R. Christensen. 2007. THEMIS observes possible cave skylights on Mars. *Geophysical Research Letters* 34, L17201.
2. Jenness, J., **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.
1. Wynne, J.J., W. Pleytez. 2005. Sensitive ecological areas and species inventory of Actun Chapat Cave, Vaca Plateau, Belize. *Journal of Cave and Karst Studies* 67: 148–157.

Books & Book Chapters

6. Wynne, J.J. *Accepted*. Cave Ecology: Drivers of Diversity and Diversification. Nova Science Publishers, NY.

5. Wynne, J.J. & K.J. Chapin. *Accepted*. On the evolutionary mechanisms of troglomorphy. In *Cave Ecology: Drivers of Diversity and Diversification* (J.J. Wynne, editor), Nova Science Publishers, NY.
4. Zhao, Y., A.G. Gluesenkamp, **J.J. Wynne**, D.B. Fenolio, D. Soares, M.L. Niemiller, M.E. Bichuette, & P. Chakrabarty. *Accepted*. Diversity, distribution, and conservation of cavefishes of China. In *Cave Ecology: Drivers of Diversity and Diversification* (J.J. Wynne, editor), Nova Science Publishers, NY.
3. Howarth, F.G., **J.J. Wynne**, & P. Kambesis. *Accepted*. Influence of the physical environment on terrestrial cave diversity. In *Cave Ecology: Drivers of Diversity and Diversification* (J.J. Wynne, editor), Nova Science Publishers, NY.
2. Wynne, J.J., C.A. Drost, N.S. Cobb, 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.
1. Boykin, K., C.A. Drost, **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.

Published Abstracts

14. Phillips-Lander, C.M., J.J. Wynne, N. Chanover, C. Demirel-Floyd, K. Uckert, K. Williams, T.N. Titus, J. Blank, P. Boston, K. Mitchell, A. Kereszturi, J. Martin-Torres, D. Wyrick, S. Shkolyar, K. Retherford. 2020. Mars Astrobiological Cave and Internal habitability Explorer (MACIE): A New Frontiers Mission Concept. 38th Mars Exploration Program Analysis Group, Jet Propulsion Laboratory, Pasadena, CA.
13. Wynne, J.J., C.M. Phillips-Lander, T.N. Titus. 2020. Proposed mission architecture and technology requirements for robotic and human exploration of martian caves. Abstract # 1634, 51st LPSC, Houston, TX.
12. Phillips-Lander, C.M., J.J. Wynne, A. Parness, K. Uckert, N. Chanover, T.N. Titus, K. Williams, C. Demirel, E. Eshelman, A. Stockton, S. Johnson, D. Wyrick. 2020. MACIE: Mars Astrobiological Caves and Internal Habitability Explorer (Mission Concept). 51st LPSC, Houston, TX.
11. Wynne, J.J., C.M. Phillips-Lander, T.N. Titus. 2020. Proposed mission architecture and technology requirements for robotic and human exploration of martian caves. Abstract # 1043, 3rd International Planetary Caves Conference, San Antonio, TX.
10. Phillips-Lander, C.M., J.J. Wynne, A. Parness, K. Uckert, N. Chanover, T.N. Titus, K. Williams, C. Demirel, E. Eshelman, A. Stockton, S. Johnson, D. Wyrick. 2020. MACIE: Mars Astrobiological Caves and Internal Habitability Explorer (Mission Concept). 3rd International Planetary Caves Conference, San Antonio, TX.
9. Phillips-Lander, C.M., J.J. Wynne, A. Stockton. 2019. Influence of the cave environment on habitability & biosignatures: Implications for finding life on Mars. 2019 AbSciCon, Bellevue, WA.
8. Wynne, J.J., J. Jenness, M.D. Jhabvala, T.N. Titus, D. Billings. 2015. Detecting terrestrial caves by applying topographic analysis techniques to thermal imagery. Abstract #9029, 2nd International Planetary Caves Conference, Flagstaff, AZ.
7. Newcomer, K.B., J. Moersch, N.A. Cabrol, E. Grin, J.J. Wynne, M. Chojnacki. 2011. Evaluation of a proposed technique for identifying Martian caves in THEMIS infrared images. Abstract # 2739. 42nd LPSC, League City, TX.
6. Titus, T.N., **J.J. Wynne**, M.D. Jhabvala, G.E. Cushing, P. Shu, N.A. Cabrol. 2011. Cave detection using oblique thermal imaging, Abstract #8024, 1st International Planetary Caves Workshop, Carlsbad, NM.
5. Ruby, D., **J.J. Wynne**, T.N. Titus, 2011. Novel volumetric cave mapping process utilizing existing technologies. Abstract # 831. 1st International Planetary Cave Research Workshop, Carlsbad, NM.
3. Titus, T.N., **J.J. Wynne**, D. Ruby, N. Cabrol. 2010. The Atacama Desert cave Shredder: A case for conduction thermodynamics, Abstract #1096, 41st LPSC, Houston, TX.

3. Carol, N.A., E.A. Grin, **J.J. Wynne**. 2009. Detection of caves and cave-bearing geology on Mars. Abstract # 1040. 40th LPSC, Houston, TX.
2. Wynne, J.J., T.N. Titus, M.D. Jhabvala, G.E. Cushing, N.A. Cabrol, E.A. Grin. 2009. Distinguishing caves from non-cave anomalies: Lessons for the Moon and Mars, Abstract #2451, 40th LPSC, Houston, TX.
1. Wynne, J.J., T.N. Titus, C.A. Drost, R.S. Toomey III, 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, 39th LPSC, Houston, TX.
2. Wynne, J.J., T.N. Titus, M.G. Chapman, G. Chong, C.A. Drost, J.G. Kargel, R.S. Toomey. 2007. Thermal behavior of Earth caves: A Proxy for gaining inference into Martian cave detection. Abstract # 2378. 37th LPSC, Houston, TX.

Popular Science Articles

8. Titus, T.N., C.M. Phillips-Lander, P.J. Boston, J.J. Wynne, L.A. Kerber. *Submitted*. Planetary cave exploration: The last 13 years. *EOS*.
7. Wynne, J.J. 2017. Spanish caves reveal a trove of biological treasures. *Scientific American*. <https://blogs.scientificamerican.com/observations/spanish-caves-reveal-a-trove-of-biological-treasures/>
6. Wynne, J.J. 2017. Endemic insects of Rapa Nui: Searching for vestiges of past ecosystems. *The Explorers Journal* 95 (2): 14–25.
5. Wynne, J.J. 2017. The hunt for endemic insects on Easter Island. *Scientific American*. <https://blogs.scientificamerican.com/guest-blog/the-hunt-for-endemic-insects-on-easter-island/>.
4. Wynne, J.J., T.N. Titus, & P.J. Boston. 2016. Planetary caves' role in astronaut bases and the search for life. *EOS*, 97, doi:10.1029/2016EO047295.
3. Wynne, J.J. 2016. The scientific importance of caves in our solar system. *NSS News* 03/2016: 4–7.
3. Wynne, J.J. 2014. Reign of the Red Queen: The future of bats hangs in the balance. *The Explorers Journal* 92: 40–45.
1. Wynne, J.J., C.A. Drost. 2009. Southwest caves reveal new forms of life: U.S. Geological Survey Fact Sheet 2009-3024, 2 p., <http://pubs.usgs.gov/fs/2009/3024/>.

Papers in Preparation

- Wynne, J.J., B.G. Dickson, S. Sommer, & F.G. Howarth. Environmental variables driving cave arthropod diversity at multiple spatial scales. *Ecology*.
- Wynne, J.J. & F.G. Howarth. Insects and kin of Rapa Nui. *TBD*.
- Wynne, J.J., J. Jenness, D.L. Sonderegger, T.N. Titus, & M.D. Jhabvala. Detecting terrestrial caves with terrain analysis and thermal imagery. *Earth and Planetary Science Letters*.

Grants (only ≥\$30k reported)

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| 2015-20 | PI, National Park Service, <i>Natural Resource Conditions Assessment, Chaco Culture National Historical Park</i> , Amount: \$62,500.00. |
| 2014-20 | PI, National Park Service, Wupatki National Monument, <i>Biological Inventory, Mapping and Microclimate Data Collection of Earth-crack Caves</i> , Amount: \$101,000.00. |
| 2015-19 | PI, National Park Service, <i>Natural Resource Conditions Assessment, Petrified Forest National Park</i> , Amount: \$100,000.00. |
| 2015 | PI, NASA-Goddard Space Flight Center, <i>Processing and Interpretation of Thermal Imagery for Cave Detection</i> , Amount: \$40,000.00. |
| 2011-13 | PI, National Park Service, Grand Canyon-Parashant National Monument, <i>Habitat Characterization and Climate Change of Bat Cave Hibernacula</i> , Amount: \$67,000.00. |
| 2011 | PI, National Park Service, Grand Canyon-Parashant National Monument, <i>Habitat Characterization and Inventory of Wet Caves</i> , Amount: \$29,700.00. |
| 2009-13 | Co-I, Institutional PI, NASA Exobiology and Evolutionary Biology Program, <i>Characterization of Pit Crater/Cave Interactions for Comparison of Earth/Mars Analogs</i> , Amount: \$48,000.00. |
| 2008-11 | Co-PI, NASA Exobiology and Evolutionary Biology Program, <i>Cave Detection on Earth and</i> |

- Mars, Amount: \$661,000.00.
- 2007 PI, National Park Service, Grand Canyon-Parashant National Monument, *Biological Inventory of 15 Caves*, Amount: \$48,000.00.
- 2005 Co-PI/ Project Developer, NASA Exobiology and Evolutionary Biology Program, *A Strategy to Identify Instrumentation and Mission Requirements for Finding Subterranean Areas to Investigate for Evidence of Martian Life*, Amount: \$250,000.00.
- 2005 Co-PI, National Park Service, Grand Canyon-Parashant National Monument, *Baseline Inventory of Known Caves on Parashant National Monument*, Amount: \$30,000.00.

II. LEADERSHIP & SERVICE

Summary

- *Project Development & Execution*: Organized, led and successfully completed over 70 research expeditions in five countries including aircraft missions for global processes studies.
- *Service*: Vice Chair for IUCN SSC, Associate Editor of *Ambient Science*, organized workshops, chaired conference sessions, and served or currently serve on numerous committees for various agencies and organizations.

Professional Service

- 2020 Content Reviewer, *A Moment in Science*, Indiana Public Media/ National Public Radio
- 2020 Reviewer, Hooper and Urdea Undergraduate Research Awards, NAU
- 2019 Member, Science Organizing Committee, 3rd International Planetary Caves Conference, San Antonio, TX
- 2017-2020 Vice Chair, IUCN SSC Cave Invertebrate Group
- 2016 Co-Coordinator, *Avances en el Conocimiento sobre la Diversidad y Distribución de Insectos de Chile*, Instituto de Entomología, Universidad Metropolitana de Ciencias de la Educación, Santiago, Chile.
- 2016-Present Associate Editor, *Journal of Ambient Science*
- 2015 Organizer, 2nd International Planetary Caves Conference, Flagstaff, AZ
- 2014-Present Reviewer, Exploration Fund Grants (for graduate students and post-docs), The Explorers Club
- 2014-Present Member, IUCN SSC Cave Invertebrate Group
- 2011-17 Member, U.S. Fish and Wildlife Service White-Nose Syndrome Disease Management Working Group
- 2011-19 Member, Scientific advisory board, Easter Island Foundation
- 2010-18 Reviewer, John Prather Memorial Scholarship in Conservation Biology (for graduate students), NAU.
- 2008-15 Associate curator, Colorado Plateau Biodiversity Center, NAU
- 2005-19 Associate curator, Colorado Plateau Museum of Arthropod Biodiversity, NAU
- 2014-17 Chair, Science Advisory Committee, The Explorers Club
- 2013-14 Member, Board of Directors, Pacific Islands Research Institute
- 2012 Session Chair, 8th International Conference on Easter Island and the Pacific, Santa Rosa, CA
- 2012-16 Chair, Southwest Chapter, The Explorers Club
- 2012-13 Member, Flag and Honors Committee, The Explorers Club
- 2011-12 Vice Chair, Southwest Chapter, The Explorers Club
- 2007-09 Instructor, NASA Spaceward Bound!, Mojave Desert, CA
- 2007 Session Chair, Special Session Cave Research in the Western U.S., 9th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ
- 2006-11 Director at Large, Cave Conservation and Management Section, National Speleological Society

III. TEACHING & INSTRUCTION

Summary

- *University Instruction*: Taught capstone ecology course (Environmental Ecology, ENV 326) for undergraduates at NAU; led six independent studies for undergraduate students; and, mentored dozens of graduate and undergraduate students on various field and lab projects.
- *Educational Outreach*: Volunteered to speak with nearly 4,000 K-12 students. Since 2018, I've spoken with K-12 students in 28 different classrooms and school assemblies.
- *Teaching Interests*: Field Ecology; Community Ecology; Quantitative Biology; Cave Biology; Zoology; Field Entomology; Conservation Biology; Island Biogeography; Astrobiology; Field Safety and Expedition Planning; and, Natural and Cultural History Field School on Rapa Nui.
- *Languages*: Capable of teaching and lecturing in English and Spanish.

University Level Instruction ([®]Invited)

- 2019 [®]Guest lecturer, GIS and Spatial Techniques in Forestry (FOR 525), School of Forestry, Northern Arizona University, Flagstaff. Terrestrial cave detection and applications for robotic and human exploration on Mars (20 graduate students)
- 2018 [®]Guest lecturer, GIS and Spatial Techniques in Forestry (FOR 525), School of Forestry, Northern Arizona University, Flagstaff. Terrestrial cave detection and the future of robotic and human exploration on Mars (14 graduate students)
- 2018 [®]Guest lecturer, Methods of teaching secondary science, Department of Biology, SUNY-Cortland, Cortland, NY. Tenets of community based research and conservation (10 undergraduates).
- 2017 [®]Guest lecturer, Invasive plant ecology undergraduate course, Department of Biology, SUNY-Cortland, Cortland, NY. The invasive arthropods of Rapa Nui (25 undergraduates).
- 2016 [®]Guest lecturer, Planetary systems undergraduate course, Department of Physics, SUNY-Cortland, Cortland, NY. Planetary cave exploration: a multifaceted approach (8 undergraduates).
- 2014 Instructor, NASA Spaceward Bound!, Mojave Desert Expedition (30 undergraduates).
- 2014 Guest lecturer, Invertebrate biology course, Department of Biology, Georgia Southern University, Statesboro. Evolution of cave-adapted arthropods, cave biology, and fieldwork in remote locations (25 undergraduates).
- 2013 Instructor, Independent Study (Project: Development of high-resolution image portfolio of cave-dwelling invertebrates), Department of Biological Sciences, NAU, Flagstaff.
- 2008 Instructor, Independent Study (Project: The effects of temperature and insolation on cave arthropod communities), Department of Biological Sciences, NAU, Flagstaff.
- 2007-09 Instructor, NASA Spaceward Bound!, Mojave Desert Expeditions (~25 secondary school teachers per year).
- 2007 Instructor, Cave Biological Inventory, NPS/BLM Cave and Karst Resources Management Training Course, Las Vegas, NV (20 participants).
- 2007 Instructor, Environmental Ecology (ENV 326), School of Earth Sciences and Sustainable Environments, NAU, Flagstaff (17 students).
- 2006 Instructor, NASA Spaceward Bound!, Atacama Desert Expedition, Chile (20 secondary school teachers).

K-12 Instruction (>4,000 students since 2009)

- 2020 Exploring by the Seat of Your Pants. Six classrooms grades 5th through 8th in Canada and U.S. via Zoom. On the road with a cave scientist (~112 students).

- 2019 Exploring by the Seat of Your Pants, Space Week. Five classrooms grades 5th through 8th in Canada and U.S. via Zoom. Cave detection on Earth and future cave exploration on Mars (~150 students).
- 2019 Naturita Middle School, Naturita, CO. 5th & 6th grade assembly. Around the world with a cave scientist (29 students).
- 2019 Norwood Elementary School, Norwood, CO. Middle & high school assembly. Around the world with a cave scientist (90 students).
- 2019 Norwood Elementary School, Norwood, CO. 5th & 6th grade assembly. Around the world with a cave scientist (60 students).
- 2019 Norwood Elementary School, Norwood, CO. K & 1st grade assembly. Around the world with a cave scientist (16 students).
- 2019 Belize Zoo Conservation Camp, Tropical Education Center, Belize. High school students from across Belize. Around the world with a cave scientist (25 students).
- 2019 Telluride Intermediate School, Telluride, CO. 4th grade assembly. On the road with a cave scientist (82 students).
- 2019 Ridgway Secondary School, Ridgway, CO. 6th through 12th grades. On the road with a cave scientist (53 students).
- 2019 Ridgway Elementary School, Ridgway, CO. 3rd, 4th, and 5th grades. On the road with a cave scientist (68 students).
- 2019 Montrose High School, Pizza with Professionals, Montrose, CO. 9th through 12th grades. On the road with a cave scientist (63 students).
- 2018 Glynn Middle School, Brunswick, GA. 8th Grade AP course: High School Physical Science. Cave detection on Earth and future cave exploration on Mars (15 students).
- 2018 Kwok Tak Seng Catholic Secondary School, Hong Kong. 11th grade. Cave detection on Earth and future cave exploration on Mars (~125 students, teachers and administrators).
- 2018 Exploring by the Seat of Your Pants, Space Week. Five classrooms grades 4th through 8th in Canada and U.S. via Google Hangouts. Cave detection on Earth and future cave exploration on Mars (~100 students).
- 2018 Telluride Mountain School, Telluride, CO. K-12 assembly. Follow your bliss and other musings of a cave scientist (122 students, teachers and parents).
- 2017 Glynn Middle School, Brunswick, GA. 8th Grade AP course: High School Physical Science. Cave Exploration on Mars: Are we there yet? (40 students).
- 2017 Exploring by the Seat of Your Pants, Space Week. Five classrooms grades 3rd through 5th in Canada and U.S. via Google Hangouts. Cave Exploration on Mars: How do we get there? (~150 students).
- 2017 Exploring by the Seat of Your Pants, Biodiversity Week. Eight classrooms grades 4th through 7th in Canada and U.S. via Google Hangouts. Cave insect evolution, speciation and diversity (220 students).
- 2017 BASIS Charter Schools, Flagstaff, AZ. AP 8th and 9th grade assembly. Evolution, speciation and diversity: A cave perspective (30 students).
- 2017 Homer Intermediate School, Homer, NY. 5th and 6th grade assembly. How to get humans to Mars. (250 students, faculty and administrators).
- 2017 Exploring by the Seat of Your Pants. Six classrooms grades 5th through 8th in Canada and U.S. via Google Hangouts. Caves, contamination and China (100 students).
- 2016 DeMiguel Elementary School, Flagstaff, AZ. Two 5th grade classes. Cave Bugs and bats of Northern Arizona (54 students).
- 2016 Aldea Educativa Escuela Secundaria, Rapa Nui, Chile. Conservación y manejo de los insectos nativas de Rapa Nui (34 students).
- 2016 Colegio Hermano Eugenio Eyrau, Rapa Nui, Chile. Conservación y manejo de los insectos nativas de Rapa Nui (12 students).

- 2016 ECC Dunalastair, Santiago, Chile. 11th and 12th Grade Classes. Working with NASA and conservation of threatened cave animals on Rapa Nui. Presented at Tupa Hotel, Easter Island (78 students).
- 2016 Exploring by the Seat of Your Pants, Space Week. Six classrooms 6th through 8th grades in Canada and U.S. via Google Hangouts. Planetary cave exploration (150 students).
- 2016 Glynn Middle School, Brunswick, GA. 7th-8th Grade Assembly. Planetary cave exploration (100 students).
- 2015 Glynn Middle School, Brunswick, GA. 8th Grade AP Physics Class. Robotic and human exploration of caves on the Moon and Mars (46 students).
- 2014 Cottonwood Elementary School, Cottonwood, AZ. 4th grade assembly. Arizona cave biology (54 students).
- 2014 DeMiguel Elementary School, Flagstaff, AZ. 6th grade assembly. Scientific exploration of caves (125 students).
- 2014 Porter-Gaud School, Charleston, SC. Middle school assembly (6th- 8th grade). The mysteries of Easter Island caves (350 students).
- 2014 Porter-Gaud School, Charleston, SC. High school assembly (9th – 12th grade). Bats and bugs of Grand Canyon (450 students).
- 2014 Porter-Gaud School, Charleston, SC. AP Marine Science (12th grade) class. Theory of island biogeography and how plants and animals disperse to and across islands (15 students).
- 2014 Porter-Gaud School, Charleston, SC. Primary school assembly (1st – 5th grade). Cave life on Earth and beyond... (200 students).
- 2014 Porter-Gaud School, Charleston, SC. AP Environmental Science (12th grade) class. White-nose syndrome, the impacts on bat populations and the importance of bats to both humans and ecosystems (10 students).
- 2009 Flagstaff Middle School, Flagstaff, AZ. 7th grade. Cave biology and exploration (56 students).
- 2009 DeMiguel Elementary School, Flagstaff, AZ. 6th grade assembly. Cave science and exploration (80 students).
- 2008 DeMiguel Elementary School, Flagstaff, AZ. 6th grade assembly. Cave science and exploration (75 students).
- 2007 DeMiguel Elementary School, Flagstaff, AZ. 6th grade assembly. Cave detection in the thermal infrared and the search for Martian cave life (60 students).
- 2006 Needlewood Middle School, Brunswick, GA. 6th grade assembly. Astrobiology, Mars and searching for life underground (60 students).
- 2006 DeMiguel Elementary School, Flagstaff, AZ. 6th grade. Bat ecology and conservation (26 students).

IV. COMMUNICATION & COLLABORATION

Summary

- *Science Communication*: Past 10 years – 15 presentations at scientific symposia, 34 university and agency seminars (31 invited), five invited keynotes or other similar engagements, and 37 public lectures (18 invited) at museums, universities, government agencies, and other venues in five countries (including six talks in Spanish). Examples: Chicago Ideas Week, Colonizing the Caves of Mars (10/14) <https://youtu.be/BgbNzqKYcnQ>, and Writers of the Future Awards, Evil Alien Insectoids and Cave Exploration of Mars (04/13), <https://youtu.be/hxweZGMRvYM>.
- *Science Communication Workshops*: Completed two workshops in 2015 – Alan Alda Center for Communicating Science Boot Camp, Stony Brook University, NY and Kavli Institute’s Scientist-Writers Workshop, Royal Society, London, England.
- *Collaborations*: Develop, execute, and participate in research projects with teams ranging from two to 10 people; work with friends and colleagues across the U.S. and around the world including Australia, Belize, Chile, China, Mexico, Papua New Guinea, and Spain; and, conducted projects in

partnership with numerous Indigenous Peoples – including the Quiché Maya of Belize, the Quechua of the Chilean Altiplano, the Rapanui of Easter Island, Native Hawaiians on Big Island of Hawai'i, and the Navajo of the Southwestern U.S.

Symposia (☉Invited)

- 2020 Co-Presenter. Phillips-Lander, C.M. [...], **J.J. Wynne**, & 15 others. AGU Fall Meeting, San Francisco, CA. MACIE: Mars Astrobiological Caves and Internal Habitability Explorer (a New Frontiers Mission Concept) for the next decade.
- 2020 Co-Presenter. ☉Titus, T.N., **J.J. Wynne**, P.J. Boston, C.M. Phillips-Lander, & L.A. Kerber. Geological Society of America, Connections Online (Topical Sessions). Planetary Caves- Goals, objectives, and an exploration roadmap for the next decade.
- 2020 Co-Presenter. Phillips-Lander, C.M., **J.J. Wynne**, N. Chanover, C. Demirel-Floyd, K. Uckert, K. Williams, T.N. Titus, J. Blank, P. Boston, K. Mitchell, A. Kereszturi, J. Martin-Torres, D. Wyrick, S. Shkolyar, K. Retherford. Mars Exploration Program Analysis Group, NASA Jet Propulsion Laboratory, Pasadena, CA. Mars Astrobiological Cave and Internal habitability Explorer (MACIE): A New Frontiers Mission Concept.
- 2020 Co-Presenter. 2020 Undergraduate Research (Virtual) Symposium, Northern Arizona University, Flagstaff. Hershauer, S.N.°, **J.J. Wynne**, F.M. Walker. Genetic evidence for subterranean dispersal of two relict Collembola species from Sierra de las Nieves Natural Park, Andalucía, Spain.
- 2020 Co-Presenter. 2020 Undergraduate Research (Virtual) Symposium, Northern Arizona University, Flagstaff. Redmond, Q.J.A.°, D. Hedman°, S. Reneau, G. Welch, R. Cal, **J.J. Wynne**. Cave-dwelling arthropods of Runaway Creek Nature Reserve, Belize.
- 2020 Co-Presenter. 2020 Undergraduate Research (Virtual) Symposium, Northern Arizona University, Flagstaff. Hershauer, S.N.°, J.R. Baca°, S. Yancovic Pakarati, **J.J. Wynne**. Notes on the invertebrate fauna of Salas y Gómez island, Chile.
- 2020 Co-Presenter. Titus, T.N., **J.J. Wynne**, C.M. Phillips-Lander. 3rd International Planetary Caves Conference, San Antonio, TX. Proposed mission architecture and technology requirements for robotic and human exploration of martian caves.
- 2020 Co-Presenter. Phillips-Lander, C.M., **J.J. Wynne**, A. Parness, et al. 3rd International Planetary Caves Conference, San Antonio, TX. MACIE: Mars Astrobiological Caves and Internal Habitability Explorer (Mission Concept).
- 2018 Co-Presenter. 24th International Conference on Subterranean Biology, Aveiro, Portugal. Komericki, A., L., Deharveng, **J.J. Wynne**, S. Khela. Conservation efforts for cave invertebrates and their habitats in Southeast Asia.
- 2015 Presenter. 2nd International Planetary Caves Conference, Flagstaff, AZ. Detecting terrestrial caves by applying topographic analysis techniques to thermal imagery.
- 2015 Presenter. UNESCO and International Research Center on Karst, International Training Course on Karst Landscape, Geopark, and Natural Heritage, Nanning, China. Terrestrial cave detection in the tropics using topographic analytical techniques.
- 2014 Presenter. North American Congress for Conservation Biology, Society of Conservation Biology, Missoula, MT. Ecological catastrophies and relict cave fauna: A case study from Rapa Nui.
- 2011 Presenter. 8th International Conference on Easter Island and the Pacific, Santa Rosa, CA. Diversity and community structure of cave-dwelling arthropods on Rapa Nui.
- 2010 Co-Presenter. Society of American Archaeologists Annual Meeting, St. Louis, Missouri, Nicolay, S., S. Rapu, **J.J. Wynne**. The underground gardens of Easter Island: Cave agriculture, water management, and prehistoric cave use on Rapa Nui.
- 2009 Co-Presenter. 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: project update.

- 2008 Co-Presenter. 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-Presenter. 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-Presenter. 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.
- 2007 [Ⓜ]Presenter. 9th Biennial Conference of Research on the Colorado Plateau, Flagstaff, AZ. Wynne, J.J. Regional Cave all taxa biological inventory.
- 2007 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. 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 [Ⓜ]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.
- 2006 Co-Presenter. 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. The search for caves on other planets: new technologies from hot holes in the ground to hopping microbots.
- 2006 Presenter. National Speleological Society Annual Convention, Bellingham, WA. Wynne, J.J., K.D. Voyles and C.A. Drost. Cave ecological inventory and species discoveries, Grand Canyon-Parashant National Monument, Arizona.
- 2006 Presenter. 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. Cave detection on Mars- astrobiology and the search for life.
- 2006 [Ⓜ]Presenter. National Speleological Society Annual Convention, Bellingham WA. Wynne, J.J. and W. Pleytez. Species inventory and sensitive ecological areas of Actun Chapat Cave, Vaca Plateau, Belize.
- 2006 Presenter. Natural Areas Conference, Flagstaff, AZ. Wynne, J.J. K.D. Voyles and C.A. Drost. Cave ecological inventory and species discoveries, Grand Canyon-Parashant National Monument, Arizona.

Poster Presentations ([Ⓜ]*undergraduate student author*)

- 2020 Presenter. 27th Annual The Wildlife Society Conference, Special Session: GIS in Wildlife Ecology, Louisville, KY. Wynne, J.J., J. Jenness and A. Aue. Effects of Rapid 'Ōhi'a Death on root-obligate cave arthropod communities, Hawai'i Island, USA.
- 2020 Co-Presenter. 27th Annual The Wildlife Society Conference, Special Session: GIS in Wildlife Ecology, Louisville, KY. Jenness, J., **J.J. Wynne**, D.L. Sonderegger, T.N. Titus, M.D. Jhabvala. Detecting caves with thermal imagery and topographic analysis techniques.
- 2019 Co-Presenter. 4th IUCN Species Survival Commission Leaders' Meeting, Abu Dhabi, UAE. Deharveng, L., T. Whitten, **J.J. Wynne**, A. Komericki, S. Khela. 10 Years of Progress: The IUCN-SSC Cave Invertebrate Specialist Group.
- 2018 Co-Presenter. 24th International Conference on Subterranean Biology, Aveiro, Portugal.

- Deharveng, L., T. Whitten, **J.J. Wynne**, A. Komericki, S. Khela. The IUCN-SSC Cave Invertebrate Specialist Group.
- 2015 Co-Presenter. Division of Planetary Sciences, American Astronomical Society, National Harbor, MD. MacKenzie, S.M., **J.J. Wynne**, & 19 others. THEO concept mission: testing the habitability of Enceladus's ocean.
- 2011 Co-Presenter. First Interplanetary Cave Research Workshop, Carlsbad, NM. Titus, T.N., **J.J. Wynne**, M.D. Jhabvala, G.E. Cushing, P. Shu, N.A. Cabrol. Cave detection using oblique thermal imaging.
- 2011 Co-Presenter. First Interplanetary Cave Research Workshop, Carlsbad, NM. Ruby, D., **J.J. Wynne**, T.N. Titus. Novel volumetric cave mapping process using existing technologies.
- 2011 Co-Presenter. 42nd Annual Lunar and Planetary Science Conference, Houston, TX. Newcomer, K.B., J. Moersch, N.A. Cabrol, E. Grin, **J.J. Wynne**, M. Chojnacki. Evaluation of a proposed technique for identifying Martian caves in THEMIS infrared images.
- 2010 Co-Presenter. 2010 Astrobiology Science Conference, Mountain View, CA. Azúa-Bustos, A., C. González-Silva, L. Salas, **J.J. Wynne**, C.P. McKay, R.E. Palma, and R. Vicuña. Atacama Desert caves as analog models of habitability for microbial life on the surface of Mars.
- 2010 Co-Presenter. 41st Annual Lunar and Planetary Science Conference, Houston, TX. Titus, T.N., **J.J. Wynne**, D. Ruby, N.A. Cabrol. The Atacama Desert cave Shredder: A case for conduction thermodynamics.
- 2009 Presenter. 40th Annual Lunar and Planetary Science Conference, Houston, TX. Wynne, J.J., T.N. Titus, M.D. Jhabvala, G.E. Cushing, N.A. Cabrol, E.A. Grin. Distinguishing caves from non-cave anomalies: lessons for the Moon and Mars.
- 2008 Co-Presenter. 59th Annual Astronautical Congress, Glasgow, Scotland. Allner, M.M., C.P. McKay, L.K. Coe, J. Rask, J. Paradise, **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 Presenter. 39th Annual Lunar Planetary and Science Conference, League City, TX. Wynne, J.J., T.N. Titus, C.A. Drost, R.S. Toomey III, K. Peterson. Annual thermal amplitudes and thermal detection of Southwestern U.S. caves: Additional insights for remote sensing of caves on Earth and Mars.
- 2007 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, R.S. Toomey III. Thermal behavior of Earth caves: a proxy for gaining inference into Martian cave detection.
- 2007 Co-Presenter. 38th Annual Lunar Planetary and Science Conference, League City, TX. Cushing, G.E., T.N. Titus, **J.J. Wynne**, P.R. Christensen. THEMIS observes possible cave skylights on Mars.

University & Agency Seminars ([☞]*Invited*)

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- 2020 [☞]Northern Arizona University, School of Earth Science and Sustainability, Flagstaff. Addressing knowledge shortfalls in subterranean biology (audience 12).
- 2019 [☞]SUNY-Cortland, Cortland, NY. Cave and bat conservation in the new Maya Forest Corridor, Belize (audience 41).
- 2018 [☞]Tohoku University, Department of Engineering and Space Robotics, Sendai, Japan. Terrestrial cave detection and future robotic and human exploration of caves on Mars (audience 45).
- 2018 [☞]Tohoku University, Department of Geosciences, Sendai, Japan. Terrestrial cave detection and future robotic and human exploration of caves on Mars (audience 78).
- 2018 [☞]Hebei University, College of Life Sciences, Baoding, China. Towards an iterative vulnerability assessment of cave biota: South China Karst, a case study (audience 200).
- 2018 [☞]Xishuangbanna Tropical Botanical Gardens, Xishuangbanna, China. Towards an iterative vulnerability assessment of cave biota: South China Karst, a case study (audience 22).

- 2018 ☯International Research Center on Karst, Guilin, China. International Training Course on Karst Ecological Geology and Karst Landform. Towards an iterative vulnerability assessment of cave biota: South China Karst, a case study (audience 42).
- 2018 ☯SUNY-Cortland, Cortland, NY. Caves, contamination and environmental reform in China (audience 30).
- 2017 ☯Museo Nacional de Ciencias Naturales, Madrid, Spain, Los insectos endémicos y hábitats relictos de Rapa Nui (audience 20).
- 2017 ☯University of the Aegean, Mytilini, Lesvos, Greece, Detecting Caves on Earth and the Future of Cave Exploration on Other Planets (audience 10).
- 2017 ☯SUNY-Cortland, Cortland, NY. Inventory, conservation and management of endemic insects of Easter Island (audience 65).
- 2016 ☯China University of Geosciences at Wuhan, Department of Environmental Studies, Hubei, China. Human Induced Environmental Change and the Effects on Cave Ecosystems: A China Case Study (audience 9).
- 2016 ☯China Geological Survey, Wuhan Center, Wuhan, Hubei, China. Terrestrial Cave Detection: Advancing the Technology in Southern China (audience 10).
- 2016 ☯China Geological Survey, Wuhan Center, Wuhan, Hubei, China. Human Induced Environmental Change and the Effects on Cave Ecosystems: A China Case Study (audience 16).
- 2016 ☯Southwest University, Department of Geographical Sciences and Karst Environment Laboratory, Chongqing, China. Human Induced Environmental Change and the Effects on Cave Ecosystems (audience 26).
- 2016 ☯International Research Center on Karst Training Course, Guilin, Guangxi, China. Preliminary Results: Troglodite Inventory and Contaminant Sampling of Guilin Caves, Guangxi, China. (audience 38).
- 2016 ☯International Research Center on Karst Training Course, Guilin, China. Human Induced Environmental Change and the Effects on Cave Ecosystems. (audience 38).
- 2016 Universidad Metropolitana de Ciencias de la Educación, Instituto de Entomología, Santiago, Chile. Los insectos endémicos y hábitat antiguos de Rapa Nui (audience 60).
- 2016 ☯Universidad de Chile, Ciencias Forestales y Conservación de la Naturaleza, Santiago. Conservación y manejo de los insectos endémicos y hábitat antiguos de Rapa Nui. (audience 55).
- 2016 ☯Parque Nacional Rapa Nui, CONAF, Easter Island. Inventario, conservación y manejo de los insectos endémicos de Rapa Nui (audience 15).
- 2016 ☯Parque Nacional Rapa Nui, CONAF, Easter Island. La carrera para salvar los insectos endémicos de Rapa Nui (audience 20).
- 2016 ☯SUNY-Cortland, Cortland, NY. The race to save the endemic insects of Easter Island (audience 120).
- 2015 ☯Japanese Aerospace Exploration Agency (JAXA), Planetary Caves Research Group, Sagami-hara, Japan. Terrestrial Cave Detection: Implications for Planetary Cave Exploration and Human Habitation (audience 6).
- 2015 ☯U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, Honolulu, HI. Conservation and management of cave arthropods on Rapa Nui (audience 30).
- 2015 ☯Northern Arizona Bat Working Group, Flagstaff, AZ. Bat hibernacula of Northern Arizona (audience 15).
- 2015 ☯Instituto Geológico y Minero de España, Madrid, Spain. Robotic exploration and human habitation of Martian caves (audience 25).
- 2014 San Diego State University, Department of Biology, San Diego, CA. Disturbance relicts in a changing world: The Rapa Nui factor (audience 40).
- 2014 Armstrong State University, Department of Biology, Savannah, GA. The mysteries of Easter

- Island caves (audience 50).
- 2014 ☯ Georgia Southern University, Statesboro, GA. The Mysteries of Easter Island Caves (audience 110).
- 2013 ☯ Coconino Community College, Flagstaff, AZ. The Mysteries of Easter Island Caves.
- 2011 ☯ Corporación Nacional Forestal de Chile, Parque Nacional Rapa Nui, Easter Island, Chile. Implicaciones para la conservación y manejo de las cuevas en Rapa Nui.
- 2011 ☯ Universidad de Los Andes, Santiago, Chile. Detección de las cavernas en los Desiertos de Atacama y Mojave: Terrenos análogos a Marte.
- 2011 ☯ Museo Mirador de la Biodiversidad, Monumento Natural La Portada, Antofagasta, Chile. Cuevas del Cordillera de la Sal, Una analogía para Marte.
- 2011 ☯ Universidad Católica del Norte, Centro de Biotecnología, Antofagasta, Chile. Las cavernas del Desierto de Atacama, una analogía para Marte.
- 2009 ☯ National Park Service, Hawaii Volcanoes National Park, Volcano, HI. Biological and cultural resources of Easter Island caves (audience 5).
- 2008 ☯ Pontificia Universidad Católica de Chile, Facultad de Ciencias Biológicas, Departamento de Genética Molecular y Microbiología, Santiago. On Detecting caves on Earth and cave-like structures on Mars.

Keynote Addresses & Other Invited Talks (☯*Invited*)

- 2014 ☯ STEM City Awards Banquet, Flagstaff, AZ (*Keynote*). Imagination and creativity in science (audience 130). <https://www.youtube.com/watch?v=2NfORhFn7lk>.
- 2014 ☯ Chicago Ideas Week, Explorers Section, Chicago, IL. Robotics and human use of lunar and Martian caves (audience 350). <https://youtu.be/BgbNzqKYcnQ>.
- 2013 ☯ Celebrity Cruises, Beyond the Podium Series, World Explorers Bureau, 7 Day Caribbean Sea Tour.
- 2013 ☯ 29th Annual Writers and Illustrators of the Future Awards Dinner, Hollywood, CA (*Keynote*);. Evil alien insectoids and cave exploration on Mars (audience 1,200). <http://youtu.be/hxweZGMRvym>.
- 2011 ☯ National Association of Science Writers, 2011 Annual Meeting, Flagstaff, AZ. Covering a lot of (Under)Ground: Cave ecology on Earth and caves on Mars. <http://casw.org/users/jut-wynne>.
- 2009 ☯ 104th Explorers Club Annual Dinner, Waldorf=Astoria Hotel, New York, NY. THE BALANCING ACT: Exploring Biodiversity, Expedition flag return/ presentation on cave diversity.

Departmental Seminars

- 2016 Northern Arizona University, Department of Biology, Flagstaff, AZ. Island-wide Inventory for Endemic Insects Extreme Environments on Rapa Nui.
- 2014 Northern Arizona University, Department of Biology, Flagstaff, AZ. Things that go bump in the dark (of caves): bats, relict species and other creepy crawlies (Halloween seminar).
- 2007 Northern Arizona University, Department of Biological Sciences, Flagstaff, AZ. Presentation: Astrobiological implications for detecting caves on Mars.
- 2006 Northern Arizona University, Department of Biological Sciences, Flagstaff, AZ. Sensitive ecological areas and species inventory of Actun Chapat, Vaca Plateau, Belize.

Public Lectures (☯*Invited*)

- 2020 Flagstaff Festival of Science, Flagstaff, AZ. Bat and cave conservation in the new Maya Forest Corridor, Belize (virtual seminar).
- 2020 Exploring by the Seat of Your Pants, Global Biodiversity Festival. Going deep! Cave biodiversity (virtual seminar; audience 30).
- 2020 ☯ Museum of Northern Arizona, Colton Seminar Series, Flagstaff, AZ. Addressing knowledge shortfalls in subterranean ecology (virtual seminar; audience 15).

- 2020 ☯ Science on Tap, Flagstaff, AZ. Bat and cave conservation in the new Maya Forest Corridor, Belize (audience 62).
- 2019 Flagstaff Festival of Science, Flagstaff, AZ. Finding caves on Earth and future robotic and human exploration of Mars (audience 65).
- 2019 Highlands Center for Natural History, Prescott, AZ. Cave Ecology of the Grand Canyon Region (audience 25).
- 2018 ☯ Royal Geographical Society of Hong Kong, Hong Kong. Terrestrial cave detection and future robotic and human exploration of Mars (audience 23).
- 2018 ☯ Flagstaff Festival of Science, Flagstaff, AZ. Caves, contaminants and environmental change in China (audience 30).
- 2018 ☯ The Explorers Club, New York, NY. Caves, contamination and environmental reform in China (audience 25).
- 2017 ☯ Sociedad Excursionista de Málaga, Málaga, Spain. Los insectos endémicos y hábitats relictos de Rapa Nui (audience 25).
- 2017 Science on Tap, Flagstaff, AZ. Caves, Contamination, and China (audience 67).
- 2016 Brunswick-Glynn County Library, Brunswick, GA. The bizarre cave animals of Guangxi, China (audience 30).
- 2016 Museo Nacional de Historia Natural, Santiago, Chile. Los insectos endémicos y hábitat antiguos de Rapa Nui (audience 45).
- 2016 ☯ Museo Antropológico Padre Sebastián Englert, Rapa Nui (Easter Island). Inventario, conservación y manejo de los insectos endémicos de Rapa Nui (audience 37).
- 2016 ☯ Explora Hotel, Easter Island. Conservación y gestión de las cuevas y biología de cueva en Rapa Nui (Isla de Pascua). Lecture to tourist guides. (audience 8).
- 2016 Science on Tap, Flagstaff, AZ. The Race to Save the Endemic Insects of Easter Island (audience 55).
- 2016 Brunswick-Glynn County Library, Brunswick, GA. Cave life of the greater Grand Canyon (audience 35).
- 2015 Bishop Museum, Honolulu, HI. New discoveries and novel ideas from Rapa Nui caves (audience 30).
- 2015 Explorers Connect, London, England. New discoveries and novel ideas from Rapa Nui caves (audience 100).
- 2015 The Explorers Club, New York, NY. Discoveries from Rapa Nui caves: New species and novel ideas (audience 125).
- 2015 Arizona Science Center, Phoenix, AZ. Arizona cave biology (audience 20).
- 2014 ☯ Science on Tap, Flagstaff, AZ. Cave life of the greater Grand Canyon (audience 100).
- 2014 ☯ Southern California Chapter, The Explorers Club, San Diego, CA. The mysteries of Easter Island caves (audience 60).
- 2014 ☯ Atlanta Chapter, The Explorers Club, Atlanta, GA. The mysteries of Easter Island caves (audience 30).
- 2014 Science Café, Bookman's Entertainment Exchange, Flagstaff, AZ. Roundtable discussion on Research on Rapa Nui (Easter Island).
- 2014 ☯ World Explorers Bureau Beyond the Podium Series, Celebrity Cruises (roundtrip San Juan, PR to Barbados). 3 Presentations: (1) The Mysteries of Easter Islands caves; (2) Cave life of the Greater Grand Canyon, and (3) Cave detection on Earth and Mars.
- 2013 Science on Tap, Flagstaff, AZ. The mysteries of Easter Island caves (audience 138).
- 2013 National Speleological Society Webinar Series. The mysteries of Easter Islands caves.

- <http://caves.org/webinars/webinars.shtml#Easter>.
- 2012 Flagstaff Festival of Science, After School Lecture Series, Lowell Observatory, Flagstaff, AZ. The biology and archaeology of Easter Island caves (audience 84).
- 2011 ☪ Museo Antropológico Padre Sebastián Englert, Easter Island. Las cuevas de Rapa Nui y implicaciones para la conservación y manejo.
- 2011 Brunswick-Glynn County Library, Brunswick, GA. The archaeology and ecology of Easter Island caves (audience 50).
- 2011 ☪ EarthWatch Institute, Easter Island, Chile. The caves of Rapa Nui and implications for conservation and management (audience 10).
- 2011 Patagonia (Store), Las Condes, Santiago, Chile, Las cuevas de Rapa Nui (audience 4).
- 2011 ☪ Sierra Club, Grand Canyon Chapter, Flagstaff, AZ. Cave life of the Greater Grand Canyon (audience 25).
- 2011 Explorers Club, Southwest Chapter Lecture Series, Flagstaff, AZ. The ecology and archaeology of Easter Island caves (audience 10).
- 2010 Flagstaff Festival of Science, Science in the Park, Flagstaff, AZ. Discussed the importance of caves, cave-dwelling arthropods and bats, as well as caving ethics and the fragility of cave resources with the general public (interacted with ~100 individuals).
- 2010 ☪ Bishop Museum, Honolulu, Hawaii. Bishop Museum and Sigma Xi Seminar Series. Biological and cultural resource investigations of Rapa Nui.
- 2009 ☪ Museo Antropológico Padre Sebastián Englert, Rapa Nui. Resultados preliminar: Natural y cultural historia de las cuevas de Rapa Nui.
- 2009 ☪ Explorers Club Headquarters, New York City, NY. Flag Expedition Presentation, 104th Explorers Club Annual Dinner Weekend, Sunday Lecture Series. Cave biodiversity inventories on North Rim Grand Canyon and Rapa Nui, Chile (audience 1000).
- 2008 Flagstaff Festival of Science, Evening Lecture Series, Lowell Observatory, Flagstaff, AZ. Caves on Earth and Mars: The search for life (audience 40).
- 2008 Lowell Observatory, Flagstaff, AZ. Thermal detection of caves on Earth and cave-like structures on Mars (audience 35).
- 2007 Three Rivers Regional Library Lecture Series, Brunswick, GA. Thermal detection of caves on Earth and cave-like structures on Mars (audience 25).
- 2007 Flagstaff Festival of Science, Science in the Park, Flagstaff, AZ. Caves, cave-dwelling arthropods and bats and the importance of conserving these fragile places (~100 community members).
- 2007 ☪ Lowell Observatory, Flagstaff, AZ. If there's life, it's underground! The search for caves on Mars (audience 60).
- 2006 The Mission Gallery and Coffee House, Grants, NM. Astrobiology and the search for Martian cave life (audience 10).
- 2006 Flagstaff Festival of Science, Evening Lecture Series, AZ. Astrobiology and the search for Martian cave life (audience ~45).
- 2006 ☪ Flagstaff Cultural Partners Annual Fundraiser, AZ. Cave-adaptation and cave-dwelling animals of Arizona and Belize (audience ~55).
- 2006 ☪ USGS-Flagstaff Field Center Monthly Lecture Series, Flagstaff, AZ. Sensitive ecological areas and species inventory of Actun Chapat, Vaca Plateau, Belize (audience 30).

V. POPULAR PRESS

Summary

- *Media Outreach*: My research has been featured on the Discovery Channel, NASA-TV, four national magazines in the U.S., France and Finland, National Geographic, Discover Magazine, the Washington Post, El Mercurio de Santiago, and TV, radio, and print media around the world. Examples this past year: (1) Mate Ote TV, Rapa Nui, Investigación Insectos Endémicos de Rapa Nui,

Parque Nacional Rapa Nui, CONAF (09/16), <http://youtu.be/TbglHnHZUgM>; (2) Discover Magazine, Easter Island's Last Endemics Flirt with Extinction, 38: 24–26 (05/17), <http://discovermagazine.com/2017/may-2017/extinction-for-easter-islands-last-endemics>; and, (3) KNAU Arizona Public Radio, Brain Food: Protecting Easter Island's newly discovered cave-dwelling bugs (11/15), <http://knau.org/post/brain-food-protecting-easter-island-s-newly-discovered-cave-dwelling-bugs>.

Television

- Tecnociencia, Canal 13, Santiago, Chile. Rapa Nui Parte 3, Interview discussing Rapa Nui endemic insects project (10.09.2016).
- Mate Ote TV, Rapa Nui, Investigación Insectos Endemicos de Rapa Nui, Parque Nacional Rapa Nui, CONAF (09.11.2016). <http://youtu.be/TbglHnHZUgM>
- Inside NAU, The Television Show, Northern Arizona University, Flagstaff, Jut Wynne discusses the importance of finding relict insect species in Easter Island caves. (05.07.2014). <http://youtu.be/ch6QTfOiH1s>
- Channel 12, Phoenix, NBC Affiliate, NAU researcher discovers nine new cave critters (10.18.2013). <http://www.azcentral.com/video/2753706040001>
- NASA TV, This Week @ NASA, A cave researcher studies caves from a NASA aircraft (06.03.2011). http://www.nasa.gov/multimedia/podcasting/TWAN_06_03_11.html
- Discovery Channel, Daily Planet, Digging for life (05.24.2011).
- Noticias Canal 5, Madrid, Spain (in Spanish), Natural and cultural history of Rapa Nui caves (09.28.2008).
- Inside NAU, The Television Show, Northern Arizona University, Flagstaff, J. Judson Wynne discusses recent discovery of new millipede genus in northern Arizona caves (04.04.2007). http://www4.nau.edu/insidenau/bumps/2007/4_4_07/inside.htm

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- Onset Computer Corp. Interview: How hard is it to affix a data logger to the wall of a cave? (06.13.2013). <https://www.onsetcomp.com/resources/how-hard-it-affix-data-logger-wall-cave>
- Planetary Society Radio, Jut Wynne in the caves of the Atacama (08.18.2008). <http://planetary.org/multimedia/planetary-radio/show/2008/302.html>

Radio

- KNAU Arizona Public Radio, Brain Food: New cave species from southern China (06.21.2018). <http://knau.org/post/brain-food-cave-creatures>
- Radio Manukena, 88.9 FM, Rapa Nui (Easter Island), Programa de Consejo de Monumentos. Discussion on Rapa Nui endemic insects project (09.05.2016).
- Radio Manukena, 88.9 FM, Rapa Nui (Easter Island), Programa de CONAF. Discussion on Rapa Nui endemic insects project (09.12.2016).
- KNAU Arizona Public Radio, Brain Food: Protecting Easter Island's newly discovered cave-dwelling bugs (11.26.2015). <http://knau.org/post/brain-food-protecting-easter-island-s-newly-discovered-cave-dwelling-bugs>
- KTAR, 92.3 FM News Talk Radio, Interview on *Eleodes wynnei* (7.31.2012).
- KNAU Earth Notes, Arizona Public Radio (NPR Affiliate), Flagstaff, Life in a lava tube (05.26.2010).
- Arizona Public Radio News (NPR Affiliate), Flagstaff, AZ - New millipede genus discovery (03.20.2007).
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INTERESTS

Yoga, trail-running, mountain biking, cycling, cross-country skiing, snowshoe running, surfing, playing guitar and ukulele, and reading books on political history, philosophy, and natural history.