POSITION: Postdoctoral Associate (Computational Scientist)

PRINCIPAL INVESTIGATOR: Peter Kekees-Huskey, Ph.D.

POSITION
We are seeking a highly motivated computational scientist for advancing state-of-the-art multi-scale calcium signaling models in support of the PI’s NIH-funded research, with an emphasis on ion transport and systems biology. The ideal candidate’s contributions will support our long-term goal of providing novel, quantitative insight into cellular function stemming from basic molecular signaling events. In the short term, the candidate will explore the biophysics of molecular signaling, through simulation and the development of multi-scale numerical tools based on continuum diffusion models. Specifically, the primary objective of the postdoctoral associate will be to develop differential equation models for transport and signal transduction that integrate microscopy and molecular structure/function data. To support this objective, the associate will develop and implement these numerical models in close collaboration with experimental colleagues. Candidates that additionally have expertise in molecular modeling including molecular dynamics simulation are especially encouraged to apply.

QUALIFICATIONS
Expected:

• Strong publication record applying and developing differential equation solvers, ideally finite element or finite difference approaches.
• Proficiency with code development (Matlab, python or C/C++ preferred).
• Successful completion of upper level math coursework in ordinary and partial differential equations.
• Ph.D. in Engineering, Chemistry, Physics, Biophysics or related disciplines.
• Excellent oral and written communication skills.

Strongly Desired:

• Experience with systems biology modeling.
• Molecular simulations, including molecular dynamics simulation and de novo protein design.
• Coursework in numerical methods.
To apply: Candidates must send a full CV, a listing of graduate courses, names of three references, and two representative publications. Applications are accepted via email at pkekeneshuskey@uky.edu. Start date is approximately September 1, 2017.

INSTITUTION
The University of Kentucky is a public, land grant university dedicated to improving people's lives through excellence in education, research and creative work, service, and health care (https://www.uky.edu). In support of this mission, the UK chemistry department (http://chem.as.uky.edu) provides a friendly, yet rigorous instructional environment in the forefront areas of chemistry at the undergraduate through doctoral levels. The faculty of the department has extensive research programs in analytical, biological, inorganic, organic, and physical chemistry, and hold research grants from funding organizations including the National Institutes of Health and the National Science Foundation. Our faculty is highly-collaborative, with several PIs participating in funded projects with the College of Medicine, especially in the areas of cardiac physiology, Alzheimer’s disease and cancer.

ABOUT LEXINGTON
(from http://www.kentuckytourism.com)
From the rolling bluegrass-covered hills of legendary Horse Country and the grandstands of America’s most storied thoroughbred racing tracks to the Kentucky Bourbon Trail and world-renowned outdoor adventure, visit Kentucky and experience the unbridled spirit that runs wild in the Bluegrass State.

Come inside and explore our cities, towns and regions in the state of Kentucky. Discover Kentucky tourism hotspots, such as our incredible one-of-a-kind attractions, learn about our unique traditions and culture, and absorb the unabated energy that can be seen, heard and felt in everything from metropolitan nightlife in Louisville and Lexington to our small town festivals and events. We welcome you to the state of Kentucky!

Lexington is a mid-sized city (300,000) in close proximity to Chicago (6 hours), Indianapolis (3 hours), Cincinnati (90 minutes), Nashville (3 hours) and a day’s drive from the ocean.