

METIN BALABAN

Graduate Student

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San Diego, California

Personal Webpage

balabanmetin

RESEARCH INTERESTS

My research area is computational biology. My research interests include developing scalable algorithms for large-scale biological data, phylogenetics and its applications in molecular ecology, and comparative genomics.

EDUCATION

University of California, San Diego

PhD in Bioinformatics and System Biology. Advisor: Siavash Mirarab

2017 – Present

La Jolla, California

Swiss Federal Institute of Technology in Lausanne

Master of Computer Science – GPA 5.54/6.00

2015 – July 2017

Lausanne, Switzerland

Middle East Technical University

Bachelor of Computer Engineering – GPA 3.97/4.00

2011 – 2015

Ankara, Turkey

PUBLICATIONS

Journal Articles

- Metin Balaban, Daniel Roush, Qiyun Zhu, and Siavash Mirarab (2021). “APPLES-2: Faster and More Accurate Distance-based Phylogenetic Placement using Divide and Conquer”. In: *bioRxiv*. DOI: 10.1101/2021.02.14.431150.
- Yueyu Jiang, Metin Balaban, Qiyun Zhu, and Siavash Mirarab (2021). “DEPP: Deep Learning Enables Extending Species Trees using Single Genes”. In: *bioRxiv*. DOI: 10.1101/2021.01.22.427808.
- Shahab Sarmashghi, Metin Balaban, Eleonora Rachtman, Behrouz Touri, Siavash Mirarab, and Vineet Bafna (2021). “Estimating repeat spectra and genome length from low-coverage genome skims with RESPECT”. In: *bioRxiv*. DOI: 10.1101/2021.01.28.428636.
- Eleonora Rachtman, Metin Balaban, Vineet Bafna, and Siavash Mirarab (2020). “The impact of contaminants on the accuracy of genome skimming and the effectiveness of exclusion read filters”. In: *Molecular Ecology Resources* 20.3, pp. 649–661. DOI: <https://doi.org/10.1111/1755-0998.13135>.
- Metin Balaban, Niema Moshiri, Uyen Mai, Xingfan Jia, and Siavash Mirarab (2019). “TreeCluster: Clustering biological sequences using phylogenetic trees”. In: *PLOS ONE* 14.8, pp. 1–20. DOI: 10.1371/journal.pone.0221068.
- Metin Balaban, Shahab Sarmashghi, and Siavash Mirarab (2019). “APPLES: Scalable Distance-Based Phylogenetic Placement with or without Alignments”. In: *Systematic Biology* 69.3, pp. 566–578. ISSN: 1063-5157. DOI: 10.1093/sysbio/syz063.
- Daniel Doerr, Metin Balaban, Pedro Feijão, and Cedric Chauve (2017). “The gene family-free median of three”. In: *Algorithms for Molecular Biology* 12.1, p. 14.

KEY COMPETENCIES

Computational Biology and Bioinformatics

Data Science

Algorithms

Workflows

Statistics

Optimization

ACHIEVEMENTS



Awards and scholarships

- UC San Diego Center for Microbiome Innovation (CMI) Grand Challenges Award in 2020-2021
- EPFL (Switzerland) Research scholarship
- Turkey state scholarship for outstanding academic success



Conference fellowship awards

I received travel fellowship awards from NSF at RECOMB 2019 and from ISCB at GLBIO 2019



Valedictorian

at Middle East Technical University Computer Engineering Department



5th in Turkey's biggest standardized (SAT like) exam

Among 1.856.890 applicants nationwide, I placed 5th in 2010

PRESENTATIONS



Conferences

- ISMB 2020
- RECOMB 2019
- GLBIO 2018

TECHNICAL SKILLS

Python

C/C++

UNIX

R

Bash

Snakemake

Scala

Spark

Java

Hadoop

Matlab

Git

Latex

STRENGTHS

Adaptable

Problem Solver

Team Player

Analytical

Deadline Driven

Target-Oriented

Researcher

WORK EXPERIENCE

Swisscom Digital Lab

Master Thesis. Advisor: Patrick Thiran

📅 2017

📍 Lausanne, Switzerland

Thesis Real-time Traffic Estimation on Highways Using Cellular Data

Swiss Federal Institute of Technology in Lausanne,
Laboratory of Computational Biology and Bioinformatics.

Research Scholar. Mentor: Bernard Moret

📅 2015 - 2017

📍 Lausanne, Switzerland

TEACHING

Teaching Assistant

Introduction to Computer Engineering

📅 2020-2021

📍 UC San Diego

LANGUAGES

Turkish

English

French

