Marc G. **Chevrette**

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Education

University of Wisconsin-Madison — *Madison, WI*

Doctor of Philosophy (PhD) – Genetics — *In progress*

Master of Science (MS) – Genetics — *In progress*

- **Advisor:** Cameron Currie, PhD
- NIH Chemistry-Biology Interface Predoctoral Fellow

Harvard University Extension — *Cambridge, MA*

Master of Liberal Arts (ALM) – Biotechnology (Bioengineering & Nanotechnology) — *03/2015*

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

Skills

Programming Python, C/C++, Scala, JAVA, Node.JS, OCaml, LaTeX

Web Django with Python, Express with Node.JS, HTML5, LESS

Languages Korean, English, Japanese, Chinese

Experience

WiSolve Consulting — *Madison, WI*

Co-Founder, Senior Consultant — *03/2016–present*

- Provided business services (including market research analysis, business plan development, competitive landscape analysis, SBIR grant writing, and others) to early-stage companies in the biotech and pharmaceutical industries.

Currie Lab, University of Wisconsin-Madison — *Madison, WI*

Graduate Research Assistant — *08/2015–present*

- Built genomics-driven computational and analytic pipelines to uncover novel therapeutics and study the evolution of biosynthesis in free-living and host-associated microbes.

Johnson Biosignatures Lab, Harvard & Georgetown Universities — *Cambridge, MA*

Lead Computational Biologist — *10/2013–10/2015*

- Performed whole genome sequencing and metagenomic analysis of environmental samples from sulfur-rich, extreme environments with implications in microbial ecology, biogeochemistry, and exobiology.
- Characterized biosynthetic potential of metagenomic data.

Warp Drive Bio *Cambridge, MA*

Head of Experimental Genomics *04/2013–08/2015*

- Executed genomic-directed natural products drug discovery, high throughput Next Generation Sequencing (htNGS), computational biology, and molecular biology of actinomycetes and fungi.
- Designed and implemented genomic natural products searches over various scaffolds of business development and internal interest.
- Developed and curated computational pipelines and databases for assembly, annotation, and custom analysis of public and internal htNGS data (160,000 bacterial genomes, >150 closed and complete genomes) for analysis of novel polyketide, non-ribosomal peptide, and other natural product classes.
- Handled processing and management of sequence data, predictions, and analyses supporting multiple projects across discovery, molecular biology, engineering, and synthetic biology.
- Executed elucidation and prediction of novel chemical products of bacterial biosynthetic gene clusters and metabolic pathways (e.g. beta-lactams, aminoglycosides, rapamycin analogues, etc.).
- Developed internal pipelines for applied phylogenomic annotations and prioritizations of multiple data types to inform discovery and engineering efforts.
- Oversaw all lab and experimental support of actinomycete and fungal sequencing efforts for Illumina, Pacific Biosciences, and Oxford-Nanopore platforms.
- Bioinformatics software development to support molecular and synthetic biology efforts.
- Direct written and verbal communication of findings to senior leadership and business partners.
- Database management and delivery of sequence information to molecular biology, microbiology, and chemistry groups to aid drug discovery, strain engineering, and generation of expression constructs.

Maira-Litrán Infectious Disease Lab, Brigham & Women's Hospital *Boston, MA*

Research Assistant, Microbiology & Computational Biology *03/2013–08/2015*

- Investigated *in vivo* fitness, horizontal gene transmission, and pathogenesis of *Acinetobacter baumannii*, *Staphylococcus aureus*, *Salmonella typhii*, and other virulent pathogens through microbiology, computational, and genomic techniques.
- Developed and optimized genetic tools to enable novel examinations of pathogen fitness, invasion, and virulence using high-throughput transposon-directed insertion site sequencing of infections in murine models.

Broad Institute of MIT & Harvard *Cambridge, MA*

Research Associate II, Molecular Biology Process Development *01/2011–03/2013*

- Independently designed development initiatives including supporting htNGS, microfluidics, and automation goals.
- Oversaw production and up-scaling of microbial mate-pair library construction (LC), integrated internal development with vendor technologies, and managed sample-tracking via real-time messaging to internal LIMS.
- Increased throughput of microbial LC Platform 4-fold by automation and protocol development.
- Worked extensively with mate-pair NGS LC, sequence analysis tools, genomic databases, statistical software, and programming/operating lab robotics.

Rutledge Molecular Genetics Lab, Rensselaer Polytechnic Institute *Troy, NY*

Research Associate, Molecular Genetics *05/2010–12/2010*

- Designed and developed protocols and operating procedures for transgenic *Caenorhabditis elegans* cultures to model stress-induced neural degeneration and Parkinson's Disease.

BCR Biotech *Jamestown, RI*

Research Assistant, Microbiology *09/2009–12/2009*

- Wrote and optimized protocols and methods for engineering synthetic biosensing functions in *Bacillus* spores.

Extracurricular Activity

B10S (B1t 0n the Security, Underground hacker team) *S.Korea*

Core Member *Nov. 2011 - PRESENT*

- Gained expertise in penetration testing areas, especially targeted on web application and software.
- Participated on a lot of hacking competition and won a good award.
- Held several hacking competitions non-profit, just for fun.

WiseGuys (Hacking & Security research group) *S.Korea*

Member *Jun. 2012 - PRESENT*

- Gained expertise in hardware hacking areas from penetration testing on several devices including wireless router, smartphone, CCTV and set-top box.
- Trained wannabe hacker about hacking technique from basic to advanced and ethics for white hackers by hosting annual Hacking Camp.

PoApper (Developers' Network of POSTECH) *Pohang, S.Korea*

Core Member & President at 2013 *Jun. 2010 - PRESENT*

- Reformed the society focusing on software engineering and building network on and off campus.
- Proposed various marketing and network activities to raise awareness.

PLUS (Laboratory for UNIX Security in POSTECH) *Pohang, S.Korea*

Member *Sep. 2010 - Oct. 2011*

- Gained expertise in hacking & security areas, especially about internal of operating system based on UNIX and several exploit techniques.
- Participated on several hacking competition and won a good award.
- Conducted periodic security checks on overall IT system as a member of POSTECH CERT.
- Conducted penetration testing commissioned by national agency and corporation.

MSSA (Management Strategy Club of POSTECH) *Pohang, S.Korea*

Member *Sep. 2013 - PRESENT*

- Gained knowledge about several business field like Management, Strategy, Financial and marketing from group study.
- Gained expertise in business strategy areas and inisght for various industry from weekly industry analysis session.

Honors & Awards

Chemistry-Biology Interface Predoctoral Fellowship National Institutes of Health, NIGMS – UW-Madison 06/2016–present
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

Presentation

6th CodeEngn (Reverse Engineering Conference) *Seoul, S.Korea*
Presenter for <DEFCON 20th : The way to go to Las Vegas> *Jul. 2012*
- Introduced CTF(Capture the Flag) hacking competition and advanced techniques and strategy for CTF

6th Hacking Camp - S.Korea *S.Korea*
Presenter for <Metasploit 101> *Sep. 2012*
- Introduced basic procedure for penetration testing and how to use Metasploit

Writing

A Guide for Developers in Start-up *Facebook Page*
Founder & Writer *Jan. 2015 - PRESENT*
- Drafted daily news for developers in Korea about IT technologies, issues about start-up.

AhnLab *S.Korea*
Undergraduate Student Reporter *Oct. 2012 - Jul. 2013*
- Drafted reports about IT trends and Security issues on AhnLab Company magazine.

Program Committees

Organizer & Co-director 1st POSTECH Hackathon S.Korea
2013
Staff 7th Hacking Camp S.Korea
2012
Problem Writer 1st Hoseo University Teenager Hacking Competition S.Korea
2012
Staff & Problem Writer JFF(Just for Fun) Hacking Competition S.Korea
2012