Stephen P. Cohen, Ph.D.
USDA NIFA Postdoctoral Fellow
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EDUCATION

2019 Ph.D. in Cell and Molecular Biology, Colorado State University
2013 B.Sc. in Cellular and Organismal Biology, Lock Haven University of Pennsylvania

PROFESSIONAL EXPERIENCE

2020 USDA NIFA Postdoctoral Fellow, The Ohio State University, Department of Plant Pathology, Columbus, OH; advisor: Jonathan M. Jacobs (2019-Present)
2019 Ph.D. Student, Colorado State University, Department of Bioagricultural Sciences and Pest Management, Fort Collins, CO; advisor: Jan E. Leach (2014-2019)
2013 Rotation Student, Colorado State University, Department of Biology, Fort Collins, CO; provisional advisor: June I. Medford
2012 Laboratory Technician, Pennsylvania Department of Agriculture, Plant Pathology Department, Harrisburg, PA; program manager: Ruth A. Welliver
2011 NSF Research Experience for Undergraduates Student, Department of Microbiology, Raleigh, NC; faculty mentor: Amy M. Grunden

AWARDS AND HONORS

2019 I.E. Melhus Graduate Student Symposium Award ($500), APS Foundation
2019 Education and Workforce Development Postdoctoral Fellowship ($164,997), USDA-NIFA FY2018
2019 William M. Brown Professional Development Award ($500), CSU-Department of Bioagricultural Sciences and Pest Management
2018 Exploring Career Opportunities Initiative Grant ($1,000), CSU Graduate School
2017 Frank Hawksworth Memorial Scholarship ($1,000), CSU-Department of Bioagricultural Sciences and Pest Management
2017 Sustainability Leadership Fellowship, CSU-School of Global Environmental Sustainability
2017 Phytobiomes Poster Award ($200), Phytobiomes Journal
2017 J. Artie and Arra Browning Student Travel Award ($500), APS Foundation
2015 Rice: Research to Production Course Travel Award (equivalent to $5,000), NSF
2013 College of Arts and Sciences Highest QPA Award, Lock Haven University of Pennsylvania
2010 CRC Press Chemistry Achievement Award, Taylor & Francis Group

PROFESSIONAL ACTIVITIES

Teaching and Mentoring
2019 Student Research Mentor, Jan E. Leach lab; I mentored 6 undergraduates and 2 high-school students in lab research from 2014-2019
2015 Graduate Teaching Assistant Instructor, CSU-Department of Biology; I served as lab instructor for courses Attributes of Living Systems (3 semesters) and Cell Biology (1

semester), and recitation instructor for course Molecular Genetics (1 semester), from 2013-2015.

2014 Teaching Assistant Mentor, CSU-Department of Biology; I served as mentor to new departmental GTAs

Service for Professional Societies and at Society Conferences

2019 Assumed Chair of APS Molecular/Cellular Phytopathological Committee

2019 Co-organizer for WORKSHOP: Effector visualization: teaching & research tools for studying pathogen effectors during infection (APS Plant Health 2019, Cleveland, OH)

2018 Elected Vice Chair of APS Molecular/Cellular Phytopathology Committee (APS Plant Health 2019, Cleveland, OH)

2018 Co-organizer for WORKSHOP: Effector-Detector Plants: Teaching & Research Tools for Monitoring Pathogen Virulence Live (International Congress on Plant Pathology 2018, Boston, MA)

Society Memberships

American Phytopathological Society (Since 2017)
International Society for Plant-Microbe Interactions (Since 2016)

Service as a Graduate Student

2019 Computational Resources Administrator for CSU-Department of Bioagricultural Sciences and Pest Management (2018-2019)

2018 Founder and Participant in Cell and Molecular Biology Peer Mentor Club (2014-2018)

2018 Student Representative in Bioinformatics Job Searches for CSU-Department of Bioagricultural Sciences and Pest Management

2018 Elected Member of the Graduate Student Liaison Committee, CSU-Department of Bioagricultural Sciences and Pest Management (2017-2018)

2018 Plant Pathology Journal Club Organizer for CSU-Department of Bioagricultural Sciences and Pest Management (2015-2018)

2017 Poster Session Judge for CSU ERHS450 Introduction to Radiation Biology

2017 Inaugural Member of the NSF GAUSSI Program, a transdisciplinary program in biosensing and computational biology (2016-2017)

Public Engagements

2018 Blogger for the CSU School of Global Environmental Sustainability; see: Cohen SP. 2018. “Is the glass of orange juice half empty?” Human Nature: Human Views on the Natural World. http://blog.sustainability.colostate.edu/?q=cohen

2018 Plant Pathology Outreach Facilitator with “Plants Get Sick Too” K-12 outreach group (2017-2018)

Other Activities

2017 Participant in Big Data Workshop, CSU-College of Agricultural Sciences

2017 Participant in COMPASS: Science Communication Workshop: Communicating Science to Journalists

2015 Participant in International Rice Research Institution Course: Rice Research to Production

INVITED TALKS

Cohen SP. Exploring the rice transcriptome response to multiple stresses. Department of Plant Pathology Autumn Seminar Series 2019, The Ohio State University, Columbus, OH.

Cohen SP, Leach JE. Abiotic and biotic stresses universally regulate the rice transcriptome. APS Plant Health 2019, Cleveland, OH, USA.

Cohen SP, Liu H, Verdier VM, Leach JE. Rice hormone response is involved in the temperature-dependent function of Xa7-mediated bacterial blight resistance. International Congress on Plant Pathology 2018, Boston, MA, USA.

Cohen SP, Liu H, Verdier V, Argueso CT, Leach JE. Key genetic responses involved in the rice response to simultaneous abiotic and biotic stresses. Keystone Symposium: Phytobiomes: from Microbiomes to Ecosystems 2016, Santa Fe, NM, USA.

POSTER PRESENTATIONS

Crue T, Shipp J, **Cohen SP**, Leach JE. It's not easy being green: Improvements to algae control in rice hydroponic growing systems. APS Pacific Division Meeting 2019, Fort Collins, CO, USA.

Cohen SP, Leach JE. Rice bacterial blight resistance at high temperature suppresses the abiotic response. 6th *Xanthomonas* Genomics Conference & 2nd Annual EuroXanth Conference 2018, Halle (Saale), Germany.

Cohen SP, Liu H, Argueso CT, Vera Cruz C, Verdier V, Leach JE. Rice plants exhibiting bacterial blight resistance at high temperature suppress abiotic response. APS Annual Meeting 2017, San Antonio, TX, USA.

Cohen SP, Liu H, Verdier V, Argueso CT, Leach JE. Transcriptomic analysis reveals key genetic responses involved in the rice response to simultaneous abiotic (high temperature) and biotic (bacterial blight) stresses. Keystone Symposium: Phytobiomes: from Microbiomes to Ecosystems 2016, Santa Fe, NM, USA.

Huerta A, Triplett L, **Cohen S**, Heffelfinger C, Schmidt C, Verdier V, Bogdanove A, Leach JE. Exception to the norm: Resistance locus *Xo1* is triggered by inactive TAL effectors. Keystone Symposium: Phytobiomes: From Microbiomes to Ecosystems 2019, Santa Fe, NM, USA.

Cohen SP, Triplett LR, Leach JE. A resistance mechanism from the American heirloom rice variety Carolina Gold Select is dependent on TAL effector central repeat region composition, but not the repeat variable diresidues. IS-MPMI XVII Congress 2016, Portland, OR, USA.

Triplett L, Verdier V, Alexander M, **Cohen S**, Craven J, Bogdanove A, Leach J. A novel rice resistance phenotype to *Xanthomonas oryzae* TAL effectors does not require the effector transcriptional activation domain. APS-CPS Joint Meeting 2014, Minneapolis, MN, USA.

PUBLICATIONS

Refereed Articles

Cohen SP, Luna EK, Lang JM, Ziegle J, Chang C, Leach JE, Fischer-Le Saux M, Portier P, Koebnik K, Jacobs JM: High-quality genome resource of *Xanthomonas hyacinthi* generated via long-read sequencing. Plant Dis 2019, *in press*.

Cohen SP, Leach JE: Abiotic and biotic stresses induce a core transcriptome response in rice. Sci Rep 2019, 9:6273.

Huerta AI, **Cohen SP**, Verdier V, Leach JE: Molecular genetics of bacterial blight and bacterial leaf streak and their impact on future control strategies. In: Rice diseases: Biology and selected management practices 2019, T. W. Mew, H. Hibino, S. Savary, C. M. Vera Cruz, R. Opulencia and G. P. Hettel, eds. International Rice Research Institute, Los Baños, Philippines. PDF E-book: http://rice-diseases.irri.org

Cohen SP, Jacobs JM, Leach JE: *In Planta* Bacterial Transcriptomics Predict Plant Disease Outcomes. Trends Plant Sci 2018, 23:751-753.

Cohen SP, Liu H, Argueso CT, Pereira A, Vera Cruz C, Verdier V, Leach JE: RNA-Seq analysis reveals insight into enhanced rice *Xa7*-mediated bacterial blight resistance at high temperature. PLoS One 2017, 12:e0187625.

Triplett LR*, **Cohen SP***, Heffelfinger C, Schmidt CL, Huerta AI, Tekete C, Verdier V, Bogdanove AJ, Leach JE: A resistance locus in the American heirloom rice variety Carolina Gold Select is triggered by TAL effectors with diverse predicted targets and is effective against African strains of *Xanthomonas oryzae* pv. *oryzicola*. Plant J 2016, 87:472-483. *co-first authors

In Review Articles

Cohen SP, Leach JE: High temperature-induced plant disease susceptibility: more than the sum of its parts. Curr Op Plant Biol 2020, *in review.*

Published Conference Abstracts

Crue T, Shipp J, **Cohen SP**, Leach JE. It's not easy being green: Improvements to algae control in rice hydroponic growing systems. Phytopathology 2019, 109 (11S): S3.1–S3.13

Cohen SP, Leach JE. Abiotic and biotic stresses universally regulate the rice transcriptome. Phytopathology 2019: 109 (10S): S2.192–S2.201

Cohen S, Liu H, Verdier VM, Leach JE. Rice hormone response is involved in the temperature-dependent function of Xa7-mediated bacterial blight resistance. Phytopathology 2018, 108 (S1): 310.

Cohen S, Liu H, Argueso C, Cruz CMV, Verdier V, Leach JE. Rice plants exhibiting bacterial blight resistance at high temperature suppress abiotic response. Phytopathology 2017, 107 (12): 3-3.

Triplett L, **Cohen S**, Heffelfinger C, Bogdanove A, Leach J. Resistance of Carolina Gold Select rice to African strains of Xanthomonas oryzae pv. oryzicola is triggered by inactivated TAL effectors. Phytopathology 2016, 106 (12): 21-21.

Triplett L, Verdier V, Alexander M, **Cohen S**, Craven J, Bogdanove A, Leach J. A novel rice resistance phenotype to Xanthomonas oryzae TAL effectors does not require the effector transcriptional activation domain. Phytopathology 2014, 104 (11): 120-120.