Jonathan L. Robinson

Division of Systems and Synthetic Biology
Department of Biology and Biological Engineering
Chalmers University of Technology
Kemivägen 10, SE-412 96, Gothenburg, Sweden
jonrob@chalmers.se

EDUCATION

Princeton University (Princeton, NJ, USA) *Jan. 2016*
Ph.D. Chemical and Biological Engineering
M.A. Chemical and Biological Engineering

Colorado State University (Fort Collins, CO, USA) *May 2010*
B.S. Chemical and Biological Engineering
B.S. Chemistry

HONORS AND AWARDS

Ruth L. Kirschstein National Research Service Award (NRSA) Postdoctoral Fellowship *2018 – Present*
Princeton Emerging Alumni Scholars Award *2015*
National Science Foundation (NSF) Graduate Research Fellowship *2011 – 2014*
Colorado State University Employee of the Year *2010*
Department of Chemistry ACS Undergraduate Analytical Chemistry Award *2010*
Department of Chemical & Biological Engineering Research Excellence Award *2010*

RESEARCH EXPERIENCE

Postdoctoral Researcher *Feb. 2016 – Present*
CHALMERS UNIVERSITY OF TECHNOLOGY
Department of Biology and Biological Engineering
Gothenburg, Sweden
Supervisor: Dr. Jens Nielsen

Graduate Research Assistant *Jan. 2011 – Jan. 2016*
PRINCETON UNIVERSITY
Department of Chemical and Biological Engineering
Princeton, NJ, USA
Advisor: Dr. Mark Brynildsen
Thesis committee: Dr. Ned Wingreen, Dr. Celeste Nelson, and Dr. Stanislav Shvartsman

Undergraduate Research Assistant *Dec. 2007 – Aug. 2010*
COLORADO STATE UNIVERSITY
Department of Chemical and Biological Engineering
Fort Collins, CO, USA
Advisors: Dr. Arthur Mayeno and Dr. Brad Reisfeld

FUNDING SECURED

Ruth L. Kirschstein National Research Service Award [~160k USD / 3 years] *Feb. 2018 – Present*
U.S. National Institute of Health (NIH)

Big Data SEED project [640k SEK / 8 months] *Mar. 2017 – Oct. 2017*
Chalmers University Information & Communication Technology Area of Advance
Co-applicants: Jens Nielsen

Graduate Research Fellowship Program fellowship [~95k USD / 3 years] *Jun. 2011 – May. 2014*
U.S. National Science Foundation (NSF)

TEACHING EXPERIENCE

Course Lectures
CHALMERS UNIVERSITY OF TECHNOLOGY
- SysBio Writing Workshop (co-organizer, unofficial course) *Jul. 2018 – Present*
- Systems Biology (guest lecturer) *Nov. 2016, Oct. 2017, Oct. 2018*
- Metabolic Engineering (guest lecturer) *Dec. 2017, Nov. 2018*
- Advanced Course on Metabolic Engineering and Systems Biology (guest lecturer) *Jun. 2017*

Graduate Teaching Assistant
PRINCETON UNIVERSITY
- Fundamentals of Biofuels *Feb. 2015 – May 2015*
- Introduction to Chemical Engineering Principles *Sep. 2014 – Jan. 2015*

MENTORING EXPERIENCE

Mentor/Supervisor of Undergraduate and Graduate Students

CHALMERS UNIVERSITY OF TECHNOLOGY

• 1 Master's student	Co-supervisor	*Mar. 2018 – Present*
• 2 Ph.D. students	Co-supervisor	*Sep. 2017 – Present*
• 1 visiting Ph.D. student	8-month visiting researcher	*Nov. 2017 – June 2018*

PRINCETON UNIVERSITY

• 1 Undergraduate	8-week summer research project	*Jul. 2015 – Aug. 2015*
• 2 M.D.-Ph.D. students	8-week rotation	*May. 2015 – Jul. 2015*
• 1 Ph.D. student	3-month rotation	*Mar. 2014 – May 2014*
• 11 Undergraduates	1-year senior thesis and/or junior independent work	*Feb. 2013 – Dec. 2015*

PUBLICATIONS

16. **Robinson JL**, Feizi A, Uhlén M, and Nielsen J. A systematic investigation of the malignant functions and diagnostic potential of the cancer secretome. (Submitted).

15. Cook D, **Robinson JL**, Nguyen CB, and Nielsen J. What expression threshold should be used for building condition-specific, human genome-scale metabolic models? (Submitted).

14. Azimi A, Caramuta S, Seashore-Ludlow B, Boström J, **Robinson JL**, Edfors F, Tuominen R, Kemper K, Krijgsman O, Peeper DS, Nielsen J, Hansson J, Brage SE, Altun M, Uhlén M, and Maddalo G. Targeting CDK2 overcomes melanoma resistance against BRAF and Hsp90 inhibitors. *Mol Syst Biol* **2018**, *14*, e7858.

13. **Robinson JL** and Nielsen J. Anticancer drug discovery through genome-scale metabolic modeling. *Curr Opin Syst Biol* **2017**, *4*, 1-8.

12. **Robinson JL**, Jaslove J, Murawski A, Fazen CH, and Brynildsen MP. An integrated network analysis reveals that nitric oxide reductase prevents metabolic cycling of nitric oxide by *Pseudomonas aeruginosa*. *Metab Eng* **2017**, *41*, 67-81.

11. **Robinson JL** and Nielsen J. Integrative analysis of human omics data using biomolecular networks. *Mol BioSyst* **2016**, *12*, 2953–2964. **Featured on journal cover*.

10. Gowers GOF, **Robinson JL**, and Brynildsen MP. Starved *Escherichia coli* preserve reducing power under nitric oxide stress. *Biochem Biophys Res Commun* **2016**, *476*, 29–34.

9. **Robinson JL** and Brynildsen MP. Construction and Experimental Validation of a Quantitative Kinetic Model of Nitric Oxide Stress in Enterohemorrhagic *Escherichia coli* O157:H7. *Bioengineering* **2016**, *3*, 9.

8. **Robinson JL** and Brynildsen MP. Discovery and dissection of metabolic oscillations in the microaerobic nitric oxide response network of *Escherichia coli*. *Proc Natl Acad Sci U S A* **2016**, *113*, E1757–E1766.

7. **Robinson JL** and Brynildsen MP (**2016**) Ensemble Modeling Enables Quantitative Exploration of Bacterial Nitric Oxide Stress Networks, in *Stress and Environmental Regulation of Gene Expression and Adaptation in Bacteria* (ed FJ de Bruijn), John Wiley & Sons, Inc., Hoboken, NJ, USA.

6. **Robinson JL** and Brynildsen MP. An ensemble-guided approach identifies ClpP as a major regulator of transcript levels in nitric oxide-stressed *Escherichia coli*. *Metab Eng* **2015**, *31*, 22–34.

5. **Robinson JL**, Miller RV, and Brynildsen MP. Model-Driven Identification of Dosing Regimens that Maximize the Antimicrobial Activity of Nitric Oxide. *Metab Eng Commun* **2014**, *1*, 12–18.

4. **Robinson JL**, Adolfsen KJ, and Brynildsen MP. Deciphering nitric oxide stress in bacteria with quantitative modeling. *Curr Opin Microbiol* **2014**, *19*, 16–24.

3. **Robinson JL** and Brynildsen MP. A Kinetic Platform to Determine the Fate of Nitric Oxide in *Escherichia coli*. *PLoS Comput Biol* **2013**, *9*, e1003049.

2. Mayeno AN, **Robinson JL**, and Reisfeld B. Rapid Estimation of Activation Enthalpies for Cytochrome-P450-Mediated Hydroxylations. *J Comput Chem* **2011**, *32*, 639–657.

1. Mayeno AN, **Robinson JL**, Yang RSH, and Reisfeld B. Predicting Activation Enthalpies of Cytochrome-P450-Mediated Hydrogen Abstractions. 2. Comparison of Semiempirical PM3, SAM1, and AM1 with a Density Functional Theory Method. *J Chem Inf Model* **2009**, *49*, 1692–1703.

INVITED TALKS

2. **Robinson JL** and Nielsen J. Integrative systems biology through genome-scale metabolic models. Swedish Bioinformatics Workshop (Oct. **2018**). Örebro, Sweden.

1. **Robinson JL** and Nielsen J. Extracting cancer biomarkers from human -omics data. Chalmers Initiative Seminar: Digitalisation – Opportunities and Challenges (Mar. **2017**). Gothenburg, Sweden.