

Ethan M Jones

Curriculum Vitae

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Education:

(In progress) PhD Systems Biology, Harvard University, Cambridge MA

B.S. Computational & Applied Mathematics & Statistics: Mathematical Biology Concentration, Summa Cum Laude (GPA 3.94) College of William & Mary, Williamsburg, VA, May 2019

Research Experience

Bioengineering Lab (Advisor Margaret Saha) **Dec 2016 – May 2019**

Quantification of the effects of insulator RiboJ on protein and RNA expression

- Examined the effects of the genetic insulator RiboJ on RNA and protein expression using flow cytometry and ddRT-qPCR.

Student Leader of William & Mary iGEM 2018 **Dec 2018 – Nov 2018**

Construction of a decoding circuit to process dynamic frequency-encoded genetic signals

- Constructed a genetic circuit which utilizes a protease based incoherent feedforward loop as a way to interpret and process temporally encoded inputs.

Student Leader of William & Mary iGEM 2017 **Dec 2017 – Nov 2017**

Modular Control of Gene Expression Speed using Protein Degradation Tags

- Created a modular genetic parts based method that utilizes protein degradation tags and an orthogonal protease to control the response time of gene expression.

Team member of William & Mary iGEM 2016 **May 2016 – Nov 2016**

The Circuit Control Toolbox

- Built a suite of modular genetic parts that enable tuning of an arbitrary genetic circuit's transfer function.

Lab of Dr. J.C. Poutsma **Oct 2015 - May 2016**

Gas phase macro-cyclization of tetrapeptides

- Synthesized tetrapeptides, and used mass spectrometry and the extended kinetic method to analyze gas phase macro-cyclization and acidities

Publications:

Clifton KP*, Jones EM*, Paudel S, Halleran AD, Marken JP, Monette CE, Epp L, Saha MS. (2018) *Synthetic Insulator RiboJ increases Protein Expression of Downstream Genes*, Journal of Biological Engineering, 12(1), <https://doi.org/10.1186/s13036-018-0115-6>

*These authors equally contributed to the work.

Jones EM*, Monette CE*, Marken JP, Dhawan S, Gibney T, Li C, Liu W, Luz-Ricca A, Ren X Zheng X, Saha MS. (in review Nov 2018 ACS Synthetic Biology) *Modular, part-based control*

of gene expression response time using protein degradation tags.
<http://biorxiv.org/cgi/content/short/482331v1>

*These authors equally contributed to the work

Beal J et al. (2018). *Quantification of Bacterial Fluorescence using Independent Calibrants*. *PLOS One*, 13(6). <https://doi.org/10.1371/journal.pone.0199432>
[Crowd source paper including authors from 92 institutions]

Conference Presentations:

Do SK, Feng X, **Jones EM**, Laury JE, Oliver AJ, Parr LR, Shen C, Son T, Urban JA, Verma Y, Zhou H, Patel MJ, Saha MS; *Construction of a decoding circuit to process dynamic frequency-encoded information*, Poster presented at: iGEM Giant Jamboree; 2018, Oct, 26; Boston, MA.

Jones EM, Laury JE, Parr LR; *Construction of a decoding circuit to process dynamic frequency-encoded information*, Talk presented at: iGEM Giant Jamboree; 2018, Oct, 26; Boston, MA.

Jones EM; *Modular Control of Activation Speed using Protein Degradation Tags*, Talk presented at: William & Mary Undergraduate Research Symposium; February 22nd 2017

Jones EM, Luz-Ricca A, Monette CE; *Modular Control of Gene Expression Speed using Protein Degradation Tags*, Presented at: iGEM Giant Jamboree; 2017, Nov, 11-12; Boston, MA.

Dhawan S, Gibney T, **Jones EM**, Li C, Liu W, Luz-Ricca A, Monette CE, Ren X, Zheng X, Conradi Smith G, Saha MS; *Modular Control of Gene Expression Speed using Protein Degradation Tags*, Presented at: iGEM Giant Jamboree; 2017, Nov, 9-11; Boston, MA.

Clifton KP, **Jones EM**, Kolla L, Maniaci J, Marken JP, Mitchell J, Monette CE, Reiss A, Gao C, Conradi Smith G, Saha MS; *The Circuit Control Toolkit*, Poster presented at: iGEM Giant Jamboree; 2016, Oct, 28-30; Boston, MA.

Honors:

As the student leader of William & Mary iGEM:

- Undergraduate Grand Prize First Runner Up (2017)
- Best Measurement, Best Model (2017)
- 2017 Genscript iGEM Scholarship (\$500)
- Nominated for: Best Foundational Advance, Best New Composite Part, Best Parts Collection, Best Public Education & Public Engagement, Best Poster, Best Presentation.
- Gold Medalist (2017, 2018)

Phi Beta Kappa, Alpha Chapter of Virginia (Fall 2018)

William & Mary Dean's List (all semesters)

Virginia Space Grant Consortium 2017-2018 Undergraduate Research Scholarship Alternate

As a team member of William & Mary iGEM 2016:

- Nominated for: Best Poster, Best Foundational Advance.
- Gold Medalist

Teaching Experience:

College of William & Mary

Teaching Assistant, Introduction to Molecules, Cells, Development

Teaching Assistant, Readings in Synthetic Biology

Williamsburg, VA

Fall 2018

Spring 2019