Nicholas C. Dove, Ph.D.

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PROFESSIONAL EXPERIENCE

Postdoctoral Researcher, Oak Ridge National Laboratory — 07/2019 - *Present*
Oak Ridge, TN

Graduate Student Researcher, University of California, Merced — 08/2014 - 07/2019
Merced, CA

Graduate Fellow, Lawrence Berkeley National Laboratory — 10/2017 - 08/2018
Berkeley, CA

Intern, Bureau of Land Management — 05/2013 - 04/2014
Buffalo, WY

Intern, Bureau of Land Management — 06/2012 - 11/2012
Cedarville, CA

EDUCATION

University of California, Merced, CA
Ph.D., Environmental Systems, May 2019 — GPA: 4.00
Advisor: Stephen C. Hart
Committee: Asmeret Asefaw Berhe (Chair), J. Michael Beman, Neslihan Taş, Kathleen Treseder

University of Vermont, Burlington, VT
B.S., Environmental Science - *conc.* Geospatial Technologies, May 2012 — GPA: 3.77
Honors: Cum Laude, Presidential Scholarship, Dean's List

RESEARCH FUNDING

Immediate effects of prescribed fire on microbial communities, decomposition, and nitrification: (2017) DOE Joint Genome Institute - Community Science Program - 94 samples for amplicon sequencing and 16 shotgun metagenomes ($\sim \$22,000$) **[Lead Author]**

PUBLICATIONS

Dove, N.C., M.S. Torn, S.C. Hart, N. Taş. (*in review*) Phyla-wide metabolic capabilities mute positive response to direct and indirect impacts of warming throughout the soil profile. *Nature Communications.*

N. Taş., A.E.E. de Jong, Y. Li, G. Trubl, Y. Xue, **Dove, N.C.**. (*in review*) Metagenomic tools in microbial ecology research. *Current Opinion in Biotechnology.*

Dove, N.C., D.M. Klingeman, A.A. Carrell, M.A. Cregger, C.W. Schadt. (*in review*) Fire alters plant microbiome assembly patterns: integrating the plant and soil microbial response to disturbance. *New Phytologist.*

Dove, N.C., A.M. Veach, W. Muchero, T. Wahl, J.C. Stegen, C.W. Schadt, M.A. Cregger. (*in review*) Assembly of the *Populus* microbiome is temporally dynamic and determined by selective and stochastic factors. *mSphere.*

Dove, N.C., K. Arogyaswamy, S.A. Billings, J.K. Botthoff, C.J. Carey, C. Cisco, J.L. DeForest, D. Fairbanks, N. Fierer, R.E. Gallery, J.P. Kaye, K.A. Lohse, M.R. Maltz, E. Mayorga, J. Pett-Ridge, W.H. Yang, S.C. Hart, E.L. Aronson (2020) Continental-scale patterns of extracellular enzyme activity in the subsoil: an overlooked reservoir of microbial activity. *Environmental Research Letters.* DOI: 10.1088/1748-9326/abb0b3

Dove, N.C., T.J. Rogers, C. Leppanen, D. Simberloff, J.A. Fordyce, V.A. Brown, A.V. LeBude, T.G. Ranney, M.A. Cregger (2020) Microbiome Variation Across Two Hemlock Species With Hemlock Woolly Adelgid Infestation. *Frontiers in Microbiology.* DOI: 10.3389/fmicb.2020.01528

Dove, N.C., H.D. Safford, G.S. Bohlman, B.L. Estes, S.C. Hart (2020) High-severity wildfire leads to multi-decadal impacts on soil biogeochemistry in mixed-conifer forests. *Ecological Applications.* DOI: 10.1002/eap.2072

Aarons, S.M., L.J. Arvin, S.M. Aciego, C.S. Riebe, K.R. Johnson, M.A. Blakowski, J.M. Koornneef, S.C. Hart, M.E. Barnes, **N. Dove**, J.K. Botthoff, M. Maltz, E.L. Aronson. (2019) Competing droughts affect dust delivery to Sierra Nevada *Aeolian Research.* DOI: 10.1016/j.aeolia.2019.100545

Brewer, T.E., E.L. Aronson, K. Arogyaswamy, S.A. Billings, J.K. Botthoff, A.N. Campbell, **N.C. Dove**, D. Fairbanks, R.E. Gallery, S.C. Hart, J. Kaye, G. King, G. Logan, K.A. Lohse, M.R. Maltz, E. Mayorga, C. O'Neil, S.M. Owens, A. Packman, J. Pett-Ridge, A.F. Plante, D.D. Richter, W.L. Silver, W.H. Yang, N. Fierer. (2019) Ecological and genomic attributes of novel bacterial taxa that thrive in subsurface soil horizons. *mBio.* DOI: 10.1128/mBio.01318-19

Dove, N.C., J.M. Stark, G.S. Newman, S.C. Hart. (2019) Carbon control on terrestrial ecosystem function across contrasting site productivities: the carbon connection revisited. *Ecology.* DOI: 10.1002/ecy.2695

Cheng, H., **N.C. Dove**, J.M. Mena, T. Perez, S. Ul-Hasan. (2018) The Biota Project: A case study of a multimedia, grassroots approach to scientific communication for engaging diverse audiences. *Integrative and Comparative Biology.*
DOI: 10.1093/icb/icy091

Aciego, S.M., C.S. Riebe, S.C. Hart, M.A. Blakowski, C.J. Carey, S.M. Aarons, **N.C. Dove**, K.W.W. Sims, J. Botthoff, E.L. Aronson. (2017) Dust outpaces bedrock in nutrient supply to montane forest ecosystems. *Nature Communications*
DOI: 10.1038/ncomms14800

Dove, N.C. and S.C Hart. (2017) Fire reduces fungal species richness and mycorrhizal colonization: a meta-analysis. *Fire Ecology*, 13, 3765. DOI: 10.4996/fireecology.130237746

Krafte, K., **N. Dove**, M. Duda, E. Nikolaeva, J. Thomsen, C. Zajchowski. (2017) Unbounding parks and protected areas to overcome management challenges for the next 100 years. *George Wright Forum*, 34, 23-36

Carey, C., **N.C. Dove**, J.M. Beman, S.C. Hart, E.L. Aronson. (2016) Meta-analysis reveals ammonia-oxidizing bacteria respond more strongly to nitrogen addition than ammonia-oxidizing archaea. *Soil Biology and Biochemistry*, 99, 158-166

Dove, N. C. and W.S. Keeton. (2015). Structural Complexity Enhancement increases fungal species richness in northern hardwood forests. *Fungal Ecology*, 13, 181-192.

AWARDS & FELLOWSHIPS

People's Choice Award for ORPA Reseach Symposium	2020
Dept. of Energy Science Graduate Student Research Fellowship ($27,000)	2017-18
Environmental Systems Professional Development Award ($2,000 ea.)	2017, 18
Southern CA Edison Graduate Fellowship Award ($12,000 ea.)	2016, 17
Bobcat Summer Fellowship Award ($10,600 total)	2015-17
University of California, Merced Graduate Fellowship Award ($63,000 total)	2014-17
University of Vermont Presidential Scholarship ($8,000 total)	2008-12

TEACHING EXPERIENCE

Data Visualization Workshop (lecturer/organizer) — April 12, 2019
California State University, Stanislaus.

Research Visualization Workshop (lecturer/organizer) — March 6, 2019
University of California, Merced

Contemporary Biology (3 discussions × 20 students) — Fall 2018
University of California, Merced

Various guest lectures (Intro. to Ecology, Ecosystem Ecology) — 2016 - 2018
University of California, Merced

INVITED PRESENTATIONS

Dove, N.C., S.C. Hart., M.S. Torn, N. Taş Understanding the long-term temperature response of soil respiration with microbial ecology. Enviro Lunch Merced, CA. February 7, 2019

Dove, N.C., N. Taş, S.C. Hart. Soil microbial ecology of the Sierra Nevada: Predictions for a warm and fiery future. California Native Plants Society Meeting Sonora, CA. September 6, 2018

Dove, N.C., N. Taş, S.C. Hart. Soil microbial ecology of the Western US: Predictions for a warm and fiery future. Yosemite Forum Yosemite National Park. April 10, 2018

Dove, N.C. Geospatial techniques for field-based research: case studies in NW Baja California and Yosemite NP. Merced County Geosummit - Merced, CA. April 8, 2016

Dove, N.C., W.S. Keeton, S.C. Hart. Understanding fungal response to disturbance. Society for the Advancement of Chicanos/Hispanics and Native Americans in Science Seminar Series - Merced, CA. May 4, 2015

CONTRIBUTED PRESENTATIONS

Dove, N.C., N. Taş., M.A. Cregger, C.W. Schadt, S.C. Hart. (Oral) Ecological and genomic response of soil and plant microbiomes to wildfire: Linking fundamental community assembly processes to soil quality and plant health. Soil Science Society of America Annual Meeting. August, 2020

Dove, N.C., N. Taş., M.A. Cregger, S.C. Hart, C.W. Schadt. (Oral) Uncovering the pyro-microbiome: ecological and genomic responses of plant and soil microbial communities to wildfire. Ecological Society of America Annual Meeting. August, 2020

Dove, N.C., N. Taş., M.A. Cregger, S.C. Hart, C.W. Schadt. (Oral) Ecological and genomic responses of soil and plant microbiomes to wildfire: linking fundamental community assembly processes to soil quality and plant health. Oak Ridge Postdoctoral Association Research Symposium. July, 2020

Dove, N.C., T.J. Rogers, C. Leppanen, D. Simberloff, J.A. Fordyce, V.A. Brown, A.V. LeBude, T.G. Ranney, M.A. Cregger (Oral) Harnessing the hemlock microbiome: a potential defender against the hemlock woolly adelgid. Great Smokey Mountains National Park Science Colloquium. March 12, 2020

Dove, N.C., M.S. Torn, S.C. Hart, N. Taş. (Poster) Soil microbial ecology of the Sierra Nevada: Predictions for a warm and fiery future. Dept. of Energy Joint Genome Institute User Meeting. March 21, 2018

Dove, N.C., K. Arogyaswamy, C.J. Carey, A. Packman, S.C Hart, E.L. Aronson. (Oral) Over half of potential soil extracellular enzyme activity occurs below 20 cm. Ecological Society of America Annual Meeting. August 10, 2017

Dove, N.C., K. Arogyaswamy, C.J. Carey, A. Packman, S.C Hart, E.L. Aronson. (Poster) Over half of potential soil extracellular enzyme activity occurs below 20 cm. Critical Zone Observatory All-hands Meeting. June 10, 2017

Dove, N.C. and S.C. Hart. (Poster) Novel, high-severity fire influences microbial communities and biogeochemical processes: opening the charcoal box. Dept. of Energy Joint Genome Institute User Meeting. March 21, 2017

Dove, N.C. and S.C Hart. (Poster) Fire reduces fungal species richness and mycorrhizal colonization: a meta-analysis. Ecological Society of America Annual Meeting. August 11, 2016

COMMITTEES & SERVICE

Special issue guest editor, *Microorganisms*: "Unlocking the Mysteries of Deep Soil microbes: New Perspectives on the Mediators of Global Soil Biogeochemistry"

NEON Microbial Ecology Technical Working Group	2017 - 2019
Environmental Systems Graduate Group Student Representative	2018 - 2019
UC Merced Graduate Peer Mentor	2017 - 2019
UC Merced Environmental Systems Seminar Committee	2017 - 2018
UC Merced Graduate Student Association (Treasurer)	2016 - 2018
UC Merced Student Fee Advisory Committee	2014 - 2018 (Chair 2015 - 2016)
UC Merced Graduate Council	Spring 2017

Reviewer for *Nat. Eco. Evol.*, *ISME J.*, *Global Change Bio.*, *Sci. Tot. Env.*, *Am. Midl. Nat.*, *Fung. Ecol.*, *PeerJ*, *Ecosystems*, and *Plant & Soil*.

OUTREACH

Board of Directors (Treasurer) Community Initiatives for Collective Impacts
2017 - 2019 Merced, CA
Community Initiatives for Collective Impact (CI4CI) is a non-profit started by myself and two others to fiscally sponsor non-profit activities in California's Central Valley. While most major cities have resources for non-profit startups, rural, economically-depressed areas (where the need is greatest) are often overlooked. We currently sponsor three projects addressing health disparities and food security. <ci4ci.org>

Science Lead & Principal Writer The Biota Project
2015 - 2019 Merced, CA
The Biota Project is a mixed-media science communication and outreach organization taking a grass roots approach for connecting underrepresented communities to symbiotic relationships in nature and society since 2013. As Science Lead and Principal Writer, I am in charge of designing stories to document and managing a team of undergraduate students who identify and interview scientists for our stories.
<thebiotaproject.org>

Various K-12 Outreach: Science Fair Consultant, 'Ask a Scientist' visit, Soil nutrient testing lesson development and implementation