

CURRICULUM VITAE
NICOLE PIETRASIAK

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Plant & Environmental Sciences Department,
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RESEARCH EXPERTISE

Terrestrial cyanobacteria and algae, cyanobacterial systematics and phylogenetics, microbial ecology, biological soil crusts, dryland ecology, soil ecology

PROFESSIONAL APPOINTMENTS/EMPLOYMENT

- 2015-present: Assistant Professor, Plant & Environmental Sciences Department, New Mexico State University.
2015-2015: Research Associate and Lab Manager, The Holden Arboretum, Kirkland, Ohio.
2014-2015: Algae Collection Curator and Research Associate, John Carroll University.
2012-2013: Post-Doctoral Researcher, John Carroll University.

EDUCATION

- 2008 – 2012: Ph.D., Soil and Water Sciences, University of California – Riverside.
2005 – 2007: M.S., Biology, John Carroll University.
2002 – 2003: Study abroad, Geography and Environmental Biology, St. Andrews University, Scotland UK.
1998 – 2005: Diploma of Geography, Major: Geography, 1st Minor: Biology 2nd, Minor Geology, University of Leipzig, Germany.

PEER-REVIEWED PUBLICATIONS

*indicating mentored graduate; †indicating undergraduate students.

- Pietrasiak, N.**, Osorio-Santos, K., Shalygin, S.* †, Martin, M.P. & Johansen, J.R. First insights into the population genetics of soil cyanobacteria with the description of a new genus: *Myxacorys* gen. nov. (Synechococcales: Cyanobacteria) and two species from the Americas. *Journal of Phycology*, in review.
- Mesfin, M., Johansen, J.R., **Pietrasiak, N.** & Baldarelli, L.M. *Nostoc oromo* sp. nov. (Nostocales, Cyanophyceae) from Ethiopia: a new species based on morphological and molecular evidence. *Phytotaxa*, in review.
- Drenovsky, R.E., Short, T. & **Pietrasiak, N.** Global patterns in plant nutrient resorption plasticity. *Global Ecology and Biogeography*, in review.
- Shalygin, S.* †, **Pietrasiak, N.**, Gomez, F., Mlewski, C., Gerard, E. & Johansen, J.R. 2018. *Rivularia halophila* sp. nov. (Nostocales, Cyanobacteria): the first species of *Rivularia* described with the modern polyphasic approach. *European Journal of Phycology*, 54: 1–12.

- Mai, T.*, Johansen, J.R., **Pietrasiak, N.**, Bohunická, M. & Martin, M.P. 2018. Revision of the Synechococcales (Cyanobacteria) through recognition of four families including Oculatellaceae *fam. nov.* and Trichocoleaceae *fam. nov.* and six new genera containing 14 species. *Phytotaxa*, 365(1): 1–59.
- Mühlsteinová, R.*, Hauer, T., De Ley P. & **Pietrasiak, N.** 2018. Seeking the true *Oscillatoria*. A quest for a reliable phylogenetic and taxonomic reference point. *Preslia*, 90:151–169.
- Zanella, A., Fritz, I., **Pietrasiak, N.**, Matteodo, M., Ponge, J.F., Nadporozhskaya, M., Juilleret J., Tatti D., Le Bayon C., Rotschild L. & Mancinelli R. 2018. Para Humus Systems and Forms In HUMUSICA, a new humus manual. *Applied Soil Ecology*, 122:181–199.
- Johansen, J.R., Mareš, J., **Pietrasiak, N.**, Bohunická, M., Zima, J., Jr., Štenclová, L., & Hauer, T. 2017. Highly divergent 16S rRNA sequences in ribosomal operons of *Scytonema hyalinum* (Cyanobacteria). *PLOS ONE*, 12(10): e0186393.
- Shalygin, S.*, Shalygina, R., Johansen, J.R., **Pietrasiak, N.**, Berrendero, E., Bohunická, M., Mareš, J. & Sheil, C.A. 2017. *Cyanomagarita* gen nov. (Nostocales, Cyanobacteria): Convergent evolution resulting in a cryptic genus. *Journal of Phycology*, 53: 762–777.
- Hentschke, G. S. *, Johansen, J. R., Rigonato, J., Fiore, M., **Pietrasiak, N.** & Sant'Anna, C. L. 2017. *Komarekiella atlantica* gen. et sp. nov. (Nostocaceae, Cyanobacteria): a new subaerial taxon from the Atlantic Rainforest and Kauai, Hawaii. *Fottea*, 17(2): 178–190.
- Miscoe, L.H.*, Johansen, J.R., Vaccarino, M., **Pietrasiak, N.** & Sherwood, A.R. 2016. Novel cyanobacteria from caves on Kauai, Hawaii. *Biblioteca Phycologica*, 120: 75–152.
- Hentschke, G. S.*, Johansen, J. R., **Pietrasiak, N.**, Fiore, M. de F., Rigonato, J., Sant'Anna, C.L., & Komárek, J. 2016. Phylogenetic placement of *Dapisostemonum* gen. nov. and *Streptostemon*, two tropical Microchaetacean genera (Cyanobacteria). *Phytotaxa*, 245: 129–143.
- Burke, D.J., **Pietrasiak, N.**, Situ, S.F., Abenojar, E.C., Porche, M., Kraj, P., Lakliang, Y. & Samia, A.C.S. 2015: Iron Oxide and titanium dioxide nanoparticle effects on plant performance and root associated microbes. *International Journal of Molecular Sciences*, 16: 23630–23650.
- García, V.*, Aranibar, J. & **Pietrasiak, N.** 2015. Multiscale effects on biological soil crust cover and distribution in the central Monte Desert. *Acta Oecologica*, 69: 35–45.
- Bohunická, M., **Pietrasiak, N.**, Johansen, J.R., Berrendero Gomez, E., Hauer, T., Gaysina, L. & Lukešová, A. 2015. *Roholtiella*, gen. nov. (Nostocales, Cyanobacteria) - a tapering, filamentous cyanobacteria within the Nostocaceae. *Phytotaxa*, 197: 84–103.
- Pietrasiak, N.**, Mühlsteinová, R.*, Siegesmund, M. & Johansen, J.R. 2014. Phylogenetic placement of *Symplocastrum* (Phormidiaceae, Cyanobacteria) with descriptions of two new species: *S. flechtnerae* and *S. torsivum*. *Phycologia*, 53: 529–541.
- Osorio-Santos, K., **Pietrasiak, N.**, Bohunická, M., Miscoe, L.H.*, Kováčik, L., Martin, M.P. & Johansen, J.R. 2014. Seven new species of *Oculatella* (Pseudanabaenales, Cyanobacteria). *European Journal of Phycology*, 49: 450–470.
- Patzelt, D.J., Hodač, L., Friedl, T., **Pietrasiak, N.** & Johansen, J.R. 2014. Biodiversity of soil cyanobacteria in the hyper-arid Atacama Desert, Chile, assessed by culture dependent and independent approaches. *Journal of Phycology*, 50: 698–710.

- Mühlsteinová, R.*, Johansen, J.R., **Pietrasiak, N.**, Martin, M.P., Osorio-Santos, K. & Warren, S.D. 2014. Polyphasic characterization of *Trichocoleus desertorum* sp. nov. (Pseudanabaenales, Cyanobacteria) from desert soils and phylogenetic placement of the genus *Trichocoleus*. *Phytotaxa*, 193: 241–261.
- Mühlsteinová, R.*, Johansen, J.R., **Pietrasiak, N.** & Martin, M.P. 2014. Polyphasic characterization of *Kastovskya adunca* gen. et comb. nov. (Oscillatoriales, Cyanobacteria) from desert soils of the Atacama Desert, Chile. *Phytotaxa*, 193: 216–228.
- Pietrasiak, N.**, Drenovsky, R.E., Santiago, L.S., & Graham, R.C. 2014. Biogeomorphology of a Mojave Desert Landscape – configurations and feedbacks of abiotic and biotic land surfaces during landform evolution. *Geomorphology*, 206: 23–36.
- Pietrasiak, N.**, Regus, J.U., Johansen, J.R., Lam, D.⁺, Sachs, J.L. & Santiago, L.S. 2013. Biological soil crust community types differ in key ecological functions. *Soil Biology and Biochemistry*, 65: 168–171.
- Martínez-Berdeja, A.*, **Pietrasiak, N.**, Tamase, A.⁺, Ezcurra, E. & Allen, E.B. 2013. Living where others dare not: Microhabitat distribution and seed retention in *Chorizanthe rigida*, a basicarpic desert annual. *Journal of Arid Environments*, 97: 120–126.
- Flechtner, V.R., **Pietrasiak, N.** & Lewis, L.A. 2013. Newly revealed diversity of eukaryotic algae from wilderness areas of Joshua Tree National Park (JTNP). *Monographs of the Western North American Naturalist*, 6: 43–63.
- Pietrasiak, N.**, Johansen, J.R., La Doux, T. & Graham, R.C. 2011. Spatial distribution and comparison of disturbance impacts to microbiotic soil crust in the Little San Bernardino Mountains of Joshua Tree National Park, California. *Western North American Naturalist*, 71: 539–552.
- Pietrasiak, N.**, Johansen, J.R. & Drenovsky, R.E. 2011. Geologic composition influences distribution of microbiotic crusts in the Mojave and Colorado Deserts at the regional scale. *Soil Biology and Biochemistry*, 43: 967–974.

OTHER PUBLICATIONS

- Pombubpa, N., Tania Kurbessoian, T., Stajich, J.E. & **Pietrasiak, N.** Exploring the Microbial Diversity in Biological Soil Crusts at Joshua Tree National Park. *Joshua Tree Science*. In review.
- Bowker, M. A., Belnap, J., Büdel, B. Sannier, C., **Pietrasiak, N.**, Eldridge, D., Rivera-Aguilar, V. 2016. Chapter 10. Controls on distribution patterns of biological soil crusts at the micro- to global scales. In: Belnap, J. & Lange, O. (eds.): *Biological soil crusts: structure, function and management*. Springer. 3rd edition.
- Pietrasiak, N.** 2014. Field guide to classify biological soil crusts for ecological site evaluation. *USDA-NRCS Technical Reference*. The current version can be viewed at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/ref/#field_guides.
- Pietrasiak, N.** & Johansen, J.R. 2014. Microbiotic soil crust communities in California’s deserts are ecologically critical. *Fremontia* 42: 18–19.

GRANTS, AWARDS, AND CONTRACTS

- 2018:
- PI: “BPSS: Floristic inventory of Organ Mountains cryptogams – a first step towards monitoring soil and air health.” US DOI/BLM (Total award: \$45,000).
 - PI with Bailey, D., Johansen, J. & Polle, J.: “CSP-New Investigator: Understanding phylogenomic relationships and photosynthetic pigment evolution in terrestrial cyanobacteria” Joint Genome Institute.
 - Co-PI with Hom, E. (Lead-PI) & Stajich, J.: “CSP-FICUS: Probing microbial interactions and coordinated trophic responses in biological soil crusts” Joint Genome Institute and EMSL (Total award estimated: \$136,202).
 - Co-PI with Ganguli, A.: “Ecosystem Health in the Rio Puerco Watershed” USDA/Natural Resources Conservation Service (Credit: \$15,000, Total award: \$75,000).
 - Co-PI with Peter, D., Bestelmeyer, B. (Lead-PIs), Archer, S., Besterlmeyer, S., Brungard, C., Garcia-Pichel, F., Herrick, J., Monger, C., Okin, C, Sala, O., Schooley, R., Tweedie, C. & Vivoni, E.: Long –Term Research at the Jornada Basin (LTER VII) (Credit: 150,000, Total Award: \$2,254,000).
- 2017:
- PI: “Development of a Soil Crust Identification Guide for White Sand National Monument Citizen Science Program”. US DOI/NPS (Total Award: \$99,930).
 - PI: Amendment to: Application of an Area-Based Quality Index (ABQI) to assess & manage biological soil crusts in the Mojave & Sonoran Deserts - US DOI/BLM (Total Award: \$53,772).
 - Co-PI with Fuentes-Soriano, S. (Lead-PI), Bailey, D. & Ganguli, A.: "Consolidating, modernizing and harnessing the full potential of two herbaria collections at New Mexico State University" – NSF (Credit: \$42,296, Total Award: \$422,960).
 - Co-PI with Lehnhoff, E.A. (Lead-PI), Libbin, J., Sanogo, S., Thomas, S., Idowu, O. & Schutte, B.: "Cover crops in the southwest: Obtaining ecosystem services while minimizing water use" - USDA-NIFA (Credit: 7,500, Total Award: \$149,601).
 - Co-PI with Lehnhoff, E.A. (Lead-PI), Bailey, D., Bestelmeyer, B., Burke, D.: "Understanding the role of the soil microbial community in driving plant invasions" - NMSU Impact Grant (Total Award: \$39,901).
 - Co-PI with Brungard, C.W.: Tools and Techniques for Biological Soils Crust Survey. US DOI/BLM (Credit: \$13,195, Total Award: \$65,978).
- 2016:
- Co-PI with A. Ganguli (Lead-PI) & Young, K.: Effects of conservation practices on ecosystem health in the Rio Puerco Watershed – USDA NRCS (Credit: \$15,000, Total Award: \$50,000).
 - PI: Relationships and feedbacks between the exotic *Eragrostis lehmanniana*, the native *Bouteloua eriopoda*, and their associated soil microbial communities in Chihuahuan Desert landscapes - AES Graduate Research Award, (Total Award: \$40,000).

- 2015:
 - PI: Application of an Area-Based Quality Index (ABQI) to assess & manage biological soil crusts in the Mojave & Sonoran Deserts - US DOI/BLM (Total Award: \$23,000).
- 2013-2015:
 - PI: University of California, Nematology Department, Research Contract (Total Award: \$42,000).
- 2013:
 - PI: University of California, Riverside, Environmental Science Department, Research Contract (Total Award: \$6,970).
- 2012:
 - PI: PSA Grant in Aid of Research, Phycological Society of America. (Total Award: \$1,500).
 - PI: California Desert Research Fund, The Community Foundation, serving Riverside and San Bernardino Counties (Total Award: \$3,634).
- 2009 – 2012:
 - Co-PI with R.C. Graham (Lead-PI): Desert Southwest Cooperative Ecosystem Studies Fund, NRCS-USDA (Total Award: \$40,000).
- 2007:
 - PI: Joshua Tree National Park Graduate Student Research Grant, Joshua Tree National Park Association (Total Award: \$2,000).
 - PI: California Desert Research Fund, The Community Foundation, serving Riverside and San Bernardino Counties (Total Award: \$2,000).
- 2006:
 - PI: California Desert Research Fund, The Community Foundation, serving Riverside and San Bernardino Counties (Total Award: \$4,000).
 - PI: John Carroll University Department of Biology Research Fund, John Carroll University (Total Award: \$1,000).

TEACHING EXPERIENCE

Instructor

New Mexico State University

- Fall 2018:
 - Course title: Special Topics: Cyanobacteria from Yosemite NP (SOIL450).
- Spring 2018:
 - Course title: Special Topics: Biological Soil Crusts (SOIL500).
- Spring 2017:
 - Course title: Soil Microbiology (SOIL476 & SOIL476L).
- Spring 2018, Fall 2016:
 - Course title: Soils (SOIL252 & SOIL252L).
- Spring 2016:
 - Course title: Preparing a thesis proposal (SOIL599).

John Carroll University

- Spring 2014:
 - Course title: Earth System Science (PH206). Class website: <http://earthsystemsatjcu.weebly.com>.

Co-instructor

John Carroll University

- Summer 2014:
 - Course title: Explorations in Science Content (PH197), developed and taught the Earth System Science segment.
- Spring 2012, 2014:
 - Course title: Desert Field Biology (BL454L), aided in class development, created field activities.

- Spring 2013: • Course title: Earth System Science (PH206), created and taught 2/3 of lecture material on Soil Science and Geomorphology.
- Fall 2012: • Course title: Environmental Earth Science (PH115), created and taught 1/3 of lecture material and field trips.

Guest Lecturer

New Mexico State University

- Fall 2017: • Course title: Experimental Systems in Genetics (GENE110), title: Phylogenetics of terrestrial cyanobacteria - Utilizing genes to describing new species in cyanobacteria.
- Spring 2016: • Course title: Soils (SOIL252), topic: physical, chemical, and biological weathering; soil taxonomy (total of 2 lectures).
• Course title: Environmental Behavior of Pesticides (EPWS420), topic: Understanding the ecology of microbes in situ.

John Carroll University

- Spring 2012, 2014: • Course title: Desert Biology, topic: biological soil crust ecology (total of 2 lectures).
- Fall 2013: • Course title: Environmental Earth Science, topic: earthquakes, volcanic processes and landforms (total of 4 lectures).
- Spring 2013: • Course title: Evolution, led discussion on: The Geography of Evolution.

MENTORING/ADVISING EXPERIENCE

New Mexico State University

- 2015-present: • Mentor to graduate students: Jered Korfhage (M.S., graduate of Sp. 2017), Andrew Dominguez (M.S.), Megan Stovall (M.S.), Truc Mai (Ph.D.).
• Mentor to undergraduate students Megan Stovall, Frederick Hansen, Catherine Chavez, Mariela Estrada, Anthony Granite.
• Mentor to NSF REU undergraduate students: Frederick Hansen (NMSU), Haley Dallas (CSU), Claudia Villalobos (UTEP).
- 2018: • Supervisor and mentor to research assistant Jonathan Kilgore.
- 2017: • Mentor of international student Sergei Shalygin during his OPT at NMSU.

John Carroll University

- 2015-2016: • Committee member and mentor of M.S. graduate students Sergei Shalygin and Truc Mai.
- 2015: • Mentor of M.S. graduate students Kim Peterson-Dout and Sergei Shalygin in collection curation;
• Mentor of undergraduate students Eli Moss and Conner Witherow and graduate student researchers Truc Mai in molecular methods;
• Mentor of undergraduate student Jay Hillery, Jered Korfhage, and Ian Reider in independent research projects, John Carroll University.

- 2012-2013:
- Committee member and mentor of M.S. graduate student Radka Můhlsteinová.
 - Adviser and mentor of undergraduate student Cory Gotowka, Deni Klein, Ryan Teknipp, and M.S. graduate student researchers Laura Miscoe and Allison Minerovic in molecular methods, algal culturing, incubation, microscopy;
 - Advisor and mentor of undergraduate Will Murray and Jered Korfhage in soil analysis.

University of California, Riverside

- 2008-2012:
- Mentor of four undergraduate students Eric Lee, David Lam, Alyssa Tamase, William Duong in soil field survey and lab analysis.

AWARDS AND HONORS

- 2016:
- Editor's Citation for Excellence in Manuscript Review Award
- 2008 – 2012:
- Graduate Student Fellowship: \$ 133,800, Graduate School, University of California, Riverside.
- 2011:
- Bingham Fellowship \$2,000, Environmental Sciences Department, University of California, Riverside.
 - Outstanding Teaching Assistant Award, University of California, Riverside.
- 2010:
- SSSA 05 Division Graduate Student Oral Presentation Competition 3rd Place.
 - Bingham Fellowship \$1,350, Environmental Sciences Department, University of California, Riverside.
- 2005-2007:
- Graduate Assistantship Scholarship: \$18,000. Graduate School, John Carroll University.

OUTREACH

- 2012-2018:
- Biological Soil Crust of Joshua Tree National Park, 1 credit unit workshop open to NPS resource staff, land manager, and public, University of California, Riverside extension offered at Desert Institute, Joshua Tree National Park, California.
- 2018:
- One-hour outreach activity to 4H youth: “Soil and the Amazing World of Desert Plants”, State 4-H Conference, NMSU, Las Cruces, NM.
 - Outreach activity to East Picacho Elementary School 1st graders to teach them about soil biology NMSU.
 - Featured in NMSU Newsletter, GYPWORLD research initiative: <https://newscenter.nmsu.edu/Articles/view/13304/nmsu-biologists-take-part-in-eu-funded-research-on-new-mexico-s-unique-gypsum-ecosystems>.

- 2017:
- Biological Soil Crust - Ecology and Diversity. A four-day workshop open to IANIGLA faculty, staff and students as well as academics from surrounding universities. Instituto Argentino de Nivología y Glaciología y Ciencias Ambientales (IANIGLA), Centro Científico Tecnológico, Mendoza, Argentina.
 - Invited talk: "The Hidden World of Biological Soil Crusts", Native Plant Society New Mexico, Las Cruces Chapter.
- 2016:
- Sigma Xi's Science Café talk on: "Exploring the world of desert soil and rock algae", presented by the International Scientific Research Society, Las Cruces Museum of Nature and Science.
- 2008-2010:
- Biological Soil Crust of Joshua Tree National Park, 1-day workshop open to public, Desert Institute, Joshua Tree National Park, California.
- 2013:
- Project ¿QUE?, tutored a 1-week long science camp for 7th grade middle school Hispanic children, John Carroll University, Ohio.
- 2013:
- Field class, organized and taught a 1.5 hr outdoor field class to 2nd grade students about the biodiversity and wonders of microscopic life in local water bodies, Our Shepherd Lutheran School, Painesville, Ohio.
- 2011:
- Training on classification and identification of biological soil crusts, USDA-NRCS Victorville Service Center, Victorville, California, Training on classification and identification of biological soil crusts.

ORAL PRESENTATIONS

- 2018:
- **Invited speaker:** "First patterns from Jornada Microbes". Jornada LTER Annual Meeting, Las Cruces, NM.
 - "And you see your gypsy – A study of terrestrial cyanobacterial communities from gypsum soils". Joint PSA and ISOP Meeting, Vancouver, Canada.
- 2017:
- **Invited speaker:** "Biological soil crust - an integral part of the desert landscape". Graduate Student Seminar, Geology Dept., UTEP, El Paso, TX.
 - **Invited speaker:** "Diversity and distribution of soil Cyanobacteria in South Western U.S.". 14th Biennial Conference of Science & Management on the Colorado Plateau & Southwest Region, Flagstaff, AZ.
 - **Invited speaker:** "Demystifying the microbial black box – first insights". Jornada LTER Annual Meeting, Las Cruces, NM.
 - **Invited speaker:** "Illuminating the diversity of soil cyanobacteria from North America". Annu. Meet., PSA, Monterey Bay, CA.
 - **Invited speaker:** "Exploring Dry Microbes - You won't believe how much fun you can have studying dryland algae". Mega Micro Seminar, Biology Dept., NMSU, Las Cruces, NM.
- 2016:
- **Invited speaker:** "A voyage into the extreme – Exploring dryland algae". Ludwig-Maximilian-University, Munich.
 - **Invited speaker:** "The Jornada – a playground for biocrust research." Jornada LTER Annual Meeting, Las Cruces, NM.

- 2014: • **Invited speaker:** “The biocrust, nematode, landscape love triangle - insights into a complex relationship.” Instituto Argentino de Nivología y Glaciología y Ciencias Ambientales (IANIGLA), Centro Científico Tecnológico, Mendoza, Argentina.
- 2013: • “Biodiversity of cyanobacteria in biological soil crusts of the Mojave Desert.” The 19th Symposium of the International Society for Cyanophyte Research, Cleveland, OH.
• **Invited speaker:** “Desert biota, soils, and the landscape - a different evolutionary story.” Biology Department Seminar, John Carroll University, Cleveland, OH.
- 2012: • **Invited speaker:** “Linking biological soil crusts, ecosystem functions and landforms.” The 2nd Biennial California Desert Research Symposium, Redlands, CA.
• **Invited speaker:** “The effects of geomorphology and associated soil properties on biological soil crust abundance and distribution”. ESA Annual Meeting, Portland OR.
- 2010: • “Recognizing Biological soil crusts in Southern CA - A Field Guide for Soil Surveys”. Intern. Annu. Meet., ASA-CSSA-SSSA, Long Beach, CA.
• **Invited speaker:** “Biogeomorphology of biological soil crusts in the Mojave Desert”. Biological Soil Crusts in Ecosystems, Their Diversity, Ecology, and Management Workshop, Retzbach-Zellingen, Germany.
- 2009: • **Invited speaker:** “Biogeography of biological soil crusts in the Mojave Desert”. CNPS Mojave Desert Chapter Meeting, Victorville College, Victorville, CA.
• **Invited speaker:** “Ecology and Diversity of Soil Algae of the Mojave Desert”. Mojave National Preserve Soils Scoping Session, Barstow, CA
- 2008: • “Ecology and Diversity of Biological Soil Crusts in Joshua Tree National Park”. Seminar in the Soil and Water Science Program, University of California, Riverside, CA.
• “Microbiotic crust distribution and development in diverse Mojave Desert plant communities”. The 1st Biennial California Desert Research Symposium Contributing to the Understanding and Conservation of Desert Wilderness, Redlands, CA.

POSTER PRESENTATIONS

* indicating mentored graduate or undergraduate students

- 2018: • Omari, H.*, Ferrenberg, S., De Ley, P., Pietrasiak, N., Nishiguchi, M.K.: “Spatiotemporal variations of microbial communities in biological soil crusts at the Jornada LTER”. LTER All Scientist Meeting, Pacific Grove, California.
• Taylor, M., **Pietrasiak, N.**, Fučíková, K.: “A novel cryptic species of green algae from the California Desert”. Joint PSA and ISOP Meeting, Vancouver, Canada.

- Hansen, F.* , Pietrasiak, N., Peters, D., Anderson, J., Stajich, J., Pombubpa, N.: “Revealing microbial diversity from biological soil crusts of Jornada Basin vegetative zones”. HHMI Gala, NMSU, Las Cruces, NM.
 - Dominguez, A.* , **Pietrasiak, N.**, Lehnhoff, E., Burke, D., Kyker, S.: “Comparing the rhizosphere microbial communities of the invasive lovegrass and native black grama”. Jornada LTER annual meeting, Las Cruces, NM.
 - Hansen, F.* , Pietrasiak, N., Peters, D., Anderson, J., Stajich, J., Pombubpa, N.*: “Revealing microbial diversity from biological soil crusts of Jornada Basin vegetative zones”. Jornada LTER annual meeting, Las Cruces, NM.
 - Dominguez, A.* , **Pietrasiak, N.**, Lehnhoff, E., Kyker, S.: “A comparison of the rhizosphere microbial communities of the invasive lovegrass and native black grama”. First ACES open house, NMSU, Las Cruces, NM.
 - Taylor, M., **Pietrasiak, N.**, Fučíková, K.: A novel cryptic species of green algae from the California Desert. NEAS Symposium, University of New Haven, New Haven, CT.
 - Mai, T.* , **Pietrasiak, N.**, Bailey, D.: “Blue, green and beyond – The search for pigment-related genes in Cyanobacteria genomes of the family Oculatellaceae”. 13th Annual New Mexico Bioinformatics, Science and Technology Symposium, Santa Fe, NM.
 - Dallas, H.* , Herrick, J., Van Zee, J., **Pietrasiak, N.**: “Long term ecosystem resilience to anthropogenic disturbance in Southwestern New Mexico”. Colorado State University, Fort Collins, CO.
 - Schallner, J.W.* , Ganguli, A.C., **Pietrasiak, N.**, Strait, R.: “Monitoring the Impacts of Conservation Practices on Ecosystem Health in the Rio Puerco Watershed”. Annu. Meet., SRM, Sparks, NV.
- 2017:
- Keller, L.* , Ulery, A. L., Idowu, O. J., Brewer, C. E., Holguin, F. O., **Pietrasiak, N.**: “Biochar potential in arid agricultural soils”. NM Sustainable Agriculture Conference, USDA Western SARE, Los Lunas, NM.
 - Omer, M.N.* , Idowu, O.J., Ulery, A., VanLeeuwen, D., Guldán, S.J., **Pietrasiak, N.** Marsalis, M.A.: “Impacts of crop management systems on arid land soil quality”. Joint. Annu. Meet., ASA-CSSA-SSSA, Tampa, FL.
 - Stovall, M.S.* , **Pietrasiak, N.**, Ganguli A.C., Schallner J.: “Biological soil crust communities in conjunction with soil stability in the Rio Puerco watershed”. Annu. Meet., PSA, Monterey Bay, CA.
 - Schallner, J.W. * , Ganguli, A.C., **Pietrasiak, N.**, Young, K.R.: “Effects of conservation practices on ecosystem health in the Rio Puerco watershed”. Annu. Meet., SRM, St. George, UT.
- 2016:
- Baldarelli, L.M.* , Johansen, J.R. & **Pietrasiak, N.**: “*Nostoc* and *Mojavia* species isolated from the soils of the Atacama Desert, Chile”. Biocrust 3, 3rd International Workshop on Biological Soil Crusts, Moab, UT.
 - Korfhage J.* , **Pietrasiak, N.**, Johansen, J.R. & De Ley, P.: “Tardigrades display preferential grazing of soil algae”. Biocrust 3, 3rd International Workshop on Biological Soil Crusts, Moab, UT.

Pombubpa N.*, De Ley, P., **Pietrasiak, N.** & Stajich, J.E.: "Biological soil crusts microbiome diversity at Joshua Tree National Park, Granite Mountain, and Kelso Mountain". Biocrust 3, 3rd International Workshop on Biological Soil Crusts, Moab, UT.

- **Pietrasiak, N.**, Stovall, M.*, Shalygin, S.* & Johansen, J.R.: "Subaerial epilithic cyanobacteria from Yosemite National Park, California, USA". The 20th Symposium of the International Society for Cyanophyte Research, Innsbruck, Austria.

- Hentschke, G. S. *, Johansen, J. R., Rigonato, J., Fiore, M., **Pietrasiak, N.** & Sant'Anna, C. L.: "*Komarekiella atlantica* gen. et sp. nov. (Nostocaceae, Cyanobacteria): a new subaerial taxon from the Tropics". The 20th Symposium of the International Society for Cyanophyte Research, Innsbruck, Austria.

- Johansen, J.R., **Pietrasiak, N.**, Shalygin, S.*: "Aerotope production in the benthic genus *Nostoc*: Molecular confirmation that *N. kihlmanii* belongs to *Nostoc sensu stricto*". Annu. Meet., PSA, Cleveland, OH.

- Mai, T.T.*, Bohunická, M., **Pietrasiak, N.**, Johansen, J.R.: "Understanding the deep phylogenetic relationships of the thin filamentous synechococcales (Cyanobacteria)". Annu. Meet., PSA, Cleveland, OH.

2015:

- Mai, T.T.*, Bohunická, M., **Pietrasiak, N.**, Johansen, J.R.: "Taxonomic study of simple filamentous cyanobacteria from wet rock habitat in Utah". In PSA Abstracts, 50th Annu. Meet., PSA, Philadelphia, PA.

- Korfhage, J.J.*, **Pietrasiak, N.**, Hillery, J.*, Reider, I.*, De Ley, P., Short, T., Johansen J.R.: "Shall we eat? – A desert tardigrade's question in front of an algae dish". In PSA Abstracts, 50th Annu. Meet., PSA, Philadelphia, PA.

2014:

- Korfhage, J.J.*, Hillery, J.*, **Pietrasiak, N.**, De Ley, P., Johansen J.R.: "What's for dinner? Feeding behavior of desert tardigrades and nematodes using algae". A Celebration of Scholarship, John Carroll University, Cleveland, OH.

2013:

- **Pietrasiak, N.**, Mühlsteinová, R*. & Johansen, J.R.: "Would the real *Microcoleus steenstrupii* stand up?". The 19th Symposium of the International Society for Cyanophyte Research, Cleveland, OH.

- **Pietrasiak, N.**, Martin, M.P. & Johansen, J.R.: "*Myxacorys* gen. nov. (Pseudanabaeanales): A new cyanobacterium from desert soils in the western hemisphere". The 19th Symposium of the International Society for Cyanophyte Research, Cleveland, OH.

- Miscoe, L.H.*, Johansen, J.R., **Pietrasiak, N.** & Sherwood, A.R.: "*Stenomitos rutilans* Miscoe et Johansen gen. et sp. nov.: A new taxon from Waikapala'e cave, Kauai, Hawaii". The 19th Symposium of the International Society for Cyanophyte Research, Cleveland, OH.

- Mühlsteinova*, R., Johansen, J.R., **Pietrasiak, N.** & Martin, M.P.: "Polyphasic characterization of *Kastovskia adunca* gen. et comb. nov. (Oscillatoriales, Cyanobacteria) from desert soils of the Atacama Desert,

Chile". The 19th Symposium of the International Society for Cyanophyte Research, Cleveland, OH.

- 2012: • De Ley, P. **Pietrasiak, N.**, Tandingan De Ley, I., Flor-Peregrin, M.E., Gow, J. & Graham, R.C.: "Nematode community analyses in five mesoscale landforms from a piedmont fan skirt in the Mojave Desert". California Desert Research Symposium, Redlands, CA.
- 2011: • **Pietrasiak, N.**, Johansen, J.R. & Graham, R.C.: "Microbiotic soil crust abundance and community diversity varies according to mesoscale landform pattern in the Mojave Desert". Joint. Annu. Meet., PSA/ISoP Seattle, WA.
- 2008: • **Pietrasiak, N.**, Johansen, J.R., La Doux, T. & Graham, R.C.: "Biogeography of microbiotic soil crust in high vs. low recreational use areas within the Wonderland of Rocks of Joshua Tree National Park, California". Annu. Meet., PSA/ASBP Honolulu, HA.
- **Pietrasiak, N.**, Hirmas, D.R., Graham, R.C. & Bozhilov, K.N.: "Mineralogy of a paralithic horizon (well weathered bedrock) in the Mojave Desert". Joint. Annu. Meet., GSA/ASA-CSSA-SSSA/GCAGS/HGS, Houston, TX.
- 2007: • **Pietrasiak, N.**, Johansen, J.R., La Doux, T.: "Biogeography of microbiotic crusts in Joshua Tree National Park". ESA/SER Annual Joint Meeting, San Jose, CA.

ORAL PRESENTATIONS BY MENTORED STUDENTS

- 2018: • Omari, H., Pietrasiak, N., De Ley, P., Ferrenberg, S., Nishiguchi, M.: "Spatiotemporal variations of microorganismal communities within biological soil crusts at the Jornada Rangeland". Joint PSA and ISOP Meeting, Vancouver, Canada.
- Lovett, B., Pietrasiak, N. & Truscott, T.: "Unraveling the motility of the terrestrial cyanobacterium *Microcoleus vaginatus*". Joint PSA and ISOP Meeting, Vancouver, Canada.
- Pombubpa, N.: "Comprehensive bioinformatics analysis pipeline development to study soil microbial communities of Jornada Basin LTER". Jornada LTER annual meeting, Las Cruces, NM.
- Omari, H.: "Spatiotemporal variations of microorganismal communities within biological soil crusts". Jornada LTER annual meeting, Las Cruces, NM.
- Omari, H., Pietrasiak, N., Nishiguchi, M.: "Microorganismal communities of biocrusts in the Chihuahuan Desert". NMSU Biosymposium, Las Cruces, NM.
- Stovall, M., Pietrasiak, N., Ganguli, A.: "Distribution of biological soil crusts and their influence on soil stability in the Rio Puerto watershed". NMSU Biosymposium, Las Cruces, NM.

PROFESSIONAL AND UNIVERSITY SERVICE

- 2018:
- Six weeks training of visiting scholars Radka Mühlsteinová and Tomas Hauer (Czech Republic) in field sampling in soil biology research as well as molecular lab techniques in next generation amplicon sequencing.
 - One-week training in biocrust community classification and identification to research members of the GYPWORLD global initiative
 - Guest lectures for the USDA-NRCS Soil Geomorphic Institute training workshop 2018, presented on biological soil crust as an important landscape component.
- 2017:
- Training of Dr. Fernando J. Gomez and his Geomicrobiology and Biochemistry group in microbiological and phycological culturing techniques at the University of Cordoba, Argentina.
 - Training of graduate students Nuttapon Pombubpa and Julia Adams at Dr. Jason Stajich Fungal Genomics lab in soil algae identification and microscopy techniques, UC Riverside, CA.
 - Training of graduate student Ben Lovett in microbiological and phycological techniques at Dr. Tadd Truscott Mechanical & Aerospace Engineering, Utah State University, Logan, UT.
 - Host and mentor of visiting Ph.D. student Ana Maria Foronda Vasquez (Spain) during a 3-months summer internship working on the project: The role of plant and cryptogam gypsum soil specialist species in structuring diversity of gypsum plant communities in the Chihuahuan Desert.
- 2016:
- Host and mentor of visiting Ph.D. student Radka Mühlsteinová (Czech Republic) during a 3-months summer internship working on the project: Seeking the true *Oscillatoria*? Understanding the diversity and distribution of thick morphotypes in the genus *Oscillatoria*.
 - Host of visiting scholar Paul De Ley, UCR for three months of a sabbatical. Provided training on algal isolation from soil samples, algal cultivation, and field classification and identification of biological soil crusts to De Ley.
- 2014:
- Four-week field trip to the Monte Desert (Argentina) including training of Dr. Julieta Aranibar and undergraduate student Vanesa García (University of Mendoza) in biocrust community type identification and establishing collaboration with Dr. Julieta Aranibar and Dr. Solana Tabeni.
- 2013:
- One-week field trip to the White Mountains and Mojave Desert conducting a biological soil crust survey in collaboration of Dr. Robert Graham (UCR) and Dr. Paul De Ley (UCR), field work training of undergraduate student Jered Korfhage (JCU).
 - Two weeks training of visiting scholar Guilherme Scotta Hentschke from Brazil in phylogenetic analyses and secondary structure folding of cyanobacteria.
 - Two months laboratory training of visiting scholar Bingchang Zhang from China in algal culturing and molecular methods.

- 2012:
- One-week field trip to the White Mountains assisting Dr. Robert Graham with research, and training of M.S. student Aapris Frisbie (UCR) in vegetation and biocrust surveys.
 - Two-week field trip to the Chaco and Monte Desert (Argentina) training and assisting Dr. Paul De Ley with research involving biological soil crusts in nematode diversity studies as well as establishing collaboration with Dr. Fernando Gomez and Dr. Marcelo Doucet at the University of Cordoba.

ACADEMIC SERVICE

- 2012- present:
- Peer Reviewer of *Journal of Applied Phycology*, *Soil Biology and Biochemistry* (2x), *Arid Land Research and Management*, *Ecological Processes*, *Biodiversity and Conservation*, *Oecologia*, *SSSAJ*, *Geomorphology*, *Journal of Arid Environments* (2x), *Frontiers in Ecology and the Environment*, *Earth-Science Reviews*, *Geoderma*, *Catena*, *Biogeochemistry*, *Hydrobiologia*, *Phytotaxa*, *Cryptogamie Algologie*, *Environmental Soil Microbiology*, *Plant and Soil*, *New Phytologist* (2x), *Ecological Applications*, *Earth Surface Processes and Landforms*, *PeerJ*, (total of 26 manuscript reviews).
 - Ad hoc and panel grant proposal reviewer for NSF, Washington, DC (total of 32 proposals reviewed).
 - Ad hoc grant proposal reviewer for the Global Drylands Center at Arizona State University and Ben Gurion University.
- 2018:
- Session chair and moderator in the contributed paper session: “Diversity and Ecology” at Joint PSA/ISOP meeting, Vancouver, CA.
- 2017:
- Mentored three graduate students in peer reviewing for *Phytotaxa*, *Journal of Phycology*, and *Plant Ecology & Diversity*.
 - Organized and instructed a 3-day workshop on Biological Soil Crusts at Instituto Argentino de Nivología y Glaciología y Ciencias Ambientales (IANIGLA), Centro Científico Tecnológico, Mendoza, Argentina.
 - Symposium organizer and moderator of “Terrestrial Algae” at the Annual Meeting of PSA 2017, Monterey Bay, California.
- 2013:
- Organizing Committee for The 19th Symposium of the International Society for Cyanophyte Research.
- Web-Designer, International Association for Cyanophyte Research Symposium.
- 2009:
- Consulted in a conservation project with Tom Mulroy (Principal Scientist, SAIC): *Biological soil crust abundance and distribution in the Santa Ana River Woolly Star Preserve Area, California*.

WORKSHOPS AND CERTIFIED TRAINING

- 2014: • 8th Determination Course of Freshwater and Terrestrial Cyanobacteria,
Instructors: J. Komárek, J. Kaštovský, T. Hauer, J.R. Johansen, University of
South Bohemia, Czech Republic
- 2013: • MOTHUR Workshop, Instructor: P. Schloss, The University of Michigan

MEMBERSHIP IN SCIENTIFIC ORGANIZATIONS

- Phycological Society of America
- American Society for Microbiology
- Soil Ecological Society
- Ecological Society of America
- Soil Science Society of America
- Sigma Xi