Lena Collienne

Curriculum Vitae

lena@lenacoll.de
lenacoll.de
https://github.com/lenacoll

RESEARCH

PhD Research

"Spaces of Phylogenetic Time Trees"

We introduced a new tree rearrangement based space of phylogenetic time trees (evolutionary histories), focusing on discrete time trees. We established an algorithm for computing shortest paths between trees in this tree space and analysed properties of this tree space

M.Sc. Research

"The ranked Nearest Neighbour Interchange space of phylogenetic trees"

We established a tree space of ranked phylogenetic trees and investigated its properties

EDUCATION

2018 - 2021 **Doctor of Philosophy**
Computer Science
University of Otago (New Zealand)

2016 - 2018 **Master of Science**
Biomathematics
University of Greifswald (Germany)

2012 - 2015 **Bachelor of Science**
Biomathematics
University of Greifsald (Germany)

AWARDS

2021 **Exceptional PhD thesis**
University of Otago

2018-2021 **University of Otago Doctoral Scholarship**
University of Otago

2018 **Externally Funded Research Grant**
funded by Max Planck Institute Plön

2015 **Summer Research Scholarship**
University of Auckland

2015 **PROMOS Scholarship**
University of Greifswald

2014-2015 **Deutschlandstipendium**
funded by Alfried Krupp von Bohlen und Halbach Foundation and Federal Government of Germany

WORK EXPERIENCE

2021 (FT)

University of Otago
Postdoctoral Research Fellow
BioDS lab (University of Canterbury)

SEMESTER 1 2019 (PT)

University of Otago
COSC341 Tutor
Tutor and guest lecturer for COSC341: Theory of Computing

SKILLS

BEGINNER Java, C++, Perl

INTERMEDIATE C, R

EXPERT Python, LaTeX

ADDITIONAL ACTIVITIES

2021 President of the Otago Computer Science Society, University of Otago

2019-2021 Member of the Postgraduate Committee in the Department of Computer Science, University of Otago

2019-2021 Organising the annual Postgraduate Student Symposium of the Departments of Computer Science and Information Science, University of Otago

2014-2017 Member of the student council, Institute of Mathematics and Computer Science, University of Greifswald

PUBLICATIONS

Collienne, L., Elmes, K., Fischer, M., Bryant, D. & Gavryushkin, A. (2021). Discrete Coalescent Trees. *Journal of Mathematical Biology 83.5, p. 60. issn: 1432-1416.*

Collienne, L. & Gavryushkin, A. (2021). Computing nearest neighbour interchange distances between ranked phylogenetic trees. *Journal of Mathematical Biology 82.1, p. 8. issn: 1432-1416.*

Collienne, L., Elmes, K., Fischer, M., Bryant, D., & Gavryushkin, A. (2019). Geometry of Ranked Nearest Neighbour Interchange Space of Phylogenetic Trees. *BioRxiv*.

TALKS

CONFERENCE "Distances between phylogenetic time trees"
Phylomania 2021

CONFERENCE "The space of discrete coalescent trees"
New Zealand Phylogenomics Meeting 2021

"The complexity of computing the RNNI distance between phylogenetic trees"
Postgraduate Symposium, Department of Computer Science, University of Otago, August 2020

"Online Algorithms in Computational Biology"
New Zealand Phylogenomics Meeting 2020

"Online Algorithms in Computational Biology"
Postgraduate Symposium, Department of Computer Science, University of Otago, October 2019

"The Ranked Nearest Neigbour Interchange space of phylogenetic trees"
New Zealand Phylogenomics Meeting 2019

SEMINAR "The Space of Discrete Coalescent Trees"
Department of Computer Science, University of Otago, March 2021

"Computing the Ranked Nearest Neighbour Interchange distance between ranked phylogenetic trees"
Online Seminars on Algorithms and Complexity in Phylogenetics September 2020

"The complexity of computing nearest neighbour interchange distances between ranked phylogenetic trees"
Department of Computer Science, University of Otago, May 2020

"The Ranked Nearest Neigbour Interchange space of phylogenetic trees"
Max Planck Institute for Mathematics in the Science, July 2019

"Discrete time-trees"
Computational Evolution Group, ETH Zurich, August 2017