

Christopher Joseph Jones, PhD

Research Professor
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Curriculum Vitae

Education

Doctor of Philosophy, Microbial Pathogenesis, Ohio State University, Columbus, Ohio, August, 2013.
Advisor: Daniel Wozniak, PhD

Master of Science, Microbiology, Ohio University, Athens, Ohio, August 2006. Advisor: Donald Holzschu, PhD

Bachelor of Science, Biological Sciences, Ohio University, Athens, Ohio, June 2004.

Positions/Employment

Research Professor of Biofilm Science and Technology, Montana State University Center for Biofilm Engineering. April 2023 to present.

Non-Executive Director, Sharklet Technologies. April 2023 to present.

Senior Consultant, Azzur Group. May 2021 to present.

Director of Research and Development, Sharklet Technologies. April 2018 to April 2023

Postdoctoral Fellow, Ohio State University, January 2016 to April 2018. PI: Daniel Wozniak, PhD

Postdoctoral Fellow, University of California Santa Cruz, October 2013 to December 2015. PI: Fitnat Yildiz, PhD

Graduate Fellow, Ohio State University, July 2009 to October 2013. PI: Daniel Wozniak, PhD

Immunology Technician, Battelle Biomedical Research Center, Battelle Memorial Institute, December 2007 to July 2009.

Research Associate 1B/H, Institute for Behavioral Medicine Research, Ohio State University, August 2006 to December 2007. PI: Ronald Glaser, PhD

Graduate Research Associate, Ohio University, September 2004 to August 2006. PI: Donald Holzschu, PhD

Undergraduate Research Assistant, Ohio University, August 2003 to June 2004. PI: Donald Holzschu, PhD

Teaching/ Mentoring Experience

Supervisor, Sharklet Technologies, 2018-2023. Managed and supervised a team of up to five scientists.

Guest Lecturer, Colorado State University, 2021. Bacterial Pathogenesis.

Mentor, Colorado Innovative Industries College Internship, 2019.

Mentor, Denver School of Science and Technology High School Internship, 2018-2019.

Mentor, Research Experience for Teachers Internship, Colorado BioScience Association, 2018-2019.

Guest Lecturer, Ohio State University, 2017. Molecular Pathogenesis.

Guest Lecturer, University of California Santa Cruz, 2015. Functional Anatomy, Microbiome section.

Teaching Associate, Ohio State University, 2011. Integrated Biomedical Sciences Research Techniques Laboratory.

Teaching Associate, Ohio University, 2004-2006. Introduction to Biology, Microbiology, Cell Biology, Molecular Genetics, Pathogenic Bacteriology.

Selected Publications

16 total publications, 1847 citations, h-index 13

Jones CJ, Grotewold N, Wozniak DJ, Gloag ES. 2022 *Pseudomonas aeruginosa* initiates a rapid and specific transcriptional response during surface attachment. *Journal of Bacteriology*. 204(5):e0008622. doi: 10.1128/jb.00086-22.

Jones CJ. 2022 Evaluation of Contact-Mediated Microbial Transference. ASTM Standard Test Method E3285-22 in E35.15 Subcommittee on Antimicrobial Agents.

Liu Q, Brookbank L, Ho, A, Coffey J, Brennan, AB, **Jones CJ**. 2020 Surface texture limits transfer of *S. aureus*, T4 bacteriophage, influenza B virus, and human coronavirus. *PLoS ONE* 15(12): e0244518.

Jones CJ, Wozniak DJ. 2017. Psl produced by mucoid *Pseudomonas aeruginosa* contributes to the establishment of biofilms and immune evasion. *mBio* 8:e00864-17.

Jones CJ, Wozniak DJ. 2016. Congo red stain identifies matrix overproduction and is an indirect measurement for c-di-GMP in many species of bacteria. In Sauer K (ed), *c-di-GMP Signaling: Methods and Protocols*, Methods in Molecular Biology. Humana Press, New York.

Wang Y-C, Chin K-H, Tu Z-L, He J, **Jones CJ**, Sanchez DZ, Yildiz FH, Galperin MY, Chou S-H. 2016. Nucleotide binding by the widespread high-affinity cyclic di-GMP receptor MshEN domain. *Nat Commun* 7:12481.

Xu B, Soukup RJ, **Jones CJ**, Fishel R, Wozniak DJ. 2016. *Pseudomonas aeruginosa* AmrZ Binds to Four Sites in the algD Promoter, Inducing DNA-AmrZ Complex Formation and Transcriptional Activation. *J Bacteriol* 198:2673–2681.

Roelofs KG*, **Jones CJ***, Helman SR*, Shang X, Orr MW, Goodson JR, Galperin MY, Yildiz FH, Lee VT. 2015. Systematic Identification of Cyclic-di-GMP Binding Proteins in *Vibrio cholerae* Reveals a Novel Class of Cyclic-di-GMP-Binding ATPases Associated with Type II Secretion Systems. *PLoS Pathog* 11:e1005232.

Jones CJ, Utada A, Davis KR, Thongsomboon W, Zamorano-Sánchez D, Banakar V, Cegelski L, Wong GCL, Yildiz FH. 2015. C-di-GMP Regulates Motile to Sessile Transition by Modulating MshA Pili Biogenesis and Near-Surface Motility Behavior in *Vibrio cholerae*. *PLoS Pathog* 11:e1005068.

Limoli DH, **Jones CJ**, Wozniak DJ. 2015. Bacterial Extracellular Polysaccharides in Biofilm Formation and Function. *Microbiology Spectrum* 3:1–19.

Jones CJ, Newsom D, Kelly B, Irie Y, Jennings LK, Xu B, Limoli DH, Harrison JJ, Parsek MR, White P, Wozniak DJ. 2014. ChIP-Seq and RNA-Seq reveal an AmrZ-mediated mechanism for cyclic di-GMP synthesis and biofilm development by *Pseudomonas aeruginosa*. *PLoS Pathog* 10:e1003984.

Jones CJ, Ryder CR, Mann EE, Wozniak DJ. 2013. AmrZ modulates *Pseudomonas aeruginosa* biofilm architecture by directly repressing transcription of the *psl* operon. *J Bacteriol* 195:1637–1644.

Selected Presentations

Over 25 presentations in Microbiology, Assay Development, and Standardization

“An Industrial Perspective on Biofilm Biology: Formation, Maintenance, and Mitigation.” Invited Speaker and Discussion Panel Member. Montana Biofilm Meeting. July 12, 2022. Bozeman, MT.

“First Impressions: Biofilm Formation on Surfaces.” Invited Speaker. Ohio University. May 25, 2022. Athens, OH.

“Where to fit in?...How to approach the EPA with a non-traditional technology.” Invited Speaker and Discussion Panel Member. Center for Biofilm Engineering Regulatory Meeting. February 2, 2022. Washington, DC.

“Product-specific method development to assess microbial contamination.” Invited Speaker. Montana Biofilm Science & Technology Meeting, Center for Biofilm Engineering at Montana State University. July 16, 2019. Bozeman, MT

“Evaluating touch transfer of microbes on surfaces.” Invited Speaker. ASTM E35.15 Subcommittee meeting. April 2, 2019. Denver, CO.

“Sharklet micropattern prevents bacterial contamination of orthodontic materials.” Invited Speaker. Rocky Mountain Biotechnology Symposium. May 17, 2018. Aurora, CO.

“Psl produced by mucoid *Pseudomonas aeruginosa* contributes to the establishment of biofilms and immune evasion.” Selected Speaker. Wind River Conference on Prokaryotic Biology, June 14-18, 2017. Estes Park, CO.

“MshE Binding of c-di-GMP Promotes Surface Attachment Through Post-translational Control of MshA Pilus Production.” Selected Speaker. 7th ASM Conference on Biofilms, October 24-29, 2015. Chicago, IL.

“Role of c-di-GMP and MshA pili in the motile to sessile transition of *V. cholerae*.” Selected Speaker. Bacterial Locomotion and Signal Transduction Conference, January 18-23, 2015. Tucson, AZ.

“ChIP-seq and RNA-seq reveal an AmrZ-mediated mechanism for cyclic di-GMP synthesis and biofilm development by *Pseudomonas aeruginosa*.” Selected Speaker. Ohio State University Wexner Medical Center 12th Annual Research Day, April 11, 2013. Columbus, OH.

“AmrZ regulates inverse expression of the *Pseudomonas aeruginosa* biofilm matrix polysaccharides alginate and Psl.” Poster Presentation. 6th ASM Conference on Biofilms, September 29--October 4, 2012. Miami, FL.

“High-level expression of *amrZ* in *Pseudomonas aeruginosa* inhibits attachment.” Selected Speaker. Wind River Conference on Prokaryotic Biology, Estes Park, CO. June 10, 2011.

Memberships/ Service

ASTM E35.15 Subcommittee on Antimicrobials. Member 2018-present.

ASTM Committee on Standards. Member 2023-present.

Sharklet Intellectual Property Steering Committee. Member 2018-2023.

Montana State University Center for Biofilm Engineering. Industrial associate 2018-2023.

Colorado BioScience Association. Member 2018-2023.

Microbiology Society. Member 2017.

Poster Judge, Denman Undergraduate Research Forum. Ohio State University. 2016-2017.

American Society for Microbiology. Member 2004-present.

Team Leader and Rider, Cystic Fibrosis Foundation Cycle for Life. 2016-2017.

Participant, Cystic Fibrosis Foundation Great Strides. 2009-2013 and 2016.

American Heart Association. Member 2011-2014.

Microbial Infection and Immunity Professional Development and Mentoring Committee. Ohio State University. Student representative 2012-2013.

Integrated Biomedical Sciences Student Organization. Ohio State University. Member 2009-2013.

Bennett Graduate Research Society. Ohio State University. Member 2009-2013.

Microbiology Student Organization. Ohio University. Member 2001-2006.

Grants and Fellowships

Postdoctoral Fellowship, Cystic Fibrosis Foundation. July 2017 to June 2019.

Postdoctoral Fellowship, NIH T32 Molecular Mechanisms of Lung Inflammation. March 2016 to February 2018.

Predocctoral Fellowship, American Heart Association Great Rivers Affiliate, July 2012 to June 2014.

Predocctoral Fellowship, Ohio State University College of Medicine Systems and Integrated Biology Predocctoral Training Fellowship, July 2010 to June 2012.

Awards and Training

E35.15 Award of Excellence, ASTM, April 25, 2022.

Visiting Researcher, Dartmouth College. George O'Toole Laboratory. Learned to culture and infect polarized human airway epithelium. May 2016.

Visiting Researcher, University of California Los Angeles. Gerard Wong Laboratory. Learned to image and track bacteria during initial attachment to surfaces. May 2014 and June 2015.

Ray Travel Award, Ohio State University Council of Graduate Students, September 2013.

Outstanding Talk Award, Center for Microbial Interface Biology Retreat, April 19, 2013.

Travel Award, Mid Atlantic Microbial Pathogenesis Meeting. January, 2013.

Travel Award, Arnold Ravin-Muriel Rogers Travel Fellowship. Wind River Conference on Prokaryotic Biology. June, 2011.

References

Daniel J. Wozniak, PhD

Graduate Advisor

Professor, Microbiology and Microbial Infection and Immunity

Ohio State University

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(614) 247-7629

Fitnat H. Yildiz, PhD

Postdoc Advisor

Professor, Microbiology and Environmental Toxicology

University of California Santa Cruz

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Melissa Brookshier, MS

Supervisor at both Sharklet and Azzur

Director of Consulting, Denver

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