

# 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

### University of Florida

Gainesville, FL

Assistant Professor - Department of Microbiology & Cell Science

08/2022–present

### Wisconsin Institute for Discovery & University of Wisconsin-Madison

Madison, WI

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

06/2019–08/2022

Genomics Lead - Tiny Earth Chemistry Hub

06/2019–08/2022

### WiSolve Consulting

Madison, WI

Co-Founder & Senior Consultant

03/2016–03/2020

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

Schlingens 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
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

Latin American Workshop on Genome Mining of Natural Products Organizer, Lead Faculty	2022–present
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

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

### Undergraduate & Postbaccalaureate Mentees (Total: 15; Current: 4)

Justin Zelin (2014)	Kamiyah Corinaldi (2019)	Mara Beebe (2019–)
Samuel Melton (2014–2015)	Alyssa Gutierrez (2019)	Martel L DenHartog (2019–)
Mariana Nave (2016–2017)	Brody Rhodes (2019)	Josephine HI Putnam (2019–)
Will Flanigan (2017)	Renee Engels (2019–2020)	Stratford Vandlik (2021–)
Amber Schmitz (2017)	Orli Jona (2019–2020)	Kyle Lee (2022–)
Luis Balderrama (2019)		

## 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](#)

<b>Training Grants Committee</b> Department of Microbiology & Cell Science - UF	2022–present
<b>Graduate Student Recruitment Committee</b> Department of Microbiology & Cell Science - UF	2022–present
<b>Seminar Speakers Committee</b> Department of Microbiology & Cell Science - UF	2022–present
<b>Space Committee</b> Department of Microbiology & Cell Science - UF	2022–present
<b>Session Chair</b> International Symposium on the Biology of Actinomycetes	2022
<b>Associate Editor &amp; Editorial Board</b> Frontiers in Natural Products	2022–present
<b>SIMB Planning Committee</b> Society for Industrial Microbiology & Biotechnology	2021–present

<b>Guest Associate Editor</b> Frontiers in Microbiology, Exploring the Insect Microbiome	2020–2021
<b>On-air Guest</b> PBS Wisconsin, <a href="#">Link</a>	06/2020
<b>On-air Guest</b> Natural Prodcast, Joint Genome Institute, <a href="#">Link</a>	02/2020
<b>Mentor</b> Tiny Earth Summer Program, Tiny Earth Partner Instructor Training	2019–2022
<b>On-air Guest</b> Perpetual Notion Machine, WORT FM, <a href="#">Link</a>	02/2019
<b>Evolution Coordinating Committee</b> JF Crow Institute for the Study of Evolution, UW-Madison	01/2017–03/2020
<b>Mentor</b> Google Summer of Code – antiSMASH, Open Bioinformatics Foundation	03/2016–09/2017
<b>Co-chair</b> Computational Biology, Ecology, & Evolution (ComBEE), UW-Madison	01/2016–08/2018
<b>Co-organizer</b> Discovery Niche, Wisconsin Institutes for Discovery	10/2015–11/2015
<b>Volunteer</b> Wisconsin Science Festival	10/2015
<b>Open Genomics Adviser</b> Revive & Restore, Long Now Foundation	04/2014–10/2015
<b>Environmental, Health, and Safety Representative</b> Broad Institute of MIT & Harvard	01/2011–03/2013

## Professional Societies & Groups

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

## Publications

First author publications: 17; Total publications: 41; Google Scholar citations: 2358; Google Scholar H-index: 16

### Peer-reviewed Publications – Original Research

First author: 7; Total: 24

\*Co-first author, contributed equally

- 1 **MG Chevrette**, CS Thomas, A Hurley, N Rosario-Meléndez, K Sankaran, Y Tu, A Hall, S Magesh, J Handelsman. "Microbiome composition modulates secondary metabolism in a multispecies bacterial community." 2022. *Proceedings of the National Academy of Sciences*. [10.1073/pnas.2212930119](#)
- 2 A Hurley, **MG Chevrette**, N Rosario-Meléndez, J Handelsman. "THOR's hammer: the antibiotic koreenceine drives gene expression in a model microbial community." 2022. *mBio*. [10.1128/mbio.02486-21](#)
- 3 GR Lewin, NM Davis, BR McDonald, AJ Book, **MG Chevrette**, S Suh, A Boll, CR Currie. "Long-term cellulose enrichment selects for highly cellulolytic consortia and competition for public goods." 2022. *mSystems*. [10.1128/msystems.01519-21](#)
- 4 **MG Chevrette**, B Himes, C Carlos-Shanley. "Nutrient availability shifts the biosynthetic potential of soil-derived microbial communities." 2022. *Current Microbiology*. [10.1007/s00284-021-02746-9](#)
- 5 J Yan, Q Wu, EJN Helfrich, **MG Chevrette**, DR Braun, H Heyman, GE Ananiev, SR Rajski, CR Currie, J Clardy, TS Bugni. "Bacillimidazoles A–F, imidazolium-containing antibacterial compounds isolated from a marine *Bacillus*." 2022. *Marine Drugs*. [10.3390/md20010043](#)
- 6 R Zarnowski, A Noll, **MG Chevrette**, 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." 2021. *Nature Communications*. [10.1038/s41467-021-26525-z](#)
- 7 EJN Helfrich\*, R Ueoka\*, **MG Chevrette\***, F Hemmerling, X Lu, S Leopold-Messner, AY Burch, SE Lindow, J Handelsman, J Piel, MH Medema. "Evolution of combinatorial diversity in *trans*-acyltransferase polyketide synthase assembly lines across bacteria." 2021. *Nature Communications*. [10.1038/s41467-021-21163-x](#)
- 8 A Hurley, **MG Chevrette**, DD Acharya, GL Lozano, M Garavito, J Heinritz, L Balderrama, M Beebe, ML DenHartog, K Corinaldi, R Engels, A Gutierrez, O Jona, JHI Putnam, B Rhodes, T Tsang, S Hernandez, C Bascom-Slack, JE Blum, PA Price, D Davis, J Klein, J Pultorak, NL Sullivan, NJ Mouncey, PC Dorrestein, S Miller, NA Broderick, J Handelsman. "Tiny Earth a big idea for STEM education and antibiotic discovery." 2021. *mBio*. [10.1128/mBio.03432-20](#)
- 9 MA Schorn\*, S Verhoeven\*, et al. [104 authors including **MG Chevrette**]. "Standardized links between genomic and metabolomic data facilitate integrative mining." 2021. *Nature Chemical Biology*. [10.1038/s41589-020-00724-z](#)

- HE Ortega\*, VB Lourenzon\*, **MG Chevette**\*, LG Ferreira, M Zhao, RFR Alvarenga, WGP Melo, T Venâncio, DR Andes, CR Currie, AD Andricopulo, TS Bugni, MT 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)
- F Zhang, M Zhao, DR Braun, A Audhya, SS Ericksen, JS Piotrowski, J Nelson, J Peng, GE Ananiev, S Chanana, K Barns, J Fossen, **MG Chevette**, IA Guzei, C Zhao, L Guo, W Tang, CR Currie, SR Rajsiki, DR Andes, TS 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]
- Q Wu, K Throckmorton, M Maity, **MG Chevette**, DR Braun, SR Rajsiki, CR Currie, MG Thomas, TS 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)
- F Zhang, TP Wyche, Y Zhu, DR Braun, J Yan, Y Ge, IA Guzei, **MG Chevette**, CR Currie, MG Thomas, SR Rajsiki, TS 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)
- EJ Caldera\*, **MG Chevette**\*, BR McDonald, CR 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]
- MG Chevette**, C Carlos-Shanley, KB Louie, BP Bowen, TR Northen, CR 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)
- K Throckmorton\*, V Vinnik\*, R Chowdhury, TB Cook, **MG Chevette**, CD Maranas, BF Pfeleger, MG Thomas. "Directed evolution of an adenylation domain specificity code." 2019. *ACS Chemical Biology*. [10.1021/acschembio.9b00532](https://doi.org/10.1021/acschembio.9b00532)
- J Yan, **MG Chevette**, D Braun, MK Harper, CR Currie, TS 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)
- MG Chevette**, CM Carlson, HE Ortega, C Thomas, GE Ananiev, KJ Barns, AJ Book, J Cagnazzo, C Carlos, W Flanigan, KJ Grubbs, HA Horn, FM Hoffmann, JL Klassen, JJ Knack, GR Lewin, BR McDonald, L Muller, WGP Melo, AA Pinto-Tomás, A Schmitz, E Wendt-Pienkowski, S Wildman, M Zhao, F Zhang, TS Bugni, DR Andes, MT Pupo, CR 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]
- RM Stubbendieck, DS May, **MG Chevette**, MI Temkin, E Wendt-Pienkowski, J Cagnazzo, CM Carlson, JE Gern, CR 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)
- 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)
- 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 Rajsiki, 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]
- 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)
- 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)
- 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)
- 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: 5; Total: 8

- BD Lee, A Gitter, CS Greene, S Raschka, F Maguire, AJ Titus, MD Kessler, AJ Lee, **MG Chevette**, 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." 2022. *PLOS Computational Biology*. In press. [Preprint available](#)
- MG Chevette**, J Handelsman. "Needles in haystacks: Reevaluating old paradigms for the discovery of bacterial secondary metabolites." 2021. *Natural Product Reports*. [10.1039/d1np00044f](https://doi.org/10.1039/d1np00044f)
- 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." 2021. *Natural Product Reports*. [10.1039/D1NP00013F](https://doi.org/10.1039/D1NP00013F)

- 4 **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)
- 5 **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)
- 6 **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)
- 7 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]
- 8 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*. [10.1007/978-1-0716-2273-5\\_8](https://doi.org/10.1007/978-1-0716-2273-5_8)
- 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. WMMA-235, 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 Chevette**, 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](https://doi.org/10.1128/genomeA.01406-16)

## Patents

Total: 2

- 1 J Handelsman, **MG Chevette**, C Thomas, J Nepper, J Putnam. Pipeline for small molecule discovery. P220213US01. Filed 2022-05-05. Pending.
- 2 DC Gray, E Li, BR Bowman, GL Verdine, K Robison, **MG Chevette**, 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](https://doi.org/10.1002/US20190264184A1)

## Preprints, Submitted, & Under Review

Total: 3

- 1 M Aktukmak, H Zhu, **MG Chevette**, J Nepper, J Handelsman, AO Hero. "A graphical model for fusing diverse microbiome data." *arXiv*. [Preprint available](#)
- 2 B Jang, J Nepper, **MG Chevette**, J Handelsman, AO Hero. "High dimensional stochastic linear contextual bandit with missing covariates." *arXiv*. [Preprint available](#)
- 3 BR McDonald, **MG Chevette**, 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](#)
- 4 K Gotting, DS May, J Sosa-Calvo, L Khadempour, CB Francouer, AB Lopez, MW Thairu, S Sandstrom, CM Carlson, **MG Chevette**, A Rodriques, MT Pupo, TS Bugni, TR Schultz, JS Johnston, NM Gerardo, CR Currie. "Genomic diversification of the specialized parasite of the fungus-growing ant symbiosis." *Under review*.



Q Wu, JX Yan, **MG Chevette**, S Chanana, BA Bell, M Maity, DR Braun, IA Guzei, MG Thomas, SR Rajski, TS Bugni.  
5 "Ecteinamines A and B: new nonribosomal peptides with an unprecedented skeleton from marine bacterium  
*Micromonospora* sp." Submitted.

## Talks & Abstracts

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### Invited Talks

Total: 14

- 1 Dynamic secondary metabolism in a model rhizosphere community. International Symposium on the Biology of Actinomycetes. Toronto, ON. Jun 20, 2022.
- 2 Microbial secondary metabolism: from evolutionary genomics to community ecology. Latin American Workshop on Genome Mining of Natural Products. Guanajuato, Mexico. Jun 15, 2022.
- 3 Dynamic secondary metabolism in a model rhizosphere community. Synthetic Biology for Natural Products Conference. Cancun, Mexico. May 18, 2022.
- 4 "Evolution of antibiotic biosynthesis as a framework for drug discovery." Biotechnology Institute Seminar Series. University of Minnesota. St. Paul, MN (remote). Dec 17, 2020.
- 5 "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.
- 6 "The Earth's bounty: antibiotic discovery from soil." Gairdner Symposium, McMaster University. Hamilton, ON. Nov 15, 2019.
- 7 "Drugs from bugs of bugs: a novel source for antimicrobials." American Society for Microbiology Microbe. San Francisco, CA. Jun 21, 2019.
- 8 "Mining microbiomes for antimicrobials." Synthetic Biology for Natural Products Conference. Puerto Vallarta, Mexico. Jun 02, 2019.
- 9 "Drugs from bugs of bugs: microbiomes as a source of new antibiotics." Wisconsin Institute for Discovery. Madison, WI. Jan 24, 2019.
- 10 "Drugs & bugs of bugs: insect microbiomes as a source of new antibiotics." McMaster University. Hamilton, ON. Jun 21, 2018.
- 11 "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.
- 12 "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.
- 13 "Computational insights into the diverse nonribosomal peptide chemistry of Actinobacteria." Synthetic Biology for Natural Products Conference. Cancun, Mexico. Mar 6, 2017.  
[\[Highlighted in ACS Synthetic Biology\]](#)
- 14 "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 Chevette**, J Handelsman. "Genetic determinants of surface colonization by the rhizosphere bacterium *Flavobacterium johnsoniae*." Presented at: World Microbe Forum; Online; Jun 20, 2021.
- 2 **MG Chevette**, 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 Pfleger, 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

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

Roles: PI

JGI

2020

### Genetic and metabolic determinants of microbial interactions in the rhizosphere

2020-67012-31772, USDA NIFA Fellowship, \$164,786

Roles: Project director

USDA, NIFA

2020

### Genetic and metabolic determinants of microbial interactions in the rhizosphere

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

Awarded, but declined. Proposed roles: Project director

NSF

2020

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

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

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

NIH, NIAID

2019