ANOOB PRAKASH

Genomics & Computational Biology Researcher

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SKILLS ⚙

Ecology and Evolutionary genomics

Statistical data analysis

Bioinformatics

Large-scale genomic data analysis

Climate change adaptation studies

GWAS

R

Unix

Python

ArcGIS

QGIS

EDUCATION 🎓

2018-2025 (expected in Sept.)
Ph.D. in Plant Biology
University of Vermont, USA

2011-2014
M.Sc. in Tree Physiology and Breeding
Kerala Agricultural University, India

2007-2011
B.Sc. in Forestry
Kerala Agricultural University, India

FELLOWSHIP 📓

2023-2024
GradCAMP Climate Scholar
USDA and West Virginia State University

2018-2023
NSF Research Trainee
Quantitative and Evolutionary STEM Training (QuEST), University of Vermont

CERTIFICATIONS ✅

***DAT208x**: Introduction to Python for Data Science* | Microsoft

***PH525.1x**: Statistics and R* | HarvardX

PROFESSIONAL PROFILE 👤

Highly skilled researcher with expertise in ecological and evolutionary genomics, plant biology, climate change and bioinformatics. Experienced in analyzing large-scale genomic data, conducting climate change adaptation studies, and teaching advanced scientific concepts. Adept at both independent and collaborative research in academic and non-academic settings.

RESEARCH AND PROFESSIONAL EXPERIENCE 🧪

2018 - Present

GRADUATE RESEARCH ASSISTANT
UNIVERSITY OF VERMONT | VERMONT, USA

Investigated genotypic and phenotypic variation and climate change adaptation in red spruce (*Picea rubens* Sarg.), integrating field studies, quantitative genetics, molecular biology, and advanced bioinformatics to understand patterns of local and climate adaptation as well as the genetic architecture underlying adaptive traits.

- Quantified biomass and trait variance to reveal genotypic and phenotypic responses to climate gradients using quantitative genetics and Bayesian approaches; collaborated with interdisciplinary teams to collect and manage large, multi-year field datasets; and applied genome-wide association studies (GWAS) and bioinformatics to uncover loci and assess genetic architecture of locally adaptive traits.

- Utilized molecular methods to dissect introgression's role in local adaptation and identified adaptation patterns to inform conservation strategies for fragmented populations.

2021 & 2022

GRADUATE RESEARCH INTERN
THE NATURE CONSERVANCY | WEST VIRGINIA, USA

Developed and applied a genomic-assisted framework to guide seed sourcing for red spruce restoration in its southern range in collaboration with The Nature Conservancy and CASRI.

- Guided landscape-scale restoration using genomics, helping plant 58,000 seedlings and establish 38 monitoring plots across 255 acres in partnership with NGOs.

- Provided evidence that pooled seed sources boost genetic diversity and adaptation, shaping best practices for climate-resilient restoration.

- Pioneered the integration of genomic data into restoration planning, setting a precedent for collaborative, science-based decision-making between researchers and land managers.

2011 - 2013

GRADUATE RESEARCH ASSISTANT
KERALA AGRICULTURAL UNIVERSITY | THRISSUR, INDIA

Investigate the impact of particulate pollution on growth, physiology, and anatomical properties of *Tectona grandis* and other moist deciduous tree species proximal to industries using field and laboratory methods.

- Conducted comprehensive assessments of chlorophyll content, ascorbic acid content, relative water content, and leaf pH to evaluate air pollution tolerance across multiple seasons.

- Analyzed dust accumulation rates, leaf surface area, leaf area index, and leaf area duration to quantify the effects of particulate pollution on tree health and productivity.

- Compared the wood anatomical properties of pollution-exposed and control populations, identifying significant differences in wood quality and structure.