

Nicholas Attila Kovacs

Structural Bioinformaticist

(248) 895 2704

NicholasAKovacs.com

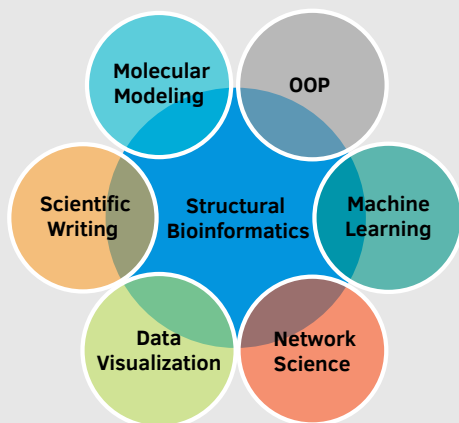
Nicholas.Kovacs@gatech.edu

/in/KovacsNicholas

NicholasAKovacs

Skills

Overview



Programming

Python Numpy • Pandas • SK-Learn • NetworkX • BioPython

SQL

JavaScript

Projects

Ribosomal PPI Evolution: Ribosomal protein-protein interface classification

Ribosomal Protein Folding Evolution: Inferred protein folding evolution from the structure of ribosomal proteins

PyRo: Python module for analyzing Ribosomal mmCIF files

CS 7280 • Network Science: Atomic network analysis of rRNA evolution

BIOL 7210 • Computational Genomics: Built a genome browser from the analysis of raw NGS reads

Education

Dec 2018 (Expected)	PhD, Bioinformatics	Georgia Institute of Technology, Atlanta, GA, USA
May 2012	BS, Biochemistry	Michigan State University, East Lansing, MI, USA

Experience

Aug 2013 - Dec 2018	PhD Candidate, Graduate Research Assistant Adviser: Dr. Loren Williams Thesis: The History of Proteins Revealed by Data Mining the Ribosome • Hypothesis: The ribosome is a molecular fossil; its structure can be mined to unravel the evolution of life • Tools: Python, PyMOL, Adobe Illustrator, JavaScript • Funding: NASA Astrobiology Institute • Support: Data analysis for experimental labmates	Georgia Inst. of Tech.
Mar 2017 - Mar 2018	East Asia and Pacific Institutes Fellow Project: The Evolution of Proteins in Eukaryotes • Tools: Python, PyMOL • Funding: National Science Foundation - East Asia and Pacific Summer Institutes • Independently wrote grant to conduct international research • Awarded stipend, living allowance, and airfare to Taipei, Taiwan	National Taiwan University
Jan 2017 - Dec 2017	Petit Scholar Mentor • Mentored undergraduate in laboratory project • Awarded travel and materials allowance	Georgia Inst. of Tech.
Aug 2013 - Dec 2016	PhD Candidate, Graduate Teaching Assistant Course: Macromolecular Structure - 2 semesters • CHEM 6572, Graduate-level • Trained ~25 students on the use of molecular modeling software Course: Biochemistry Lab II - 7 semesters • CHEM 4582, Undergraduate-level • Instructed biophysical chemistry laboratory course of 8 students	Georgia Inst. of Tech.

Publications_(selected)

- Kovacs, N.A., Petrov, A.S., Lanier, K.A., Williams, L.D. 2017 "Frozen in Time: The History of Proteins", *Mol. Biol. Evol.* **34**, 1252-1260
- Gómez Ramos, L. M., Degtyareva, N. N., Kovacs, N. A., Holguin, S. Y., Jiang, L., Petrov, A. S., Williams, L. D. 2017 "Eukaryotic Ribosomal Expansion Segments as Antimicrobial Targets" *Biochemistry* **56**, 5288-5299
- Petrov, A. S., Gulen, B., Norris, A. M., Kovacs, N. A., Bernier, C. R., Lanier, K. A., Williams, L. D. 2015 "History of the ribosome and the origin of translation" *Proc. Natl. Acad. Sci. U.S.A.* **112**, 15396-15401

Presentations_(selected)

Jun 2017	Astrobiology Graduate Student Conference Title: The History of Proteins	Charlottesville, VA
Apr 2017	Graduate Research Symposium Title: Eukaryotic Ribosomal Protein Evolution Awarded 3rd place	Atlanta, GA
Dec 2016	Search for Life: From Early Earth to Exoplanets Title: Frozen in Time: The History of Proteins	Quy Nhon, Vietnam