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Description: The Kekeneshuskey Lab (<https://pkhlab.sites.luc.edu>) at the Stritch School of Medicine (SSOM)/Loyola University Chicago (LUC) seeks post-doctoral scientists with a passion for changing paradigms in understanding human disease using computational approaches. Our lab studies how inflammation, the body's natural defense mechanism against pathogens and tissue damage, is controlled by calcium-signaling. We use computational techniques such as molecular dynamics, systems biology, and reaction-diffusion simulations. These techniques are applied to calcium-dependent processes at the molecular, cellular, and inter-cellular scales. We evaluate computational models developed in the lab against protein and cellular experiments that are conducted by us and with colleagues in LUC's [Department of Cell and Molecular Physiology](#). Several projects are currently funded by the National Institutes of Health (NIH)- and American Heart Association (AHA), including nucleotide-triggered immune responses in cells, ion channel trafficking, and biophysics of membrane-bound ion transporters.

Qualifications: Expertise in molecular dynamics simulations and related computational methodologies. A Ph.D. or equivalent degree in Physics, Chemistry, Biophysics, Engineering, or related disciplines. Strong expertise in molecular simulation applications reflected by publication record. Competency in scientific programming (python, R, or C++). Excellent written and oral communication. Experience working in a team and as a mentor.

Opportunities: The scholar will interact with experimental labs in the Stritch School of Medicine, with the potential for collaborations both within and beyond the United States. Our lab will provide training in machine learning, systems modeling, statistical mechanics, computer vision, and software development, in addition to manuscript and proposal writing. Former lab members have gone on to establish academic research labs and senior roles in industry. The position is available immediately and will remain open until filled.

About Loyola and Chicago: The Stritch School of Medicine excels in the scholarship and education of biomedical scientists and medical personnel. Research groups are predominantly located in the Center for Translational Research and Education ([CTRE](#)), a newly-constructed, LEED-certified building. CTRE is immediately adjacent to the SSOM Cuneo Center building and the Loyola University Medical Center. Researchers have access to high performance computing facilities, state-of-the-art microscopy and mass spectrometry instrumentation, tissue culture rooms, small animal facilities and standard equipment for the characterization of nucleic acids, proteins, cells, and tissue.

Chicago is a world-renown metropolis known for its remarkable cuisine, museums, music, and sports. It is home to several major universities including Loyola University Chicago, Northwestern University, and University of Chicago, as well as a vibrant biomedical industry (Abbott Laboratories, Baxter International, AbbVie, and Tempus). Chicago has an extensive public transit system and is an international hub with a reasonable cost of living.