Roman Sloutsky

University of Massachusetts Amherst
Department of Biochemistry and Molecular Biology
1106 Lederle Graduate Research Tower
Amherst, MA 01003

Phone: 614-306-8792
Email: sloutsky@umass.edu
Homepage: romansloutsky.github.io
GitHub: github.com/romansloutsky

EDUCATION

2017 PhD, Computational and Systems Biology, Washington University in St. Louis
Advisor: Kristen Naegle
Thesis: Robust algorithms for detecting hidden structure in biological data

2009 MS, Biophysics, Ohio State University
Advisor: Michael Paulaitis
Thesis: Mechanical unfolding of solvated α-synuclein studied by Molecular Dynamics simulations

2001 BA, Mathematics, Northwestern University

PROFESSIONAL EXPERIENCE

2017- Postdoctoral Research Fellow, Lab of Margaret Stratton
Department of Biochemistry and Molecular Biology, University of Massachusetts Amherst

2012- Graduate Student, Lab of Kristen Naegle
2017 Biomedical Engineering Department, Washington University in St. Louis

2009- Graduate Student, Lab of Michael Brent
2012 Center for Genome Sciences, Washington University School of Medicine

2006- Graduate Student, Lab of Michael Paulaitis
2008 Department of Chemical and Biomolecular Engineering, Ohio State University

2005- Bioinformatics Intern
2006 Comprehensive Cancer Center, Ohio State University

2002- Research Assistant
2004 Biological Sciences Division, University of Chicago

1999- Research Assistant
2001 Integrated Genomics, Inc., Chicago, IL

PUBLICATIONS

2020 ***Sloutsky, R.**, *Dziedzic, N., Dunn, M.J., Bates, R.M., Torres-Ocampo, A.P., Boopathy, S.
Page, B., Weeks, J.G., Chao, L.H., and Stratton, M.M. (2020), "Heterogeneity in human hippocampal
CaMKII transcripts reveals allosteric hub-dependent regulation", *Science Signaling*,
vol. 13, no. 641, eaaz0240, doi.org/10.1126/scisignal.aaz0240

2020 **Sloutsky, R.** and Stratton, M.M. (2020), "Functional implications of CaMKII alternative
splicing", *European Journal of Neuroscience*, online 28 Apr 2020, (invited review),
[doi.org/10.1111/ejn.14761](doi.org/10.1111/ejn.14761)

2019 **Sloutsky, R.** and Naegle, K.M. (2019), "ASPEN, a methodology for reconstructing protein evolution with improved accuracy using ensemble models", *Elife*, vol. 8, e47676, doi.org/10.7554/eLife.47676

2018 Ronan, T., Anastasio, S., Qi, Z., **Sloutsky, R.**, Naegle, K.M., and Tavares, P.H.S.V. (2018) "Openensembles: a python resource for ensemble clustering", *The Journal of Machine Learning Research*, vol. 19, no. 1, 956–961

2018 **Sloutsky, R.** and Naegle, K.M. (2018), "Proteome-Level analysis indicates global mechanisms for post-translational regulation of RRM domains", *Journal of Molecular Biology*, vol. 430, no. 1, pp. 41–44, doi.org/10.1016/j.jmb.2017.11.001

2016 **Sloutsky, R.** and Naegle, K.M. (2016), "High-resolution identification of specificity determining positions in the LacI protein family using ensembles of sub-sampled alignments", *PLoS ONE*, vol. 11, no. 9, e0162579, doi.org/10.1371/journal.pone.0162579

2013 Cho, Y., **Sloutsky, R.**, Naegle, K.M., and Cavalli V. (2013), "Injury-induced HDAC5 nuclear export is essential for axon regeneration", *Cell*, vol. 155, no. 4, pp. 894–908, doi.org/10.1016/j.cell.2013.10.004

2012 **Sloutsky R.**, Jimenez, N., Swamidass, S.J., and Naegle, K.M. (2013), "Accounting for noise when clustering biological data", *Briefings in Bioinformatics*, vol. 14, no. 4, pp. 423–36, online 14 Oct 2012, doi.org/10.1093/bib/bbs057

2006 Gerdes S.Y., Kurnasov O.V., Shatalin K., Polanuyer B., **Sloutsky R.**, Vonstein V., Overbeek R., and Osterman A.L. (2006), "Comparative genomics of NAD biosynthesis in cyanobacteria", *Journal of Bacteriology*, vol. 188, no. 8, pp. 3012–23

2002 Kurnasov O.V., Polanuyer B., Ananta S., **Sloutsky R.**, Tam A., Gerdes S.Y., Osterman A.L. (2002), "Ribosylnicotinamide kinase domain of NadR protein: identification and implications in NAD biosynthesis", *Journal of Bacteriology*, vol. 184, no. 24, pp. 6906–17

Patent Applications

2018 Naegle, K.M. and **Sloutsky, R.** (2018), "Toolkit for the production of post-translationally modified proteins", United States Patent Application no. 15/710,451; US20180010102A1

Software

ASPEN Exhaustive enumeration of phylogenetic topologies under ensemble-derived constraints

Awards and Fellowships

2018 Protein Science Travel Award, Protein Society Symposium

2016 Midwest Quantitative Biology Symposium Travel Award

2013 Lockheed Martin Center for Biological Systems Engineering Scholar

Presentations

Talks

2019 "Conditional Role of Variable Linker in CaMKII Activation"
Joint UMass Amherst / UMass Medical School Chemistry-Biology Interface Retreat
Worcester, MA, USA. June 7

2017 "Reconstructing Paralog Divergence Using Ortholog Subsampling"
University of Massachusetts Amherst, Amherst, MA, USA. August 2

2017 "Robust Reconstruction of Paralog Divergence Histories"
Center for Biological Systems Engineering seminar series, St. Louis, MO, USA. April 17

2016 "Reconstruction of Paralog Divergence Histories by Constrained Topology Enumeration"
Midwest Quantitative Biology Symposium lightning talk, West Lafayette, IN, USA. October 22

2015 "Identification of SH2 Domain Recognition Determinants"
Siteman Cancer Center Cell-to-Cell Communications in Cancer seminar series
St. Louis, MO, USA. December 9

Posters

2018 "Role of CaMKII Alternative Splicing in Memory Formation"
Protein Society Symposium, July 11

2017 "Robust reconstruction of paralog divergence"
Proteins Gordon Research Conference, June 20

2016 "Analysis of Complex Specificity Determinant Patterns in Large Protein Families"
Biophysical Society Annual Meeting, March 1

Teaching Experience

2019 Biochem 642, Advanced Molecular Biology, Guest Instructor
University of Massachusetts Amherst

2009 Bio 5495, Computational Molecular Biology, Teaching Assistant
Washington University in St. Louis

2006 Bio 101, An Introduction to Biology, Teaching Assistant and Laboratory Instructor
2007 Ohio State University

Outreach

2019 Presenter, "Python for scientific applications"
Bioinformatics Users Group instructional seminar series
University of Massachusetts Amherst

2014 Software Carpentry workshop facilitator
Washington University School of Medicine