

Postdoctoral Fellow Position in Interdisciplinary Biomedical Research and Data Science, Purdue University.



A full-time postdoctoral fellow position is available immediately for interdisciplinary research in computational systems biology and collaborative data science at Purdue University. The postdoctoral position is associated with EMBRIO (Emergent Mechanisms in Biology of Robustness, Integration, and Organization), an NSF Biology Integration Institute with six university partners. The postdoctoral fellow will be broadly involved in the EMBRIO Institute, with efforts engaged in computational systems modeling and simulation research, as well as building expertise, guidance, and collaboration support and research in data management and data analysis for EMBRIO teams. The postdoctoral fellow will conduct research under the guidance of Dr. Elsje Pienaar (<https://engineering.purdue.edu/PienaarLab>) and be co-advised by Dr. Adrian Buganza Tepole (<https://engineering.purdue.edu/tepolelab/>).

As part of the work with the Pienaar lab the fellow would build and calibrate computational models of Calcium signaling in multicellular environments and its diverse downstream effects. Together with the Tepole lab the fellow would work to leverage machine learning (ML) tools to speed up and automate model evaluation, and to complement closed-form models with multi-modality ML metamodels for improved accuracy. The work is highly interdisciplinary and highly integrative across multiple systems. The fellow will work closely with experimental experts in zebrafish, plant and tissue culture biology within the EMBRIO Institute to build and parameterize the models. The fellow will also have opportunities to work closely with other computational faculty, staff and students on innovating new ways to integrate and analyze models and data across biological scales and systems.

As these specific projects progress, the postdoctoral fellow will have the opportunity to collaborate with investigators and interdisciplinary teams to research and deliver secure systems of data collection, storage, sharing, and analysis to produce new and actionable knowledge. This work will research and provide regular guidance and training in data science best practices and serve as a point of contact for all things data related. The postdoctoral fellow will have the opportunity to co-write proposals and to develop research components around the data-rich interdisciplinary modeling and simulation environment of EMBRIO.

A Ph.D. degree in Data Science, Computer Science, Biomedical Engineering, Chemical Engineering, Mechanical Engineering, Mathematics, Physics or related fields is required. Previous experience in computational modeling, systems biology, stochastic modeling, numerical methods, and associated statistical analysis, data science, or research data management is desired. Successful applicants will be detail oriented, eager to learn new methods, and enthusiastic about computationally rigorous modeling, collaborating across disciplines, working with experimental biologists and chemists, and advancing and supporting the research data realm of EMBRIO Institute. Salary to be negotiated.

To apply for this position, please submit to Dr. Pienaar (epienaar@purdue.edu) and Dr. Buganza Tepole (abuganza@purdue.edu): (1) your CV, (2) a cover letter explaining your background, interest and qualifications for the position, and (3) contact information for three references, including your relationship to the reference, their phone number, email address, and mailing address. Please contact Dr. Pienaar (epienaar@purdue.edu) for formal inquiries.

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