**Postdoctoral Scholar Open Position:** Chevrier Lab, UChicago Pritzker School of Molecular Engineering

**Title:**

Postdoctoral Researcher – Adjuvant combinations

**Job Summary:**

A postdoctoral researcher position is available in the Chevrier Lab within the Pritzker School of Molecular Engineering at the University of Chicago to study mechanisms of action of adjuvant combinations. The next frontier in adjuvant combination research is to identify and characterize higher-order combinations of adjuvants which can mimic the effects of the most potent live attenuated vaccines and be used in new vaccine formulations against infection. In this project, we will dissect the molecular mechanisms through which two newly identified adjuvant triplets (Pandey et al., Cell Systems, 2020) impact cellular, tissue, and whole-organism processes to yield long-term protective immunity.

The successful candidate will develop independent projects within a team of researchers focused on the following goals. First, we will determine the molecular mechanisms of intra-cellular signaling cross talk by adjuvant triplets by testing hypotheses at the level of protein complexes proximal to adjuvant receptors, phosphorylation cascades and kinase-substrate relationships, and gene regulatory networks. Second, we will identify the molecular mechanisms through which adjuvant combinations impact inter-cellular signaling between dendritic cells (DCs) and T cells by testing hypotheses on the regulatory mechanisms shaping the cellular, surface, and secreted proteome of DCs. Third, we will test hypotheses on the effects of adjuvant triplets on the organism-wide spreading and seeding of effector and memory T cells, and the underlying cell circuits of the skin (vaccination site) and draining lymph node that explain the induction of protective, long-term T cell immunity. Results from this work will produce critical insights at the forefront of adjuvant combination research by characterizing higher-order combinations of adjuvants that can mimic the effects of well-established, potent live attenuated vaccines and inform future vaccine designs against infection.

We encourage both computational and experimental researchers to apply given the highly interdisciplinary nature of the work. The successful candidate will be highly motivated and have a proven track record of conducting independent research. For experimentalist candidates, broad experience in some or all of the following fields are highly desirable: molecular biology, in vitro cellular work with primary immune cells, in vivo work with mouse models of disease (e.g., viral infections), genomics, proteomics, high-throughput assays and screening (e.g., genetic perturbations using CRISPR). For computational candidates, experience in analyzing genomics and proteomics data, statistical modeling, and a track record of productive (i.e., publications) collaborations with experimentalists is highly desirable.

The Postdoctoral Researcher will enjoy a highly stimulating research environment by working with collaborators in the Chevrier lab, across the PME and UChicago community and beyond, and will have a unique opportunity to contribute to the pressing challenge of understanding adjuvant effects as a means to build innovative vaccine solutions.

For more information on the Chevrier lab, please visit <https://www.chevrierlab.org/> and <https://pme.uchicago.edu/faculty/nicolas-chevrier>.

Motivated candidates should submit a curriculum vitae and a statement of research goals to Nicolas Chevrier at [nchevrier@uchicago.edu](mailto:nchevrier@uchicago.edu).

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Staff Job seekers in need of a reasonable accommodation to complete the application process should call 773-702-5800 or submit a request via Applicant Inquiry Form.

We seek a diverse pool of applicants who wish to join an academic community that places the highest value on rigorous inquiry and encourages a diversity of perspectives, experiences, groups of individuals, and ideas to inform and stimulate intellectual challenge, engagement, and exchange.

All offers of employment are contingent upon a background check that includes a review of conviction history. A conviction does not automatically preclude University employment. Rather, the University considers conviction information on a case-by-case basis and assesses the nature of the offense, the circumstances surrounding it, the proximity in time of the conviction, and its relevance to the position.