The University of Virginia’s Matrix Biology Lab, directed by Dr. Thomas Barker and Cardiac Systems Biology Lab, directed by Dr. Jeff Saucerman, seeks a Postdoctoral Research Associate to develop computational models of fibroblast mechanotransduction regulatory networks and feedback control from engineered therapeutic synthetic gene networks. The Matrix Biology and Engineering and Cardiac Systems Biology Labs are integrating their unique mechanobiology, molecular and cell biology experimental expertise and established computational approaches to build novel therapeutic approaches to reversing tissue fibrosis, relevant to Cardio-Pulmonary fibrotic diseases. The Research Associate will perform research on the recently funded NIH Director’s Transformative Research Award and work closely with both PIs and a team of quantitative molecular and cell biologists and computational biologists to create a new solution for a currently incurable disease.

The Research Associate will develop methods for integrating mechano-signaling inputs, cytoskeletal dynamics, transcription factor-promoter interactions, transcriptomic, proteomic, and phenotypic data from human lung and cardiac fibroblasts into predictive network models. These methods will be applied to understanding the temporal dynamics of how therapeutically targeting mechanical stimuli, such as tissue stiffness, alter the cell’s signaling and phenotypic state.

Candidates must hold a PhD in Biomedical Engineering, Bioengineering, Quantitative Biology or a closely related field by the start date and lead-author publications in computational systems biology, bioinformatics, or computation of synthetic biology networks. Candidates must also have strong communication skills and the ability to work both independently and as part of a large collaborative, transdisciplinary team. Prior experience in mammalian cell signaling, modeling of biological networks, biochemical reaction rate modeling, and MATLAB/R programming is preferred. Some experience with experimental cell biology, signaling or functional genomics is also preferred.

To apply, visit https://jobs.virginia.edu and search on Posting Number 0618824. Complete a candidate profile online; attach a CV, cover letter, and contact information for three references. The position will remain open until filled. For a description of the labs’ overall research interests, visit www.matrixbiology.net and http://bme.virginia.edu/saucerman/. For questions about the position, please contact Dr. Tom Barker via email at thomas.barker@virginia.edu.

The University of Virginia is an equal opportunity and affirmative action employer. Women, minorities, veterans and persons with disabilities are encouraged to apply.