Evan R. Rees

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EDUCATION

Doctor of Philosophy Student in Pharmaceutical Sciences Ongoing
Drug Discovery Division, Rennebohm Hall, University of Wisconsin (UW) – Madison, WI

Bachelor of Science in Chemistry 2016
University of North Carolina – Greensboro (UNCG) – Greensboro, NC

COLLEGIATE HONORS

- Trainee, NIGMS Biotechnology Program (2017 – Present)
- University Marshal (2013 – 2016)
- NSF International REU Recipient (2015)
- Lachman Graduate Fellowship Recipient (2016)

EXPERIENCE

Graduate Student Aug 2016 – Present
UW-Madison Pharmaceutical Sciences Department - Madison, WI *Jason C. Kwan Lab*

- Elucidating conditional biosynthetic pathways of marine metagenomes by comparative genomics methodologies
- Developing robust & high-performance methods for automated extraction of bacterial genomes from metagenomes
- Isolating and identifying bioactive compounds from a panoply of bacterial sources

Student Researcher May 2013 – May 2016
UNCG Department of Chemistry - Greensboro, NC *Nicholas H. Oberlies Lab*

- Isolated and elucidated antifungal compounds in bacteria similar to *Bacillus amyloliquefaciens* FZB42
- Isolated four peptaibols with a rare threonine residue from *Nectriopsis* Maire strain MSX53554
- Isolated and identified griseofulvin from *Xylaria cubensis* for downstream spatial and temporal profiling

OUTREACH & INVOLVEMENT

Computational Biology, Ecology and Evolution (ComBEE) Jan 2019 – Present
Python study group leader (PSG)

- Arranged topical overviews using Jupyter notebooks to discuss current bioinformatic tools

Pharmaceutics Graduate Student Research Meeting Present – June 2019
Committee member

- Constructed and currently maintain website for attendees
- Organized Workshop: *"A brief introduction and analysis of mass spectrometry data in the pharmaceutical industry"*

Pharmaceutical Sciences Student Recruitment Committee Feb 2018, Feb 2019
Committee member

- Assisted in planning and executing prospective student recruitment weekends
- Conducted prospective graduate student interviews

WiSolve Consulting Group Oct 2017
Consultant

- Utilized the Lean methodology to discover potential clients; targeted mid-size biotech companies (50-200 people)

Morgridge Entrepreneurial Bootcamp (MEB) June 2017
MEB Student

- First place in negotiation competition of 66 students
- Placed first in pivoting/strategy competition of 11 teams

TECHNICAL SKILLS

HPLC, NMR, Python, R, Bash/Shell, Markdown, Ruby, Javascript, Node.js, Docker, Git, HTCondor, Slurm, Microsoft Office Suite, Adobe Illustrator

PUBLICATIONS

"Autometa: automated extraction of microbial genomes from individual shotgun metagenomes"
Miller I. J.*, **Rees E. R.***, Ross J., Miller I., Baxa J., Lopera J., Kerby R. L., Rey F. E., and Kwan J. C. (*contributed equally)
Nucleic Acids Research, gkz148
doi: 10.1093/nar/gkz148

"In Situ Mass Spectrometry Monitoring of Fungal Cultures Led to the Identification of Four Peptaibols with a Rare Threonine Residue."
Sica V. P., **Rees E. R.**, Raja H. A., Rivera-Chávez J., Burdette J. E., Pearce C. J., and Oberlies N. H.
Phytochemistry, 2017, *143,* 45-53. PMID: 28772192; PMCID: PMC5603414
doi: 10.1016/j.phytochem.2017.07.004

"Characterization and Isolation of Peptide Metabolites of an Antifungal Bacterial Isolate Identified as Bacillus Amyloliquefaciens Subspecies plantarum Strain FZB42."
Adibi A., **Rees E. R.**, McCarley S., Sica V. P., and Oberlies N. H.
Journal of Microbiology, Biotechnology and Food Sciences, 2017, 6, 1309-1313.
doi: 10.15414/jmbfs.2017.6.6.1309-1313

"Spatial and Temporal Profiling of Griseofulvin Production in Xylaria cubensis Using Mass Spectrometry Mapping."
Sica V. P., **Rees E. R.**, Tchegnon E., Bardsley R., Raja H. A., and Oberlies N. H.
Frontiers in Microbiology, 2016, 7. PMID: 27199902; PMCID: PMC4844619
doi: 10.3389/fmicb.2016.00544

ORAL & POSTER PRESENTATIONS

Rees, E. R., et al.; Identification of the Putative Bryostatin-like Biosynthetic Gene Cluster from the Bacterial Endosymbiont *"Candidatus* Endobugula *glebosa*" of *Bugulina simplex*. *Keystone Symposia. Microbiome: Chemical Mechanisms and Biological Consequences (C3).* March 2019. Montreal, QC, Canada

Rees, E. R.; Identification of the bryostatin-like Biosynthetic Gene Cluster in *"Candidatus* Endobugula *glebosa*". *Pharmaceutical Sciences Seminar*. February 2019. Madison, WI

Rees, E. R.; Investigating Biosynthetic Diversity in Convoluted Microbial Communities. *Biotechnology Training Program Seminar*. October 2018. Madison, WI

Miller, I. J.*, **Rees, E. R.***, et al.; Autometa: Automated extraction of bacterial genomes from shotgun-metagenomes. *Pharmaceutical Sciences Graduate Student Retreat.* May 2018. Madison, WI

Rees, E. R.; A Study into the Evolution of the Bryostatins. *Pharmaceutical Sciences Seminar*. April 2018. Madison, WI

Rees, E.R.; Extraction and Isolation of Secondary Metabolites from Fungi. *Celebration of Undergraduate Research.* April 2016. Greensboro, NC

Rees, E. R.; Development of New Iminophosphorane-based Catalysts for the Ring-opening Polymerization of Renewable Lactones. *Memphis section of the ACS: 71st and 67th Combined Southwestern and Southeastern Regional Meeting of the American Chemical Society.* November 2015. Memphis, TN

Rees, E. R.; Identification of Antifungal Agents in Bacteria similar to *Bacillus amyloliquefaciens* FZB42. *Triangle Chromatography Discussion Group: Triangle Chromatography Symposium and Instrument Exhibit.* May 2015. Raleigh, NC

Rees, E. R.; Identification of Antifungal Agents in Bacteria similar to *Bacillus amyloliquefaciens* FZB42. *Syngenta and Central North Carolina Section of ACS: The 15th Annual Poster & Vendor Night.* April 2015. Greensboro, NC