Curriculum Vitae

Roye Rozov, roye.rozov@gmail.com,
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The focus of my research is reducing complexity of deep sequencing data analysis. During my PhD. Studies at the School of Computer Science at Tel Aviv University (**3/2012-present**, supervised by Prof. Ron Shamir and Prof. Eran Halperin), I have been most interested in:

- Probabilistic data structures and streaming algorithms
- Index structures for de novo assembly, read alignment, and sequence compression
- Quantification of expression levels through RNA-Seq, and metagenome abundance levels

Past Education and research experience:

8/2009 - 3/2012 - Tel Aviv University, Blavatnik School of Computer Science -- Masters thesis and coursework in Computer Science

2008-2009 – Prof. Ihor Lemischka's Lab, Dept. of Gene and Cell Medicine, Mount Sinai Medical Center, New York, NY

2006-2008 - Johns Hopkins University -- MSc. in Bioinformatics, with honors

1999-2001 - Rutgers University -- BA in math with CS minor, Graduated 4 year program in 2 years, cum laude

Awards/Grants :

IBM PhD. Fellowship, 2015-6

ISCB Travel Award, Awarded to present original research at RECOMB 2016, 2014

Deutsch Foundation Travel Award, Awarded to present original research at RECOMB 2014

PhD Fellow, Edmond J. Safra Center for Bioinformatics, 3/2012-3/2016

The Center for Absorption in Science grant, Israel's Ministry of Immigrant Absorption, 2009-present

Publications:

Recycler: an algorithm for detecting plasmids from de novo assembly graphs. **Rozov R**, Brown Kav, A., Bogumil D., Mizrahi I., Shamir R. Halperin E., **Bioinformatics**, (accepted)

Recycler: an algorithm for detecting plasmids from de novo assembly graphs. **Rozov R**, Brown Kav, A., Bogumil D., Mizrahi I., Shamir R. Halperin E., **RECOMB-Seq Proceedings**, 2016

Fast lossless compression via cascading Bloom filters. **Rozov R**, Shamir R. Halperin E. **BMC Bioinformatics** 2014, 15(Suppl 9):S7

MGMR: leveraging RNA-Seq population data to optimize expression estimation. **Rozov R**, Halperin E, Shamir R. **BMC Bioinformatics** 2012, 13(Suppl 6):S2

Patient-specific induced pluripotent stem-cell-derived models of LEOPARD syndrome. Carvajal-Vergara X, et al. **Nature**. 2010 Jun 10;465(7299):808-12

Systems-level dynamic analyses of fate change in murine embryonic stem cells. Lu R, et al.. **Nature**. 2009 Nov 19;462(7271):358-62

Peer-reviewed conference presentations:

R. Rozov, A. Brown Kav, D. Bogumil, E. Halperin, I. Mizrahi and R. Shamir. "Recycler : an algorithm for detecting plasmids from de novo assembly graphs", RECOMB-Seq 2016, Los Angeles, CA, April 16-17, 2016.

R. Rozov, R. Shamir, E. Halperin. "Fast Lossless Compression via Cascading Bloom Filters", RECOMB-Seq 2014, Pittsburgh, PA, March 31 - April 1, 2014.

R. Rozov, E. Halperin, R. Shamir. "MGMR: leveraging RNA-Seq population data to optimize expression estimation". RECOMB-seq, Barcelona, Spain, April 21-24, 2012.

Invited talks:

R. Rozov, R. Shamir, E. Halperin. "Fast lossless compression via cascading bloom filters". IBM, Ramat Ha'hayal, Tel-Aviv, January 15, 2014.

R. Rozov, R. Shamir, E. Halperin. "BARCODE: Fast lossless compression via cascading bloom filters", Ben Gurion University Dept. of Computer Science, Be'er Sheva, May 13, 2014.

Teaching:

TA - Python for engineers course - Tel Aviv University, Spring 2016, Fall 2015 & Fall 2014
High school match & science teaching - Moshe Aaron Yeshiva High School, 2008-9

Skills:

Programming/Scripting:
Python, C/C++, Cython, Perl, R, Matlab

Extensive familiarity with bioinformatics analysis tools & databases: SPAdes/velvet, Bowtie/BWA, samtools pipelines, Cufflinks, EXPANDER, bioConducter, cluster/cloud computing (Condor, sge)