URI LASERSON

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Education

Massachusetts Institute of Technology / Harvard Medical School
Division of Health Sciences and Technology and Department of Mathematics, Cambridge, MA
Candidate for Ph.D. in Biomedical Engineering and Applied Mathematics
Advisors: George Church (Harvard Medical School) and Jim Collins (Boston University)

New York University, College of Arts and Sciences, New York, NY
Bachelor of Arts, *magna cum laude* with Departmental Honors, January 2005
Majors: Biology and Mathematics
Minor: Chemistry

Honors

NSF Graduate Research Fellowship Honorable Mention (2005)
Elected to the Phi Beta Kappa Society (2004)
Hollis Cooley Prize for Excellence and Promise in Mathematics (2004)
NSF VIGRE Research Fellowship (2004)
George Granger Brown Scholarship Award in Chemistry (2003)
Howard Hughes Honors Summer Institute Research Fellowship (2003)
Susumu Okamura Research Scholarship (through the Deans Undergraduate Research Fund) (2002)
Deans List at NYU (2001-2004)
Intel Science Talent Search Semifinalist (2001)

Experience

July 2002 – August 2005

Computational & Mathematical Biology Laboratory, New York, NY
Researcher: Full-time research in computational bioinformatics. Application of mathematics tools (spectral graph theory, probability theory and statistics, information theory) to RNA structural biology, RNA bioinformatics, and other biological problems (in vitro selection, aptamer structures, RNA structural motifs) utilizing various computational tools and programming languages (e.g., C and MATLAB) under the direction of Prof. Tamar Schlick (Departments of Mathematics and Chemistry, NYU).

October 2001 – August 2002

Molecular Neurobiology Laboratory, New York, NY
Assistant Researcher: Full-time research in an experimental laboratory investigating the structure/function relationships and modes of regulation of potassium-ion channels in neurons, under the direction of Prof. Todd Holmes (Departments of Biology and Neural Science, NYU). Experience in a wide range of modern molecular biology lab techniques.

Activities

September 2005 – May 2006

Mathematics Department Teaching Assistant, Cambridge, MA
Grader: Grading for MIT 18.310 Principles of Applied Mathematics. Weekly office hour sessions to provide additional help outside of lectures.

September 1995 – Present

Flute Performance
Performance of advanced literature with multiple ensembles, including the Youth Orchestra of Florida, school Concert Bands and Orchestras, and small chamber ensembles (for competitions). Studies with a private flute teacher. Attended a performing arts secondary school.

September 2005 – Present

MIT Sailing, Cambridge, MA
MIT Dinghy sailing course. Weekly sailing on the Charles River in a Tech Dinghy.

October 2001 – May 2004

WNYU Radiostation, New York, NY
Producer of NYU Radio Show: Host of a weekly two hour radio show featuring Jazz and Funk music with a listenership of several thousand people nationwide. The music featured (mostly 60s and 70s) mainstream jazz and less popular but important jazz milestones. I interviewed several well known jazz musicians on my show. The show is web-cast at www.wnyu.org.

September 2002 – Present

BADMINTON CLUB, New York, NY and Cambridge, MA
Member: Weekly group meetings, including intramural competitions and occasional intercollegiate tournaments.

SKILLS

- Microsoft Windows, Unix-based systems (IRIX, Solaris, Red Hat Linux), Apple Computers (OS X)
- Microsoft Word, Excel, PowerPoint, Visio; LaTeX
- C/C++, Visual Basic, HTML, sed/awk, shell scripting; MATLAB, Mathematica; Insight II
- Fluent in English and Hebrew, Proficient in Spanish

ORGANIZATIONS

- American Mathematical Society
- Society for Industrial and Applied Mathematics
- Harvard GSAS Biotechnology Club
- MIT Computational and Systems Biology Institute (CSBi)

CONFERENCES

- HBS Healthcare Club Conference, 3 December 2005, Harvard Business School, Boston, MA. Participant.
- Sixth International Conference on Systems Biology, 19-24 October 2005, Harvard Medical School, Boston, MA. Participant.
- Algorithms for Macromolecular Modeling IV (SIAM Life Sciences Activity Group), 18-21 August 2004, University of Leicester, Leicester, UK. Presented a poster.
- International Conference for Mathematics in Biology and Medicine/Annual Meeting for the Society for Mathematical Biology, 25-28 July 2004, University of Michigan, Ann Arbor, MI. Participant.

PUBLICATIONS

- U. Laserson, H. H. Gan, T. Schlick, "Predicting candidate genomic sequences that correspond to synthetic functional RNA motifs," *Nucleic Acids Research* 33: 6057-6069 (2005).
- U. Laserson, H. H. Gan, T. Schlick, "Estimating the Size of RNA Secondary Structure Motif Space Using Graph Theory," Honors Thesis, New York University (2005).
- U. Laserson, H. H. Gan, and T. Schlick, "Exploring the Connection between Synthetic and Natural RNAs in Genomes via a Novel Computational Approach," Contributed chapter in *Advances in Algorithms for Macromolecular Simulation* B. Leimkuhler, editor, Springer, (to appear 2006).
- D. Fera, N. Kim, N. Shiffeldrim, J. Zorn, U. Laserson, H. H. Gan, and T. Schlick, "RAG: RNA-As-Graphs Web Resource," *BMC Bioinformatics* 5: 88 (2004).
- U. Laserson, H. H. Gan, and T. Schlick, "Searching for 2D RNA Geometries in Bacterial Genomes," *Proceedings of the Twentieth Annual Symposium on Computational Geometry*, ACM Press, 373-377 (2004)
- H. H. Gan, D. Fera, J. Zorn, N. Shiffeldrim, M. Tang, U. Laserson, N. Kim, and T. Schlick, "RAG: RNA-As-Graphs Database - Concepts, Analysis, and Features," *Bioinformatics* 20: 1285-1291 (2004).