

STATEMENT & TRAINING PLAN - Dr. Natarajan Kannan

Statement: As a mentor, I am committed to developing my mentees by providing a healthy and inclusive scientific environment. I firmly believe that by involving and valuing every individual's contribution, including their background, religion, sexual orientation, gender, citizenship, or identity, we create an environment of excellence and innovation. This is particularly true for bioinformatics and systems biology, which by its very nature requires close collaboration of students and faculty from diverse disciplines. Indeed, my efforts for the past decade have focused on maintaining a diverse workforce by recruiting students and post-docs from various fields (computer science, biochemistry, bioinformatics, cell biology). I continue to train students from different countries (US, India, China, Nepal, UK, Germany, Iran) and religions and have recruited underrepresented minority students (African American and Hispanic) to graduate programs at UGA and my research program. I am currently serving as a member of the Diversity, Equity, Inclusivity, and Justice (DEIJ) committee in the Biochemistry and Molecular Biology (BCMB) department and have contributed to diversity and inclusion efforts at the professional level by:

- Training underrepresented students through the UGA PREP and NSF REU program in Fungal Genomics and Computational Biology
- Serving on NIH F31 predoctoral and NSF graduate research fellowship panels to enhance workforce diversity in computational sciences
- Incorporating underrepresented students and women scientists in scientific meetings organized at the national and international level
- I am contributing to UGA's Realizing Equity and Systemic Change through the One Health Precision Medicine Expansion (RESCOPE) initiative to recruit and retain women and other underrepresented groups in the biomedical sciences.

Training Plan: I will build on my mentoring experience to develop a personalized training program for the FFIRE scholar based on their research training and career aspirations.

1. Project-oriented training: Because ongoing projects in the lab provide effective integration of techniques and approaches from diverse disciplines, they provide a framework for interdisciplinary training. The FFIRE scholar will be able to perform both dry and wet-lab work and work with a talented group of students and post-docs from diverse disciplines (biochemistry, bioinformatics, cell biology, and computer science). The projects also offer team science training as they involve UGA collaborators from different departments/units and other institutions. As part of these collaborative projects, the FFIRE scholar will present work in international consortium meetings and conferences, obtain feedback on their advanced tools and pipelines, present monthly project updates, and interact with investigators from UGA and other institutions. These collaborative projects are expected to result in multiple high-impact publications and provide the scholar with the professional skill sets, network, and training to launch a successful scientific career. I will also work closely with the scholar to develop advanced skills in manuscript preparation, grant writing, and oral presentation, which are all essential for establishing an independent career. The scholar will also obtain training in classroom instruction by guest lecturing on my courses and participating in international exchange programs that I have established with the University of Liverpool (UK). As part of this exchange program, students/post-docs in my laboratory visit the lab of my collaborator (Dr. Patrick Eyers) for 2-3 weeks to conduct research under his mentorship, present a department seminar, and work closely with students and faculty members in his department. This exchange program exposes scholars to new scientific cultures, methods, and approaches and has positively impacted my past mentees. The FFIRE scholar will utilize this unique training opportunity to enhance their scientific network and professional development.

2. Preparing for job search: To help the FFIRE scholar transition into an independent position, I will meet with the scholar regularly to formulate ideas for their independent career, including drafting a separate research proposal and training opportunities/courses through the office of post-doctoral affairs. As the scholar begins the job search process, they will present a mock interview, including a formal seminar on the research and a presentation of the independent research proposal. I have successfully employed these strategies to help some of my past mentees secure independent positions in academia and industry (see past mentees). I will build on this experience to prepare FFIRE scholars for an independent scientific career.

3. Conflict Resolution: I have developed a mentor-mentee agreement for my trainees that outlines my expectations as a mentor regarding lab hours, scientific conduct, and project deadlines. The agreement also outlines what mentees can expect from me regarding my availability, my commitment to their professional

development, and strategies to develop mentor-mentee relationships through open communication. From my experience and research on research mentoring, open communication, and clear expectations are critical for preventing mentor-mentee conflict and quickly resolving any disputes.

Evaluation of mentoring plans: *The effectiveness* of mentoring programs will be assessed through mentor-mentee surveys already in place. Specifically, FFIRE scholars will complete confidential surveys to provide feedback on the quality of mentorship support they are receiving from the mentor. Likewise, mentors will conduct a study in which they provide feedback on the quality of support they and the institution provide. The survey includes established measures of career support, psychosocial support, and relationship quality assessed using a scale of 1-5 (1-best to 5-worst). The survey results help to identify strengths and areas of weakness and provide actional plans for improving the effectiveness and inclusivity of mentor-mentee relationships.