

PhD positions in bioinformatics and computational biology

The Popescu group at the Institute for Genomics, Biocomputing and Biotechnology (IGBB) seeks applicants for graduate research positions in bioinformatics and computational biology. The PhD students will participate in research exploring the computational biology of plant genomes, develop methods and tools for comparative analysis of several plant species and analyze the structure and dynamics of gene networks. The acceleration of genome sequencing schedules is producing the necessary data for conducting phylogenetic analyses across a large number of plant genomes, opening the field of interactome evolution analysis and decoding new sequence-function relationships from evolutionary perspectives. The project will involve developing new bioinformatics methods and algorithms using phylogenetic analyses and integration of multiple experimental observations (genotype-phenotype analysis, transcriptomics, proteomics), to predict conserved pathways and to perform a comparative analyses of the structure and dynamics of plant signal-processing networks. The work will focus on developing new algorithms, data analysis methods and bioinformatics tools to identify components of signal-processing networks in multiple plant species.

Qualifications: Bachelor's or Master's degree in bioinformatics, computational sciences, or a related field.

Requirements: Experience in computational biology and bioinformatics; good computer programming skills; a strong interest in developing quantitative biology methods and tools; good communication skills and an ability to work as part of a multi-disciplinary team.

How to Apply: Applicants are encouraged to email a one-page cover letter and CV (including skills, previous research/education, GPA, GRE/TOEFL, and the contacts of three references) to gvp18@msstate.edu. Please set the email subject line as "[PhD_application] Full name". The Mississippi State University is an EEO employer (<http://www.policies.msstate.edu/policypdfs/0302.pdf>).

IGBB

Popescu's group at IGBB focuses on computational and high-throughput quantitative approaches to study biological networks and processes in order to understand evolution and dynamics at the molecular and cellular levels. We seek to infer plant protein interactions, analyze the properties of biochemical networks, and study the dynamics of signaling pathways. We are pursuing a multidisciplinary approach that includes high-throughput genomics and proteomics, mathematical and computational modeling and bioinformatics tool development.