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David Cole Stevens

EDUCATION

Syracuse University, Syracuse, New York **2006-2009**
University of Ottawa, Ottawa, Ontario, Canada **2009-2011**
PhD in Chemistry
Advisor: Christopher N. Boddy

Northwestern State University, Natchitoches, Louisiana **2002-2006**
BSc in Biological Physics/Chemistry

EMPLOYMENT HISTORY

University of Mississippi, University, Mississippi **2022-present**
Associate Professor; Associate Research Professor in the Research Institute of Pharmaceutical Sciences

Graduate Program Coordinator, Department of BioMolecular Sciences, Division of Pharmacognosy **2019-present**

Assistant Professor; Assistant Research Professor in the Research Institute of Pharmaceutical Sciences **2016-2022**

University of Texas at Austin, Austin, Texas **2014-2016**
Postdoc with Prof. Adrian T. Keatinge-Clay

University of Notre Dame, Notre Dame, Indiana **2011-2014**
Postdoc with Prof. Richard E. Taylor

University of Ottawa, Ottawa, Ontario, Canada/Syracuse University, Syracuse, New York **2006-2011**
Graduate research associate with Prof. Christopher N. Boddy

GRADUATE STUDENT MENTORSHIP

- In progress: 3 PhD; 1 MSc
- Completed (since 2016): 3 PhD

GRADUATE COURSES

- Natural Products Biosynthesis, PHCG 627 (instructor of record)
- Natural Products Chemistry, PHCG 628 (instructor of record, Spring 2018 only)

PHARMD COURSES

- Antimicrobial Resistance Mechanisms and Proliferation, BMS 470 (instructor of record)
- Problems in Medicinal Chemistry: Medical Cannabis, MEDC 541/542 (co-instructor)
- Foundations of BioMolecular Science, PHCY 402 (contributing instructor)
- Integrated Systems: Infectious Diseases Intensive, PHCY 501 (contributing instructor)

- Integrated Systems: Respiratory, PHCY 503 (contributing instructor)

SERVICE

- Graduate Program Coordinator, Department of BioMolecular Sciences, Division of Pharmacognosy 2019-current
- Department of Biomolecular Sciences Faculty Senate Representative 2018-current
- University of Mississippi Buildings, Grounds, and Renovations Standing Committee Member 2022-current
- University of Mississippi LGBTQ Affairs Standing Committee Member 2018-2021
- NIH ZGM1 TWD-X (KR) K99/R00 study section panelist; 3/14/2022
- *Frontiers in Natural Products* Reviews Editor 2022-current
- NIH Drug Discovery and Mechanisms of Antimicrobial Resistance (DDR) study section Temporary Member, 4/2021
- Swiss National Science Foundation, Ad hoc reviewer
- NIAID Infectious Diseases and Microbiology ZRG1 IDM S (83) R15 study section panelist; 11/9/2020
- 2020 NSF Genetics Mechanisms Program Ad hoc reviewer
- Co-chair, Bacteriology Division, South Central Branch ASM Meeting 2019
- Discussion Leader, Natural Product Discovery and Biosynthesis Session, 2018 Gordon Research Conference, Natural Products and Bioactive Compounds; Andover, NH
- University of Mississippi, School of Pharmacy Continuing Education, Lecture, and Alumni Activities Committee Member 2017-2018
- 2017 National Science Foundation Graduate Research Fellowship Program Panelist
- National Science Foundation U.S.-Polish International Research Experience for Students Search Committee Member 2016
- University of Mississippi Department of Biomolecular Sciences Search Committees Medicinal Chemistry 2016, Pharmacognosy 2016, Pharmacognosy 2018
- University of Mississippi Department of Biomolecular Sciences Chair Search Committee 2016
- 2015 Canadian Society for Chemistry National Conference, Natural Products Section Co-Chair
- Scientific Reviewer: *ACS Chemical Biology*, *ACS Synthetic Biology*, *Environmental Science & Technology*, *International Journal of Systematic and Evolutionary Microbiology*, *Journal of Natural Products*, *Antibiotics*, *Genes*, *Molecules*, *Marine Drugs*, *Microorganisms*, *Pathogens*, *mSphere*, *Microbiology Spectrum*, *Viruses*, *Journal of Applied Microbiology*, *Frontiers in Microbiology*, *Microbial Ecology*, *Archives of Microbiology*, *Current Microbiology*, *Biotechnology Letters*

PUBLICATIONS

- Phillips K.E. and **Stevens D. C.*** **2022** "Concepts and conjectures concerning predatory performance of myxobacteria." *Front. Microbiol.* 13:1031346.
- Akbar S., Misra S. K., Sharp J. S., & **Stevens D. C.*** **2022** "Differential response to prey quorum signals indicates predatory range of myxobacteria and ability to predate *Pseudomonas aeruginosa*." *Environ. Microbiol.* **24** (3), 1263.
- Akbar S. & **Stevens D. C.*** **2021** "Functional genomics study of *Pseudomonas putida* to determine traits associated with avoidance of a myxobacterial predator." *Sci. Rep.* 2021; **11**:16445.
- Ahearne A., Albatineh H., Dowd S. E., & **Stevens D. C.*** **2021** "Assessment of Evolutionary Relationships for Prioritization of Myxobacteria for Natural Product Discovery." *Microorganisms* **9**(7):1376.
- Adaikpoh B. I., Dowd S. E., & **Stevens D. C.*** **2021** "Draft Genome Sequence of *Aneurinibacillus* sp. strain BA2021 isolated as a contaminant of a laboratory cultivated predatory myxobacterium." *Microbiol. Resour. Announc.* **10**(17):e00243-21.

- Albataineh H., Duke M., Misra S. K., Sharp J. S., & **Stevens D.C.* 2021** "Identification of a solo acylhomoserine lactone synthase from the myxobacterium *Archangium gephyra*." *Sci. Rep.* **11**, 3018.
- Adaikpoh B. I., Akbar S., Albataineh H., Misra S. K., Sharp J. S., & **Stevens D. C.* 2020** "Myxobacterial Response to Methyljasmonate Exposure Indicates Contribution to Plant Recruitment of Micropredators." *Front. in Microbiol.* **11**, 34.
- Gregory K., Salvador L. A., Akbar S., Adaikpoh B. I., & **Stevens D. C.* 2019** "Survey of Biosynthetic Gene Clusters from Sequenced Myxobacteria Reveals Unexplored Biosynthetic Potential" *Microorganisms* **7**(6), 181.
- Granatosky E. A., DiPrimio N., Pickering J. R. E., **Stevens D. C.**, Perlstein E. O., & Taylor R. E. **2018** "GEX1A, a Polyketide from *Streptomyces chromofuscus*, Corrects the 2 Cellular Defects Associated with Niemann-Pick Type C1 in Human 3 Fibroblasts" *J. Nat. Prod.* **81**(9), 2018-2025.
- Albataineh H. & **Stevens D. C.* 2018** "Marine Myxobacteria: A Few Good Halophiles" *Mar. Drugs* **16**(6), 209.
- Adaikpoh B. I., Dowd S. E., & **Stevens D. C.* 2017** "Draft Genome Sequence of *Archangium* sp. Strain Cb G35" *Genome Announc.* **5**(8), e01678-16.
- Akbar S., Dowd S. E., & **Stevens D. C.* 2017** "Draft Genome Sequence of *Cystobacter ferrugineus* Strain Cbfe23" *Genome Announc.* **5**(6), e01601-16.
- **Stevens D. C.**, Wagner D., Manion H. R., Alexander B. K., & Keatinge-Clay A. T. **2016** "Methyltransferases excised from trans-AT polyketide synthases operate on *N*-acetylcysteamine-bound substrates" *J. Antibiot.* **62**, 567-570.
- Wagner D., **Stevens D. C.**, Mehaffey M. R., Manion H. R., Taylor R. E., Brodbelt, J. S., & Keatinge-Clay A. **2016** " α -Methylation follows condensation in the gephyronic acid modular polyketide synthase" *Chem. Commun.* **52**(57), 8822-8825.
- **Stevens D. C.**, Young J., Carmichael R., Tan J., & Taylor R. E. **2014** "Draft Genome Sequence of Gephyronic Acid Producer *Cystobacter violaceus* Strain Cb vi76." *Genome Announc.* **2**(6), pii: e01299-14.
- Young J., **Stevens D. C.**, Carmichael R., Tan J., Rachid S., Boddy C. N., Müller R., & Taylor R. E. **2013** "Elucidation of Gephyronic Acid Biosynthetic Pathway Revealed Unexpected SAM Dependent Methylations." *J. Nat. Prod.* **76**(12), 2269-76.
- **Stevens D. C.**, Hari T. P. A. & Boddy C. N. **2013** "The role of transcription in heterologous expression of polyketides in bacterial hosts." *Nat. Prod. Rep.* **30**, 1391-1411.
- **Stevens D. C.**, Conway K. R., Pearce N., Villegas-Peñaranda L. R., Garza A. G., & Boddy C.N. **2013** "Alternative sigma factor over-expression enables heterologous expression of a type II polyketide biosynthetic pathway in *Escherichia coli*" *PLoS ONE* **8**: e64858.
- **Stevens D. C.**, Henry M. R., Murphy K. A. & Boddy C. N. **2010** "Heterologous expression of the oxytetracycline biosynthetic pathway in *Myxococcus xanthus*" *Appl. Environ. Microbiol.* **76**, 2681-2684.

PATENTS

- Boddy, Christopher N.; Garza, Anthony; **Stevens, David Cole.** "System and Method for the Heterologous Expression of Polyketide Synthase Gene Clusters" WO2010080184A1, **2010**.

FUNDING

- **P20 GM130460 sub-project ID: 7934** (Stevens, PI) 5/15/2020 – 3/31/2023
NIH/NIGMS \$760,602 (total)
Modulation of the antimicrobial content of myxobacterial outer membrane vesicles in response to varying LPS from prey
- **R15 AI137996** (Stevens, PI) 9/1/2019 – 8/31/2023
NIH/NIAID/NIGMS \$422,422 (total)
Myxobacterial predatory antimicrobial production in response to quorum sensing signal interception
- **R03 CA219320** (Stevens, PI) 8/1/2018 – 7/31/2021
NIH/NCI \$146,000 (total)
Eukaryotic translation factor inhibitors as selective translation factor probes and anticancer therapeutics

- **AACP New Investigator Award** 2/1/2018 – 1/31/2019
American Association of Colleges of Pharmacy \$10,000 (total)
Production of predation-associated antimicrobials from cryptic biosynthetic pathways

AWARDS

- 2021; School of Pharmacy New Investigator Award, University of Mississippi
- 2017; American Association of Colleges of Pharmacy (AACP) New Investigator Award
- 2011; Ottawa-Carleton Chemistry Institute Symposium Award
- 2009-2011; University of Ottawa International Scholarship
- 2008; Outstanding Teaching Assistant Award, Syracuse University

LECTURES AND CONFERENCES

- 2022; American Society of Pharmacognosy 2022 Annual Meeting; Charleston, SC
- 2021; 46.5th Annual International Meeting on the Biology of Myxobacteria (virtual)
- 2021; Mid-South Glycoscience Meeting, University of Mississippi, MS
- 2021; Chicagoland Specialized Metabolite Community, virtual talk
- 2020; Winter GlyCORE Symposium, University of Mississippi, University, MS
- 2020; University of Ottawa, Ottawa, ON, Canada
- 2019; South Central Branch American Society for Microbiology Meeting, Oxford, MS
- 2019; AACP Annual Meeting, Chemistry Section, Chicago, IL
- 2018; Department of Chemistry; SUNY College of Environmental Science and Forestry, Syracuse, NY
- 2018; Gordon Research Conference, Natural Products and Bioactive Compounds; Andover, NH
- 2018; American Society of Pharmacognosy 2018 Annual Meeting; Lexington, KY
- 2017; Infectious Diseases Research Brown Bag; University of Mississippi, University, MS
- 2017; Department of Chemistry; University of Mississippi, University, MS
- 2017; Gordon Research Conference, Natural Products and Bioactive Compounds; Andover, NH
- 2016; Infectious Diseases Research Brown Bag; University of Mississippi, University, MS
- 2015; Aspiring Leaders Program; Sapporo, Hokkaido, Japan
- 2015; Canadian Society for Chemists (CSC) National Conference; Ottawa, Ontario
- 2015; Enzymes Mechanisms Conference; Galveston, TX
- 2013; Department of Chemistry; Baylor University; Waco, TX
- 2013; Biochemistry Research Retreat; University of Notre Dame; Notre Dame, IN
- 2013; Harper Cancer Research Institute Symposium; Notre Dame, IN
- 2011; OCCI Day, Ottawa-Carleton Chemistry Institute; Ottawa, ON
- 2010; BioMOLAR network; Ottawa, ON
- 2009; Canadian Society for Chemists (CSC) National Conference; Hamilton, ON
- 2008; Graduate Student Symposium; University of Buffalo; Buffalo, NY
- 2006; American Chemical Society (ACS) National Conference; Atlanta, GA