Marc G **Chevrette**

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Education

University of Wisconsin-Madison — *Madison, WI*

Doctor of Philosophy (PhD) – Genetics — *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

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

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

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

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

Guest Associate Editor Frontiers in Microbiology, Exploring the Insect Microbiome 2020–2021
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 2019–2022
On-air Guest Perpetual Notion Machine, WORT FM, ***Link*** 02/2019
Evolution Coordinating Committee JF Crow Institute for the Study of Evolution, UW-Madison 01/2017–03/2020
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

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: 16; Total publications: 40; Google Scholar citations: 2217; Google Scholar H-index: 16

Peer-reviewed Publications – Original Research

First author: 7; Total: 24

**Co-first author, contributed equally*

1. 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***
2. 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***
3. **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***
4. 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***
5. 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***
6. 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***
7. 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***
8. 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***
9. HE Ortega*, VB Lourenzon*, **MG Chevrette***, 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***

10 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 Chevrette**, IA Guzei, C Zhao, L Guo, W Tang, CR Currie, SR Rajski, DR Andes, TS Bugni. "A marine microbiome antifungal targets urgent-threat drug-resistant fungi." 2020. ***Science.*** ***10.1126/science.abd6919*** [***Highlighted by Science***]

11 Q Wu, K Throckmorton, M Maity, **MG Chevrette**, DR Braun, SR Rajski, 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***

12 F Zhang, TP Wyche, Y Zhu, DR Braun, J Yan, Y Ge, IA Guzei, **MG Chevrette**, CR Currie, MG Thomas, SR Rajski, 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***

13 EJ Caldera*, **MG Chevrette***, 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*** [***Cover Image for Issue***]

14 **MG Chevrette**, 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***

15 K Throckmorton*, V Vinnik*, R Chowdhury, TB Cook, **MG Chevrette**, CD Maranas, BF Pfleger, MG Thomas. "Directed evolution of an adenylation domain specificity code." 2019. ***ACS Chemical Biology***. ***10.1021/acschembio.9b00532***

16 J Yan, **MG Chevrette**, 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***

17 **MG Chevrette**, 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*** [***Highlighted by NPR***]

18 RM Stubbendieck, DS May, **MG Chevrette**, 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***

19 N Liu,* H Li,* **MG Chevrette**, 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***

20 N Adnani, **MG Chevrette**, 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*** [***Highlighted by Nature***]

21 AF Sanchez-Larrayoz, NM Elshamy, **MG Chevrette**, 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***

22 **MG Chevrette**, 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***

23 K Blin, T Wolf, **MG Chevrette**, 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***

24 SS Johnson, **MG Chevrette**, 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***

Peer-reviewed Publications – Review & Perspective Articles

First author: 5; Total: 8

1 BD Lee, A Gitter, CS Greene, S Raschka, F Maguire, AJ Titus, MD Kessler, AJ Lee, **MG Chevrette**, 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***

2 **MG Chevrette**, J Handelsman. "Needles in haystacks: Reevaluating old paradigms for the discovery of bacterial secondary metabolites." 2021. ***Natural Product Reports.*** ***10.1039/d1np00044f***

3 **MG Chevrette***, 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***

4 **MG Chevrette**, 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***

5 **MG Chevrette***, JR Bratburd*, CR Currie, RM Stubbendieck. "Experimental microbiomes: models not to scale." 2019. ***mSystems***. ***10.1128/mSystems.00175-19***

6 **MG Chevrette**, CR Currie. "Emerging evolutionary paradigms in antibiotic discovery." 2019. ***Journal of Industrial Microbiology & Biotechnology***. ***10.1007/s10295-018-2085-6***

7 IJ Miller, **MG Chevrette**, JC Kwan. (2017). "Interpreting microbial biosynthesis in the genomic age: Biological and practical considerations." 2017. ***Marine Drugs***. ***10.3390/md15060165*** **[*Cover Image for Issue*]**

8 GR Lewin, C Carlos, **MG Chevrette**, 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***

Peer-reviewed Publications – Book Chapters

First author: 2; Total: 2

1 **MG Chevrette**, N Selem-Mojica, C Aguilar, K Labby, ED Bustos-Diaz, 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 Chevrette**, 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***

Publications – Editorial Review Only

First author: 2; Total: 6

1 **MG Chevrette**, J Handelsman. "From metagenomes to molecules: Innovations in functional metagenomics unlock hidden chemistry in the human microbiome." 2020. ***Biochemistry***. ***10.1021/acs.biochem.0c00033***

2 **MG Chevrette**. "Natural products reawakened: New trends in discovery and development." 2018. ***SIMB News Magazine***, *Society for Industrial Microbiology and Biotechnology*.

3 DR Braun, **MG Chevrette**, 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***

4 DR Braun, **MG Chevrette**, 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***

5 N Adnani, DR Braun, BR McDonald, **MG Chevrette**, CR Currie, TS Bugni. "Draft genome of *Micromonospora sp. WMMB-235*, a marine ascidian-associated bacterium." 2017. ***Genome Announcements***. ***10.1128/genomeA.01369-16***

6 N Adnani, DR Braun, BR McDonald, **MG Chevrette**, 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: 2

1 J Handelsman, **MG Chevrette**, 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 Chevrette**, D Udwary, 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: 3

1 BR McDonald, **MG Chevrette**, 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 K Gotting, DS May, J Sosa-Calvo, L Khadempour, CB Francouer, AB Lopez, MW Thairu, S Sandstrom, CM Carlson, **MG Chevrette**, 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.*

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

Talks & Abstracts

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 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 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 resopnse 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 - Bioanylytical & 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: PI

Genetic and metabolic meterminants of microbial interactions in the rhizosphere *USDA, NIFA*
2020-67012-31772, USDA NIFA Fellowship, *$164,786* *2020*
Roles: Project director

Genetic and metabolic meterminants 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.