

Mikhail Kolmogorov

Postdoctoral Fellow at University of California, San Diego

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Education

- **PhD degree:** Bioinformatics, 2014 - 2019
Department of Computer Science and Engineering,
University of California, San Diego, CA, USA
- **Master's degree:** Applied Mathematics and Physics, 2012 – 2014
Algorithmic Bioinformatics Department,
St.Petersburg University of the Russian Academy of Sciences,
St. Petersburg, Russia
- **Bachelor's degree:** Applied Mathematics and Informatics, 2008 - 2012
Department of Higher Mathematics, ITMO University,
St.Petersburg, Russia

Publications

- **metaFlye: scalable and accurate long-read metagenome assembler**
Mikhail Kolmogorov, Mikhail Rayko, Jeffrey Yuan, Evgeny Pevnikov and Pavel Pevzner
bioRxiv, (2019)
- **Synteny paths for assembly graphs comparison**
Evgeny Pevnikov and **Mikhail Kolmogorov**
WABI 24:1-24:14 (2019)
- **Assembly of long error-prone reads using repeat graphs**
Mikhail Kolmogorov, Jeffrey Yuan, Yu Lin and Pavel Pevzner
Nature Biotechnology 37 540-546 (2019) (also presented at RECOMB 2018)
- **Assembly Graph Browser: interactive visualization of assembly graphs**
Alla Mikheenko and **Mikhail Kolmogorov**
Bioinformatics 35 3476-3478 (2019)
- **Chromosome assembly of large and complex genomes using multiple references**
Mikhail Kolmogorov, Joel Armstrong, Brian J. Raney, Ian Streeter, Matthew Dunn, Fengtang Yang, Duncan Odom, Paul Flicek, Thomas Keane, David Thybert, Benedict Paten and Son Pham
Genome Research (2018) 28 (11), 1720-1732
- **High-quality genome sequences of uncultured microbes by assembly of read clouds**
Alex Bishara, Eli L Moss, **Mikhail Kolmogorov**, Alma Parada, Ziming Weng, Arend Sidow, Anne E Dekas, Serafim Batzoglou, Ami S Bhatt
Nature Biotechnology (2018) **36**, 1067–1075

- **Sixteen diverse laboratory mouse reference genomes define strain-specific haplotypes and novel functional loci**
Jingtao Lilue, Anthony G Doran, Ian T Fiddes, Monica Abrudan, Joel Armstrong, ... **Mikhail Kolmogorov** ... David Thybert, James Torrance, Kim Wong, Jonathan Wood, Binnaz Yalcin, Fengtang Yang, David J Adams, Benedict Paten, Thomas M Keane
Nature Genetics (2018) **50**, 1574–1583
- **Repeat associated mechanisms of genome evolution and function revealed by the *Mus caroli* and *Mus pahari* genomes**
David Thybert, Maša Roller, Fábio CP Navarro, Ian Fiddes, Ian Streeter, Christine Feig, David Martin-Galvez, **Mikhail Kolmogorov**, ... Thomas M Keane, Duncan T Odom, Paul Flicek
Genome Research (2018) **28** (4), 448-459
- **Single-Molecule Protein Identification by Sub-Nanopore Sensors**
Mikhail Kolmogorov, Eamonn Kennedy, Zhuxin Dong, Gregory Timp and Pavel Pevzner
PloS Computational Biology (2017) **13** (5), e1005356 (also presented at RECOMB-SEQ 2016)
- **Assembly of long error-prone reads using de Bruijn graphs**
Yu Lin*, Jeffrey Yuan*, **Mikhail Kolmogorov***, Max Shen and Pavel Pevzner
PNAS (2016) **113** (52), E8396-E8405 (also presented at RECOMB 2016), *equal contribution
- **SpectroGene: a tool for proteogenomic annotations using top-down spectra**
Mikhail Kolmogorov, Xiaowen Liu and Pavel Pevzner
Journal of Proteome Research (2015) **15** (1), 144-151
- **Ragout - a reference-assisted assembly tool for bacterial genomes**
Mikhail Kolmogorov, Brian Raney, Benedict Paten, Son Pham
Bioinformatics (2014) **30** (12), i302-i309 (also presented at ISMB 2014)
- **Sibelia: a scalable and comprehensive synteny block generation tool for closely related microbial genomes**
Ilya Minkin, Anand Patel, **Mikhail Kolmogorov**, Nikolay Vyahhi, Son Pham
WABI (2013) 215-229

Conference Oral Presentations

- WABI 2019, Niagara Falls, USA
- AGBT 2019, Marco Island, USA
- HUPO 2018, Orlando, USA
- RECOMB 2018, Paris, France
- PAG 2018, San Diego, USA
- RECOMB-SEQ 2016, Santa Monica, USA
- ASMS 2015, St. Louis, USA
- ISMB 2014, Boston, USA

Fellowships and Awards

- CSE Doctoral Fellow Award (UCSD), 2014-2016

Professional Experience

- **Postdoctoral Fellow** 2019 - present
University of California, San Diego, CA
- **PhD student / Research assistant** 2014 - 2019
University of California, San Diego, CA
- **Intern** Summer 2017
Illumina, San Diego, CA
- **Intern** Spring 2013
BIOCAD, St. Petersburg, Russia
- **C++ Programmer** 2011 – 2012
i4group Ltd, St. Petersburg, Russia

Open source software maintainer

- **Flye** – Fast and accurate de novo assembler for single molecule sequencing reads.
<https://github.com/fenderglass/Flye>
- **Ragout** – Chromosome-level scaffolding using multiple references
<https://github.com/fenderglass/Ragout>