UNIVERSITY OF MARYLAND
A. JAMES CLARK SCHOOL OF ENGINEERING
ROBERT E. FISCHELL INSTITUTE FOR BIOMEDICAL DEVICES

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POSTDOCTORAL FELLOW POSITIONS AT THE INTERFACE OF ENGINEERING AND IMMUNOLOGY

Position Description:
The Jewell Research Lab in the Fischell Institute for Biomedical Devices at the University of Maryland (UMD) – College Park has an opening for Postdoctoral Fellows. The lab's efforts are at the interface of materials engineering and immunology. Our efforts are funded by numerous R01/R01-equivalent awards from the NIH, Dept of Veterans Affairs (VA), and grants from leading foundations and pharma/biotech companies. These sources support translational work focused on autoimmune disease and cancer, as well as basic studies of the immune system that leverage unique features of biomaterials and nanotechnology as tools.

Working closely with Dr. Jewell, the Fellow(s) will help drive the lab's work forward, gain experience in research leadership, and generally work toward independence. Activities in these areas include designing and leading research projects, executing studies, authoring grants, interfacing with clinicians and collaborators, developing new technical capabilities and research models, disseminating research through high impact papers and conference presentations, contributing to trainee development, and generally taking a senior role in enabling fore-front research and translation.

The minimum requirements for the position are completion of a PhD in immune engineering, materials science, biomaterials, nanotechnology, immunology, autoimmune disease, bioinformatics, or a related field. Candidates with experience in engineering and materials science are particularly encouraged to apply. Applicants with experience beyond the PhD seeking additional postdoctoral training are also welcome to apply. Strong applicants will be well-versed in some of the following areas:

Technical skills: i) material design (e.g., nanoparticles, microparticles, scaffolds) and synthesis, ii) materials characterization, iii) drug and immunotherapy delivery, iv) flow cytometry, v) isolation and culture of primary immune cells, vi) pre-clinical rodent models of autoimmunity/cancer, vii) bioinformatics, statistics, and high dimensionality data sets, viii) PCR/gene expression analysis

Leadership: i) designing and managing research projects, ii) contributing to NIH grant writing, iii) drug development and engagement of regulatory agencies, iv) working in high-energy multidisciplinary teams, iv) mentoring trainees

The starting salary range is $62,232-$75,000/year, commensurate with experience. The position also includes a competitive benefits package offered by UMD, including healthcare, retirement, tuition waivers for immediate family members, and dedicated resources for career planning and development. Flexibility to pursue research to prepare for future independence/faculty positions, direct new research thrusts, gain experience with start-ups and entrepreneurial engagement, and participate in mentoring activities will be encouraged. More information on benefits is available on the University Benefits Website.

About the Jewell Lab
The goal of the Jewell Lab is to harness biomaterials and nanotechnology as tools to study immune function, and to exploit these materials for potent, selective immunotherapies targeting autoimmunity and cancer. We use engineered materials ranging from degradable polymers, to lipids, to self-assembled materials. Our work involves materials synthesis and characterization, cell and pre-clinical animal models, and research with human patient samples supported through projects we lead at the VA Medical Center. These efforts draw on a vibrant group of individuals, integrating tools from immunology, engineering, medicine, and chemistry. For more info visit jewell.umd.edu

The Jewell Lab consists of more than 2000 ft^2 of dedicated research space in the state-of-the-art A. James Clark Hall. Some of the specialized equipment in the lab includes a dedicated flow cytometer, LED fluorescence dissection microscope, fully automated video fluorescence microscope with cell incubation system, laser diffraction particle analyzer, high-speed preparative-scale centrifuges, programmable robotics, and instruments for microfabrication. The Jewell Lab also contains a dedicated ABSL-2 and BSL-2 cell culture facility, as well as multiple dedicated rooms in the newest campus vivarium, established in Clark Hall in 2019.

The resources above are in addition to more than 25 core instruments housed in the BioWorkshop core instrument facility in Clark Hall, including multiple flow cytometers, confocal microscope with FLIM and picoQuant capabilities, full histology suite, microCT, advanced RT-PCR system, high-content plate reader, and others. Also housed in Clark hall is a translational instrumentation suite in the vivarium that offers IVIS, PET/SPECT/CT, Doppler imaging, irradiator system, and other pre-clinical research tools. Numerous additional core facilities are available around campus to support research, including the Maryland NanoCenter, campus microscopy facilities, and a variety of cores for biological, genomic, structural, and molecular characterization. Research in the Jewell lab is also enabled by the lab's formal connections to the Greenebaum Cancer Center, U.S. Dept. of VA, and University of Maryland Medical School. Additionally, UMD is located near top government research and funding agencies including NIH, FDA, DoD, NSF, and NIST. This proximity provides unique opportunities for research, funding, career developing, and networking.

Application Process

Interested candidates should assemble a i) cover letter, ii) CV, iii) list of references, and iv) two first-author research papers that are published or accepted for publication. The cover letter should describe the candidate's research experience, career goals, interest and expectations for the position, and preferred start date. E-mail the application as a single PDF file to cmjewell@umd.edu.