

[Virtual BSC RS/Life Session/BioInfo4Women Seminar: New Approaches for Phylogenetic Species Tree Estimation](#)

Objectives

Abstract: Phylogenies are a fundamental tool that provide insight into microbial dynamics. Yet phylogenies can be very challenging on large biological datasets, especially when attempting to infer species phylogenies from multiple genes. In this talk I will describe some advances in improving phylogenetic tree estimation on large and ultra-large datasets, and then also identify some challenges where new ideas and techniques are needed. Some of this work is joint with my current and former students and postdocs, including Prof. Siavash Mirarab, Prof. Erin Molloy, Dr. Paul Zaharias, Dr. Vladimir Smirnov, Mr. Minhyuk Park, and Ms. Eleanor Wedell.



Short bio: Tandy Warnow is the Grainger Distinguished Chair in

Engineering, and Professor and Associate Head of Computer Science at the University of Illinois at Urbana-Champaign, where she is also an affiliate in several other departments and programs. Tandy received her PhD in Mathematics at UC Berkeley under the direction of Gene Lawler, and did postdoctoral training with Simon Tavaré and Michael Waterman at USC. Her research combines computer science, statistics, and discrete mathematics, focusing on developing improved models and algorithms for reconstructing complex and large-scale evolutionary histories in biology and historical linguistics. Her awards include the NSF Young Investigator Award (1994), the David and Lucile Packard Foundation Award (1996), a Radcliffe Institute Fellowship (2003), and the John Simon Guggenheim Foundation Fellowship (2011). She was elected a Fellow of the Association for Computing Machinery (ACM) in 2015, of the International Society for Computational Biology (ISCB) in 2017, and of the Association for the Advancement of Science (AAAS) in 2021. Since February 2020, she has been the Co-Chief Scientist of the C3.ai Digital Transformation Institute.

Speakers

Speaker: Tandy Warnow is the Grainger Distinguished Chair in Engineering, and Professor and Associate Head of Computer Science at the University of Illinois at Urbana-Champaign

Host: Toni Gabaldón, Comparative Genomics Life Sciences Group Leader
Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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