

Marc G Chevrette

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🎓 Education

University of Wisconsin-Madison

Doctor of Philosophy (PhD) – Genetics

Madison, WI

04/2019

Master of Science (MSc) – Genetics

10/2017

• **Advisor:** Cameron R Currie, PhD

• **Research Focus:** Evolution of Microbial Metabolic Diversity, Chemically-mediated Microbiome Interactions, & Antibiotic Discovery

• **Thesis:** Evolution of Antibiotic Biosynthesis in Actinobacteria: A Framework for Drug Discovery

Institut Pasteur

Annecy, France

Certificate – International Course on Antibiotics and Resistance

11/2017

Harvard University Extension

Cambridge, MA

Master of Liberal Arts (ALM) – Biotechnology (Bioengineering & Nanotechnology)

03/2015

• **Advisor:** Tomás Maira-Litrán, PharmD, PhD

• **Research Focus:** Genome-wide Experimental & Computational Characterization of *In Vivo* Fitness Factors in Bacterial Infections

• **Thesis:** Transposon-Directed Insertion Site Sequencing for Determination of Fitness Factors in Pulmonary Infection by *A. baumannii*.

Rensselaer Polytechnic Institute

Troy, NY

Bachelor of Science (BSc) – Molecular Biology & Bioinformatics

12/2010

🏢 Experience

Wisconsin Institute for Discovery & University of Wisconsin-Madison

Madison, WI

Postdoctoral Associate - Department of Plant Pathology - Advisor: Jo Handelsman, PhD

06/2019–present

Genomics Lead - Tiny Earth Chemistry Hub

06/2019–present

WiSolve Consulting

Madison, WI

Co-Founder & Senior Consultant

03/2016–present

Director of Technology

01/2018–09/2019

University of Wisconsin-Madison

Madison, WI

Postdoctoral Associate - Department of Bacteriology - Advisor: Cameron R Currie, PhD

04/2019–05/2019

PhD Candidate - Department of Genetics - Advisor: Cameron R Currie, PhD

08/2015–04/2019

Harvard & Georgetown Universities

Cambridge, MA

Lead Computational Biologist - Departments of Biology and Planetary Science - Advisor: Sarah S Johnson, PhD

10/2013–10/2015

Warp Drive Bio

Cambridge, MA

Head of Experimental Genomics

04/2013–08/2015

Brigham & Women's Hospital

Boston, MA

Research Assistant, Microbiology & Computational Biology - Advisor: Tomás Maira-Litrán, PharmD, PhD

03/2013–08/2015

Broad Institute of MIT & Harvard

Cambridge, MA

Research Associate II, Molecular Biology Process Development

01/2011–03/2013

Rensselaer Polytechnic Institute

Troy, NY

Research Associate, Molecular Genetics - Advisor: Eric Rutledge, PhD

05/2010–12/2010

BCR Biotech

Jamestown, RI

Research Assistant, Microbiology

09/2009–12/2009

🏆 Awards

Young Investigator Award Society for Industrial Microbiology & Biotechnology

2021

NIFA Postdoctoral Fellowship USDA

2020–present

Postdoctoral Research Fellowship in Biology NSF, Awarded, but declined

2020

Wisconsin Scientific Teaching Design Institute Fellowship UW-Madison

2019–present

Schlimgen Award for Outstanding Scholarship in Doctoral Studies in Genetics UW-Madison

2019

Ira L Baldwin Distinguished Predoc. Fellowship for Excellence in Research Bacteriology, UW-Madison

2018–2019

Chemistry-Biology Interface Predoctoral Fellowship National Institutes of Health, NIGMS

2016–2018

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| Bacteriology Departmental Travel Grant University of Wisconsin-Madison | 2016 |
| Vilas Travel Grant University of Wisconsin-Madison | 2016 |
| Dean's Academic Achievement Award Harvard University Extension | 03/2015 |
| Finalist, Core Value Award: "Courageous: Uncompromising Science" Warp Drive Bio | 2014 |
| Finalist, Core Value Award: "Unbounded: Reimagining the Possible" Warp Drive Bio | 2014 |
| Featured Scientific Researcher – "Who is Broad?" Broad Institute of MIT & Harvard | 01/2012 |
| Rensselaer Alumni Scholarship Rensselaer Polytechnic Institute | 2004–2008 |
| Sal H. Alfiero Scholarship Rensselaer Polytechnic Institute | 2004–2008 |
| Rhode Island State Scholarship Rensselaer Polytechnic Institute | 2004–2008 |

Teaching & Mentoring

Teaching Appointments & Experience

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| Evolutionary Biology, Rutgers University Newark Guest Lecturer | Sp 2021 |
| Chem 1003: General, Organic, and Biological Chemistry, Point Loma University Guest Lecturer | Fa 2020 |
| Tiny Earth: Chemistry, UW-Madison Course Development, Curriculum Committee | 2020–present |
| Tiny Earth: Data Analytics for Biologists, UW-Madison Course Development | Sp 2020 |
| Certified Tiny Earth Partner Instructor | 2020–present |
| Wisconsin Scientific Teaching Design Institute Fellow Course Development | 2019–present |
| Tiny Earth: Genomics & Chemistry of Soil Bacteria, UW-Madison Lead Lecturer, Course Development | Su 2019 |
| Micro 450: Diversity, Ecology, & Evolution of Microorganisms, UW-Madison Guest Lecturer | Fa 2018 |
| Programming in R, ComBEE, UW-Madison Lead Lecturer, Course Development | Sp 2016 |
| Genetics 468: General Genetics II, UW-Madison Lecturer, TA | Sp 2016 |
| Micro 450: Diversity, Ecology, & Evolution of Microorganisms, UW-Madison Guest Lecturer, TA | Fa 2016 |

Graduate Rotation Student Mentees (*Total: 5*)

Handelsman lab*; *Currie lab*

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|--------------------------|------------------------|----------------------------------|
| Kirsten Gotting** (2017) | Shruthi Magesh* (2019) | Natalia Rosario Meléndez* (2020) |
| Austin Hall* (2019) | Shane Rosemann* (2019) | |

Undergraduate & Postbaccalaureate Mentees (*Total: 14; Current: 3*)

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|---------------------------|--------------------------|-----------------------------|
| Justin Zelin (2014) | Luis Balderrama (2019) | Orli Jona (2019–2020) |
| Samuel Melton (2014–2015) | Kamiyah Corinaldi (2019) | Mara Beebe (2019–) |
| Mariana Nave (2016–2017) | Alyssa Gutierrez (2019) | Martel L DenHartog (2019–) |
| Will Flanigan (2017) | Brody Rhodes (2019) | Josephine HI Putnam (2019–) |
| Amber Schmitz (2017) | Renee Engels (2019–2020) | |

Service & Outreach

Ad hoc Reviewer Antonie van Leeuwenhoek, Bioinformatics, Biology, Critical Reviews in Microbiology, FEMS Microbiology Letters, Frontiers in Microbiology, G3 (Genes, Genomes, & Genetics), mBio, Microbial Cell Factories, Microbial Ecology, Microbial Genomics, Molecular Biology & Evolution, mSystems, World Journal of Microbiology & Biotechnology; [Publons](#)

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| On-air Guest PBS Wisconsin, Link | 06/2020 |
| On-air Guest Natural Prodcast, Joint Genome Institute, Link | 02/2020 |
| Mentor Tiny Earth Summer Program, Tiny Earth Partner Instructor Training | 2019–present |
| On-air Guest Perpetual Notion Machine, WORT FM, Link | 02/2019 |
| Evolution Coordinating Committee JF Crow Institute for the Study of Evolution, UW-Madison | 01/2017–present |
| Mentor Google Summer of Code – antiSMASH, Open Bioinformatics Foundation | 03/2016–09/2017 |
| Co-chair Computational Biology, Ecology, & Evolution (ComBEE), UW-Madison | 01/2016–08/2018 |
| Co-organizer Discovery Niche, Wisconsin Institutes for Discovery | 10/2015–11/2015 |
| Volunteer Wisconsin Science Festival | 10/2015 |
| Open Genomics Adviser Revive & Restore, Long Now Foundation | 04/2014–10/2015 |
| Environmental, Health, and Safety Representative Broad Institute of MIT & Harvard | 01/2011–03/2013 |

Professional Societies & Groups

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|---|--------------|
| American Society of Pharmacognosy | 2020–present |
| International Chemical Biology Society | 2016–present |
| Natural Products Discovery and Bioengineering Network | 2016–present |
| American Society for Microbiology | 2015–present |
| Computational Biology, Ecology, & Evolution (ComBEE) – UW-Madison | 2015–present |
| JF Crow Institute for the Study of Evolution | 2015–present |
| Society for Industrial Microbiology and Biotechnology | 2014–present |
| Laboratory Robotics Interest Group – New England Chapter | 2011–2015 |

Publications

First author publications: 14; Total publications: 33; Google Scholar Citations: 1695; Google Scholar H-index: 15

Peer-reviewed Publications – Original Research

First author: 6; Total: 19

*Co-first author, contributed equally

- 1 E.J.N. Helfrich*, R. Ueoka*, **MG Chevette***, F. Hemmerling, X. Lu, S. Leopold-Messner, A.Y. Burch, S.E. Lindow, J. Handelsman, J. Piel, M.H. Medema. "Evolution of combinatorial diversity in *trans*-acyltransferase polyketide synthase assembly lines across bacteria." *Nature Communications*. [10.1038/s41467-021-21163-x](https://doi.org/10.1038/s41467-021-21163-x)
- 2 A. Hurley, **MG Chevette**, D.D. Acharya, G.L. Lozano, M. Garavito, J. Heinritz, L. Balderrama, M. Beebe, M.L. DenHartog, K. Corinaldi, R. Engels, A. Gutierrez, O. Jona, J.H.I. Putnam, B. Rhodes, T. Tsang, S. Hernandez, C. Bascom-Slack, J.E. Blum, P.A. Price, D. Davis, J. Klein, J. Pultorak, N.L. Sullivan, N.J. Mouncey, P.C. Dorrestein, S. Miller, N.A. Broderick, J. Handelsman. "Tiny Earth: a big idea for STEM education and antibiotic discovery." *mBio*. [10.1128/mBio.03432-20](https://doi.org/10.1128/mBio.03432-20)
- 3 M.A. Schorn*, S. Verhoeven*, et al. [104 authors including **MG Chevette**]. "Standardized links between genomic and metabolomic data facilitate integrative mining." *Nature Chemical Biology*. [10.1038/s41589-020-00724-z](https://doi.org/10.1038/s41589-020-00724-z)
- 4 H.E. Ortega*, V.B. Lourenzon*, **MG Chevette***, L.G. Ferreira, M. Zhao, R.F.R. Alvarenga, W.G.P. Melo, T. Venâncio, D.R. Andes, C.R. Currie, A.D. Andricopulo, T.S. Bugni, M.T. Pupo. "Antileishmanial macrolides from ant-associated *Streptomyces* sp. ISID311." 2021. *Bioorganic & Medicinal Chemistry*. [10.1016/j.bmc.2021.116016](https://doi.org/10.1016/j.bmc.2021.116016)
- 5 F. Zhang, M. Zhao, D.R. Braun, A. Audhya, S.S. Ericksen, J.S. Piotrowski, J. Nelson, J. Peng, G.E. Ananiev, S. Chanana, K. Barns, J. Fossen, **MG Chevette**, I.A. Guzei, C. Zhao, L. Guo, W. Tang, C.R. Currie, S.R. Rajski, D.R. Andes, T.S. Bugni. "A marine microbiome antifungal targets urgent-threat drug-resistant fungi." 2020. *Science*. [10.1126/science.abd6919](https://doi.org/10.1126/science.abd6919)
[Highlighted by Science]
- 6 Q. Wu, K. Throckmorton, M. Maity, **MG Chevette**, D.R. Braun, S.R. Rajski, C.R. Currie, M.G. Thomas, T.S. Bugni. "Bacillibactins E and F from a marine sponge-associated *Bacillus* sp." 2020. *Journal of Natural Products*. [10.1021/acs.jnatprod.0c01170](https://doi.org/10.1021/acs.jnatprod.0c01170)
- 7 F. Zhang, T.P. Wyche, Y. Zhu, D.R. Braun, J. Yan, Y. Ge, I.A. Guzei, **MG Chevette**, C.R. Currie, M.G. Thomas, S.R. Rajski, T.S. Bugni. "MS-derived isotopic fine structure reveals forazoline A as a thioketone-containing marine-derived natural product." 2020. *Organic Letters*. [10.1021/acs.orglett.9b04535](https://doi.org/10.1021/acs.orglett.9b04535)
- 8 E.J. Caldera*, **MG Chevette***, B.R. McDonald, C.R. Currie. "Local adaptation of bacterial symbionts within a geographic mosaic of antibiotic coevolution." 2019. *Applied & Environmental Microbiology*. [10.1128/AEM.01580-19](https://doi.org/10.1128/AEM.01580-19) [Cover Image for Issue]
- 9 **MG Chevette**, C. Carlos-Shanley, K.B. Louie, B.P. Bowen, T.R. Northen, C.R. Currie. "Taxonomic and metabolic incongruence in the ancient genus *Streptomyces*." 2019. *Frontiers in Microbiology*. [10.3389/fmicb.2019.02170](https://doi.org/10.3389/fmicb.2019.02170)
- 10 K. Throckmorton*, V. Vinnik*, R. Chowdhury, T.B. Cook, **MG Chevette**, C.D. Maranas, B.F. Pfleger, M.G. Thomas. "Directed evolution of an adenylation domain specificity code." 2019. *ACS Chemical Biology*. [10.1021/acschembio.9b00532](https://doi.org/10.1021/acschembio.9b00532)
- 11 J. Yan, **MG Chevette**, D. Braun, M.K. Harper, C.R. Currie, T.S. Bugni. "Madurastatin D1 and D2, oxazoline containing siderophores isolated from an *Actinomadura* sp." 2019. *Organic Letters*. [10.1021/acs.orglett.9b02159](https://doi.org/10.1021/acs.orglett.9b02159)
- 12 **MG Chevette**, C.M. Carlson, H.E. Ortega, C. Thomas, G.E. Ananiev, K.J. Barns, A.J. Book, J. Cagnazzo, C. Carlos, W. Flanigan, K.J. Grubbs, H.A. Horn, F.M. Hoffmann, J.L. Klassen, J.J. Knack, G.R. Lewin, B.R. McDonald, L. Muller, W.G.P. Melo, A.A. Pinto-Tomás, A. Schmitz, E. Wendt-Pienkowski, S. Wildman, M. Zhao, F. Zhang, T.S. Bugni, D.R. Andes, M.T. Pupo, C.R. Currie. "The antimicrobial potential of *Streptomyces* from insect microbiomes." 2019. *Nature Communications*. [10.1038/s41467-019-08438-0](https://doi.org/10.1038/s41467-019-08438-0)
[Highlighted by NPR]
- 13 R.M. Stubbendieck, D.S. May, **MG Chevette**, M.I. Temkin, E. Wendt-Pienkowski, J. Cagnazzo, C.M. Carlson, J.E. Gern, C.R. Currie. "Competition among nasal bacteria suggests a role for siderophore-mediated interactions in shaping the human nasal microbiota." 2019. *Applied & Environmental Microbiology*. [10.1128/AEM.02406-18](https://doi.org/10.1128/AEM.02406-18)

- 14 N Liu, * H Li, * **MG Chevette**, L Zhang, L Cao, H Zhou, X Zhou, Z Zhou, PB Pope, CR Currie, Y Huang, Q Wang. 2019. "Functional metagenomics reveals polysaccharide-degrading gene clusters and cellobiose utilization pathways in gut microbiota of a wood-feeding termite." *ISME Journal*. [10.1038/s41396-018-0255-1](https://doi.org/10.1038/s41396-018-0255-1)
- 15 N Adnani, **MG Chevette**, SN Adibhatla, F Zhang, Q Yu, D Braun, J Nelson, SW Simpkins, BR McDonald, CL Myers, J Piotrowski, C Thompson, CR Currie, L Li, SR Rajski, TS Bugni. "Co-culture of marine invertebrate-associated bacteria and interdisciplinary technologies enable biosynthesis and discovery of a new antibiotic, keyicin." 2017. *ACS Chemical Biology*. [10.1021/acschembio.7b00688](https://doi.org/10.1021/acschembio.7b00688) [Highlighted by Nature]
- 16 AF Sanchez-Larrayoz, NM Elshamy, **MG Chevette**, Y Fu, P Giunta, RG Spallanzani, K Ravi, GB Pier, S Lory, T Maira-Litrán. "Complexity of complement-resistance factors expressed by *Acinetobacter baumannii* needed for survival in human serum." 2017. *Journal of Immunology*. [10.4049/jimmunol.1700877](https://doi.org/10.4049/jimmunol.1700877)
- 17 **MG Chevette**, F Aicheler, O Kohlbacher, CR Currie, MH Medema. "SANDPUMA: Ensemble predictions of nonribosomal peptide chemistry reveals biosynthetic diversity across Actinobacteria." 2017. *Bioinformatics*. [10.1093/bioinformatics/btx400](https://doi.org/10.1093/bioinformatics/btx400)
- 18 K Blin, T Wolf, **MG Chevette**, X Lu, CJ Schwalen, SA Kautsar, HG Suarez Duran, ELC de los Santos, HUK Kim, M Nave, JS Dickschat, DA Mitchell, E Shelest, R Breitling, E Takano, SY Lee, T Weber, MH Medema. "antiSMASH 4.0 - Improvements in chemistry prediction and gene cluster boundary identification." 2017. *Nucleic Acids Research*. [10.1093/nar/gkx319](https://doi.org/10.1093/nar/gkx319)
- 19 SS Johnson, **MG Chevette**, BL Ehlmann, KC Benison. "Insights from the metagenome of an acid salt lake: The role of biology in an extreme depositional environment." 2015. *PLOS ONE*. [10.1371/journal.pone.0122869](https://doi.org/10.1371/journal.pone.0122869)

Peer-reviewed Publications – Review & Perspective Articles

First author: 4; Total: 6

- 1 **MG Chevette***, A Gavrilidou*, S Mantri*, N Selem-Mojica, N Ziemert, F Barona-Gómez. "The confluence of Big Data and evolutionary genome mining for the discovery of natural products." *Natural Product Reports*. [10.1039/D1NP00013F](https://doi.org/10.1039/D1NP00013F)
- 2 **MG Chevette**, K Gutiérrez-García, N Selem-Mojica, C Aguilar-Martínez, A Yañez-Olvera, HE Ramos-Aboites, PA Hoskisson, F Barona-Gómez. "Evolutionary dynamics of natural product biosynthesis in bacteria." 2020. *Natural Product Reports*. [10.1039/c9np00048h](https://doi.org/10.1039/c9np00048h)
- 3 **MG Chevette***, JR Bratburd*, CR Currie, RM Stubbendieck. "Experimental microbiomes: models not to scale." 2019. *mSystems*. [10.1128/mSystems.00175-19](https://doi.org/10.1128/mSystems.00175-19)
- 4 **MG Chevette**, CR Currie. "Emerging evolutionary paradigms in antibiotic discovery." 2019. *Journal of Industrial Microbiology & Biotechnology*. [10.1007/s10295-018-2085-6](https://doi.org/10.1007/s10295-018-2085-6)
- 5 IJ Miller, **MG Chevette**, JC Kwan. (2017). "Interpreting microbial biosynthesis in the genomic age: Biological and practical considerations." 2017. *Marine Drugs*. [10.3390/md15060165](https://doi.org/10.3390/md15060165)
[Cover Image for Issue]
- 6 GR Lewin, C Carlos, **MG Chevette**, HA Horn, BR McDonald, RJ Stankey, BG Fox, CR Currie. "Ecology and evolution of Actinobacteria and their bioenergy applications." 2016. *Annual Review of Microbiology*. [10.1146/annurev-micro-102215-095748](https://doi.org/10.1146/annurev-micro-102215-095748)

Peer-reviewed Publications – Book Chapters

First author: 2; Total: 2

- 1 **MG Chevette**, N Selem-Mojica, C Aguilar, K Labby, ED Bustos-Díaz, J Handelsman, F Barona-Gómez. "Evolutionary genome mining for the discovery and engineering of natural product biosynthesis." 2019. *Methods in Molecular Biology - Engineering Natural Product Biosynthesis: Methods and Protocols*. In press.
- 2 **MG Chevette**, PA Hoskisson, F Barona-Gómez. "Enzyme evolution in secondary metabolism." 2019. *Comprehensive Natural Products III: Chemistry and Biology*. [10.1016/B978-0-12-409547-2.14712-2](https://doi.org/10.1016/B978-0-12-409547-2.14712-2)

Publications – Editorial Review Only

First author: 2; Total: 6

- 1 **MG Chevette**, J Handelsman. "From metagenomes to molecules: Innovations in functional metagenomics unlock hidden chemistry in the human microbiome." 2020. *Biochemistry*. [10.1021/acs.biochem.0c00033](https://doi.org/10.1021/acs.biochem.0c00033)
- 2 **MG Chevette**. "Natural products reawakened: New trends in discovery and development." 2018. *SIMB News Magazine, Society for Industrial Microbiology and Biotechnology*.
- 3 DR Braun, **MG Chevette**, D Acharya, CR Currie, SR Rajski, TS Bugni. "Draft genome of *Micromonospora* sp. WMMA1996, a marine sponge-associated bacterium." 2018. *Genome Announcements*. [10.1128/genomeA.00077-18](https://doi.org/10.1128/genomeA.00077-18)
- 4 DR Braun, **MG Chevette**, D Acharya, CR Currie, SR Rajski, K Ritchie, TS Bugni. "Complete genome of *Dietzia* sp. WMMA184, a marine coral-associated bacterium." 2018. *Genome Announcements*. [10.1128/genomeA.01582-17](https://doi.org/10.1128/genomeA.01582-17)
- 5 N Adnani, DR Braun, BR McDonald, **MG Chevette**, CR Currie, TS Bugni. "Draft genome of *Micromonospora* sp. WMMA235, a marine ascidian-associated bacterium." 2017. *Genome Announcements*. [10.1128/genomeA.01369-16](https://doi.org/10.1128/genomeA.01369-16)

- 6 N Adnani, DR Braun, BR McDonald, **MG Chevrete**, CR Currie, TS Bugni. "Complete genome sequence of *Rhodococcus* sp. strain WMMA185, a marine sponge-associated bacterium." 2016. *Genome Announcements*. [10.1128/genomeA.01406-16](#)

Patents

Total: 1

- 1 DC Gray, E Li, BR Bowman, GL Verdine, K Robison, **MG Chevrete**, D Udway, PS Wang, A Li, JP Morgenstern. Compositions and methods for the production of compounds. Priority 2016-10-28, filed 2017-10-27, published 2019-08-29. [US20190264184A1](#)

Preprints, Submitted, & Under Review

Total: 7

- 1 BR McDonald, **MG Chevrete**, JL Klassen, HA Horn, EJ Caldera, E Wendt-Pienkowski, MJ Cafaro, AC Ruzzini, EB Van Arnam, GM Weinstock, NM Gerardo, M Poulsen, G Suen, J Clardy, CR Currie. "Biogeography and microscale diversity shape the biosynthetic potential of fungus-growing ant-associated *Pseudonocardia*." *In revision*. [Preprint available](#)
- 2 BD Lee, A Gitter, CS Greene, S Raschka, F Maguire, AJ Titus, MD Kessler, AJ Lee, **MG Chevrete**, PA Stewart, T Britto-Borges, EM Cofer, KH Yu, JJ Carmona, EJ Fertig, AA Kalinin, B Signal, BJ Lengerich, TJ Triche Jr, SM Boca. "Ten quick tips for deep learning in biology." *Under review*. [Preprint available](#)
- 3 GR Lewin, NM Davis, BR McDonald, AJ Book, **MG Chevrete**, S Suh, A Boll, CR Currie. "Long-term cellulose enrichment selects for highly cellulolytic consortia and competition for public goods." *Submitted*. [Preprint available](#)
- 4 **MG Chevrete**, J Handelsman. "Pulling needles from the haystack: high-throughput discovery of bacterial secondary metabolites." *Under review*.
- 5 Q Wu, JX Yan, **MG Chevrete**, S Chanana, BA Bell, M Maity, DR Braun, IA Guzei, MG Thomas, SR Rajske, TS Bugni. "Ecteinamines A and B: new nonribosomal peptides with an unprecedented skeleton from marine bacterium *Micromonospora* sp." *Submitted*.
- 6 R Zarnowski, A Noll, **MG Chevrete**, H Sanchez, R Jones, H Anhalt, J Fossen, A Jaromin, CR Currie, JE Nett, A Mitchell, DR Andes. "Coordination of fungal biofilm development by extracellular vesicle cargo." *Submitted*.
- 7 J Yan, Q Wu, EJN Helfrich, **MG Chevrete**, DR Braun, H Heyman, GE Ananiev, SR Rajske, CR Currie, J Clardy, TS Bugni. "Bacillimidazoles A–F, imidazolium-containing antibacterial compounds isolated from a marine *Bacillus*." *Submitted*.

Talks & Abstracts

Invited Talks

Total: 12

- 1 TBD. International Symposium on the Biology of Actinomycetes. Toronto, ON. Originally scheduled for Jun 23, 2020. Postponed due to COVID-19.
- 2 "Evolution of antibiotic biosynthesis as a framework for drug discovery." Biotechnology Institute Seminar Series. University of Minnesota. St. Paul, MN (remote). Dec 17, 2020.
- 3 "Evolution of antibiotic biosynthesis as a framework for drug discovery." Whitney Laboratory for Marine Bioscience Seminar Series. University of Florida. Gainesville, FL (remote). Sep 25, 2020.
- 4 "The Earth's bounty: antibiotic discovery from soil." Gairdner Symposium, McMaster University. Hamilton, ON. Nov 15, 2019.
- 5 "Drugs from bugs of bugs: a novel source for antimicrobials." American Society for Microbiology Microbe. San Francisco, CA. Jun 21, 2019.
- 6 "Mining microbiomes for antimicrobials." Synthetic Biology for Natural Products Conference. Puerto Vallarta, Mexico. Jun 02, 2019.
- 7 "Drugs from bugs of bugs: microbiomes as a source of new antibiotics." Wisconsin Institute for Discovery. Madison, WI. Jan 24, 2019.
- 8 "Drugs & bugs of bugs: insect microbiomes as a source of new antibiotics." McMaster University. Hamilton, ON. Jun 21, 2018.
- 9 "Host-associated microbes as a source of new antimicrobials." Natural Product Discovery & Development in the Genomic Era, Society for Industrial Microbiology & Biotechnology. Clearwater Beach, FL. Jan 22, 2018.
- 10 "Natural natural products: Leveraging chemical ecology in the search for new drugs." Evolution Seminar Series, JF Crow Institute for the Study of Evolution. Madison, WI. Oct 26, 2017.
- 11 "Computational insights into the diverse nonribosomal peptide chemistry of Actinobacteria." Synthetic Biology for Natural Products Conference. Cancun, Mexico. Mar 6, 2017. [\[Highlighted in ACS Synthetic Biology\]](#)
- 12 "Darwinian drug discovery: Chemical ecology at fine and coarse evolutionary scales." International Chemical Biology Society Annual Conference. Madison, WI. Oct 24, 2016. [\[Highlighted in ACS Chemical Biology\]](#)

Internal Seminars

Total: 6

- 1 "Using antiSMASH as both an antibiotic discovery & teaching tool." Tiny Earth Symposium 2020, UW-Madison. Jun 12, 2020.
- 2 "Tiny Earth Chemistry Hub: the next stop for your samples." Tiny Earth Symposium 2019, UW-Madison. Jul 10, 2019.
- 3 "Drugs & bugs of bugs: Insect microbiomes as a source of new antibiotics." Genetics Colloquium, UW-Madison. Aug 8, 2018.
- 4 "Host-microbe interactions as a source of new antimicrobials." Highlights at the Chemistry-Biology Interface Colloquium, UW-Madison. Dec 12, 2017.
- 5 "Genome-based natural product discovery, modular biosynthesis, & applications." Highlights at the Chemistry-Biology Interface Colloquium, UW-Madison. Feb 2, 2017.
- 6 "Genome assembly: Tools & analysis." Computational Biology, Ecology, & Evolution (ComBEE), UW-Madison. Apr 27, 2016.

Abstracts

Total: 32; Listed below: 2017–present

- 1 S Magesh, A Hurley, JF Nepper, **MG Chevrette**, J Handelsman. "Genetic determinants of surface colonization by the rhizosphere bacterium *Flavobacterium johnsoniae*." Presented at: World Microbe Forum; Online; Jun 20, 2021.
- 2 **MG Chevrette**, A Hurley, J Handelsman. "Tiny Earth Genomics: Mining bacterial genomes for antibiotic chemistry." Presented at: Wisconsin Institute for Discovery Illuminating Connections; Madison, WI; Feb 12, 2020.
- 3 A Hurley, DD Acharya, **MG Chevrette**, W Chezem, G Lozano, M Garavito, J Heinritz, L Balderrama, M Beebe, M DenHartog, K Corinaldi, R Engels, A Gutierrez, O Jona, J Putnam, B Rhodes, T Tsang, S Hernandez, C Bascom-Slack, D Davis, S Miller, N Broderick, J Handelsman. "Tiny Earth Chemistry Hub: Command center for studentsourcing antibiotic discovery." Presented at: Wisconsin Institute for Discovery Illuminating Connections; Madison, WI; Feb 12, 2020.
- 4 **MG Chevrette**, D Acharya, A Hurley, M Beebe, M Garavito, S Miller, J Handelsman. "Tiny Earth Chemistry Hub: From soil to antibiotics." Presented at: Tiny Earth Symposium; Madison, WI; Jul 10, 2019.
- 5 K Throckmorton, V Vinnik, TB Cook, R Chowdhury, **MG Chevrette**, CD Maranas, BF Pfeleger, MG Thomas. "Directed evolution of an adenylation domain specificity code." Presented at: Synthetic Biology for Natural Products Conference; Puerto Vallarta, Mexico; Jun 2, 2019.
- 6 CL Hansen, **MG Chevrette**, M Selvaraj, A Vasquez Echeverri, D Maldonado Perez, C Eno, J Hernandez-Ortiz, F Pelegri. "Helical supramolecular assembly of a germline specific membraneless organelle." Presented at: Phase Separation in Biology & Disease; New York, NY; Feb 20, 2019.
- 7 **MG Chevrette**, CM Carlson, H Ortega, F Zhang, KJ Grubbs, MT Pupo, TS Bugni, DR Andes, CR Currie. "Insect-associated *Streptomyces* are a rich source of new antimicrobials." Presented at: Beneficial Microbes; Madison, WI; Jul 9, 2018.
- 8 HA Horn, E Gemperline, K Delaney, **MG Chevrette**, L Li, CR Currie. "Host specificity influences chemical response in *in vivo* symbiotic interactions." Presented at: Beneficial Microbes; Madison, WI; Jul 9, 2018.
- 9 BR McDonald, **MG Chevrette**, J Klassen, HA Horn, EJ Caldera, E Wendt-Pienkowski, MJ Cafaro, AC Ruzzini, EB Van Arnam, GM Weinstock, NM Gerardo, MG Poulsen, G Suen, J Clardy, CR Currie. "Biogeography and microscale diversity shapes the biosynthetic potential of fungus-growing ant associated *Pseudonocardia*." Presented at: Beneficial Microbes; Madison, WI; Jul 9, 2018.
- 10 **MG Chevrette**, CM Carlson, H Ortega, F Zhang, KJ Grubbs, MT Pupo, TS Bugni, DR Andes, CR Currie. "Insect-associated *Streptomyces* are a rich source of new antimicrobials with activity against resistant human pathogens." Presented at: Perlman Antibiotic Discovery and Development Symposium; Madison, WI; Apr 27, 2018.
- 11 DD Acharya, IJ Miller, Y Cui, DR Braun, **MG Chevrette**, M Berres, L Li, J Kwan, CR Currie, TS Bugni. "Chemical cross-talk in bacterial co-cultures affects differential gene expression and antibiotic production." Presented at: Perlman Antibiotic Discovery and Development Symposium; Madison, WI; Apr 27, 2018.
- 12 R Zarnowski, **MG Chevrette**, E Dominguez, DR Andes. "Modeling high-throughput proteomics into predictive metabolomics - A novel tool for studies of medical device-associated *Candida spp.* biofilm infections." Presented at: Metabolomics Circle 2017 - Bioanalytical & Omics Science, Wrocław, Poland; Nov 18, 2017.
- 13 D Acharya, N Adnani, D Braun, IJ Miller, Q Yu, **MG Chevrette**, M Berres, CR Currie, L Li, JC Kwan, TS Bugni. "Chemical cross-talk in bacterial co-cultures affects differential gene expression and antibiotic production." Presented at: American Society for Pharmacognosy Annual Meeting, Portland, OR; Jul 30, 2017.
- 14 AF Sanchez-Larrayoz, NM Elhosseiny, **MG Chevrette**, Y Fu, P Giunta, G Spallanzani, GB Pier, S Lory, T Maira-Litrán. "The membrane lipid asymmetry transport system plays a key role in protecting *Acinetobacter baumannii* against killing by human complement via the alternative pathway." Presented at: American Society for Microbiology Microbe, New Orleans, LA; Jun 2, 2017.
- 15 **MG Chevrette**, CM Carlson, C Thomas, TS Bugni, DR Andes, CR Currie. "Evolutionary trends in secondary metabolism reveal insect-associated *Streptomyces* as an underexploited antibiotic resource." Presented at: Perlman Antibiotic Discovery and Development Symposium; Madison, WI; Mar 31, 2017.

- 16 [EJ Caldera](#), **MG Chevrette**, CR Currie. "The geographic mosaic of antibiotic coevolution in a bacterial symbiont of the fungus-farming ant *Apterostigma dentigerum*." Presented at: Perlman Antibiotic Discovery and Development Symposium; Madison, WI; Mar 31, 2017.
- 17 [J Bratburd](#), C Keller, E Vivas, **MG Chevrette**, F Rey, L Li, CR Currie. "The human gut microbiota metabolomic response to infection." Presented at: Perlman Antibiotic Discovery and Development Symposium; Madison, WI; Mar 31, 2017.

Grants

Novel secondary metabolite-producing bacteria for plant disease control

JGI

Proposal ID 506816, JGI Community Sequencing Project, *PacBio sequencing for 540 strains*

2020

Roles: Co-PI

Genetic and metabolic metaterminants of microbial interactions in the rhizosphere

USDA, NIFA

[2020-67012-31772](#), USDA NIFA Fellowship, \$164,786

2020

Roles: Project director

Genetic and metabolic metaterminants of microbial interactions in the rhizosphere

NSF

NSF Postdoctoral Research Fellowship in Biology, \$138,000

2020

Awarded, but declined. Proposed roles: Project director

Identification of novel MDR antimicrobials from insect-*Streptomyces* symbioses

NIH, NIAID

[1U19AI142720-01](#), NIH U19, \$1,057,133

2019

Roles: Contributed to project inception, preliminary data, and writing.