



# Microtechnology, Medicine and Biology (MMB) Lab

## Postdoctoral Positions

We have two openings for postdoctoral researchers, available immediately, in the Microtechnology, Medicine and Biology (MMB) lab at the University of Wisconsin-Madison. The MMB lab, led by Prof. David Beebe, is engaged in multiple areas of research including cancer (basic and translational studies), multikingdom interactions and microtechnology solutions to study cell behavior and interactions, within a multi-disciplinary environment. The MMB lab is located in the Wisconsin Institute for Medical Research (attached to the UW Hospital and Clinics) providing a multi-disciplinary and translational research environment.

### Postdoc Position 1

The open position provides an exciting opportunity to develop a tissue chip, modelling the metastatic prostate tumor microenvironment in the bone marrow, as part of a study funded by the NCATS/NCI Tissue Chip Consortium, “Mechanisms of microenvironment mediated resistance to cancer cell surface targeted therapeutics.” The tumor microenvironment (TME) is highly complex, consisting of multiple cell types including stromal cells, immune cells and vasculature. The interplay between tumor cells and neighboring cells in the TME results in environmental changes that can support tumor growth, vascularization and metastasis and, thus, plays an important role in prognosis and treatment efficacy (e.g. by modulating resistance). Tissue chips provide a structured 3D environment to accurately model physiological responses of the TME and the response to drug treatment. As part of a team of biomedical engineers, clinicians and basic scientists, the successful candidate will develop and validate the bone marrow tissue chip as a tool for pre-screening prostate cancer patients for clinical trials, measure responses to novel prostate cancer therapeutics and investigate mechanisms of treatment resistance.

### Postdoc Position 2

We also have an opening to contribute to a unique project investigating neutrophil reverse migration, a recently discovered pathway that contributes to neutrophil clearance and resolution of inflammation. Working as part of an interdisciplinary team (engineers, biologists, clinicians), the successful candidate will use a physiologically relevant, microfluidic vascular model to investigate paracrine signaling between immune and vascular cells, model onset and resolution of inflammation and investigate the mechanisms and cell phenotypes that result in reverse migration. These studies coupled with further development of research tools such as induced pluripotent stem cells could provide novel avenues for therapeutic intervention in inflammatory diseases.



**WISCONSIN**  
UNIVERSITY OF WISCONSIN-MADISON

# **Microtechnology, Medicine and Biology (MMB) Lab**

## **Postdoctoral Positions**

### **Degree and Area of Specialization:**

PhD or MD/PhD required with an emphasis on cell biology, biochemistry, bioengineering, immunology or related fields. Background/experience in cancer biology, immunology and/or the tumor microenvironment is highly desired. Experience with processing clinical tissue samples, isolation and culture of primary cells, 3D cell culture, working with microfluidic systems, next generation RNA sequencing and confocal microscopy would be advantageous. The ideal candidate is expected to be a productive, creative individual with the ability to think critically, learn quickly, innovate and function both independently and within a team. The project team includes biologists, engineers and clinicians and the successful candidate should be adept at communicating across disciplines.

### **Principal Duties:**

The individual will lead the experimental/assay design for creation of 3D biomimetic tissue models as well as the actual model development, carrying out experiments, validation of endpoints and data analysis. The individual will be expected to work with human clinical samples. The individual will be responsible for writing research reports, preparing presentations, manuscripts and supporting the preparation of research proposals for funding. Additional duties will include data analysis and interpretation as well as identifying and addressing research challenges as they arise. The successful applicant will have the opportunity to expand their knowledge/skill set in a dynamic multidisciplinary environment.

For more information about the lab: <http://mmbwisc.squarespace.com/>

### **To Apply:**

Please send a cover letter and CV to [agolubiewski@wisc.edu](mailto:agolubiewski@wisc.edu)