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EDITORIAL

Editorial

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The Bulletin of Mathematical Biology, the official journal of the Society for Mathematical Biology, has long been a premier venue for the dissemination of research findings at the interface of mathematics and biology. Since its founding, it has been a driver of the dramatic evolution that has transformed and expanded the field of mathematical biology, as more phenomena in the life sciences have become amenable to mathematical analysis and more areas of mathematics have found applications in biology. Philip Maini, the outgoing editor-in-chief, deserves much of the credit for assuring that the Bulletin is recognized as a scientific journal of the highest quality, with high impact on the field, and his shoes will be difficult to fill.

As times change, the nature of scientific publishing changes, and so does the role that scientific journals play in the research enterprise. This is particularly true in the field of mathematical biology, which is advancing at breakneck speed, driven by technological innovations that provide data, ever increasing in quantity and quality, which makes mathematics a key enabling tool for much research in the life sciences. And so the Bulletin must also continually adapt to these changes in order to remain a vibrant leading outlet for publications in mathematical biology. Articles reporting original research of scientific significance to the mathematical biology community will remain its core focus. There are no restrictions on length and format and topics can range from biologically motivated investigations in the mathematical sciences,

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broadly defined, to results that combine concepts and tools from the mathematical sciences with experiment or observation. All contributions, however, must be focused on a substantial advance in biological understanding. The aim of the journal is to be of major interest to all researchers working at the interface of biology and the mathematical sciences, and articles should take care to address this broad audience.

Mathematical biology has become a multifaceted and fast-moving field, and researchers need to be cognizant of a plethora of new developments and changes that affect their work, which are not always captured by the original research article format. Therefore, the Bulletin will serve its readers through several new kinds of articles.

Reviews These offer an in-depth treatment of an important topic, emerging research area within mathematical biology, or significant recent development and provide an excellent guide for researchers new to a subject or researchers established in the field who are looking for a fresh view of their area. A review should not be a mere summary of a field; it should be a critique with new points of view, synthesizing the existing literature from a variety of authors.

Methods Mathematics is a key enabling technology for the life sciences. The Bulletin will publish peer-reviewed articles that describe new mathematical, statistical, or computational methods relevant to a range of biological problems or processes, or new experimental methods that are substantially based on tools or concepts from the mathematical sciences.

Editors' choice Select articles, chosen by the Editors-in-Chief, will be the subject of a shorter "Insight" article published in the same issue. Insights are written by experts in the field of the research article: They explain why the results reported are significant and outline some of the challenges connected to the work that remain in the field. The author(s) could be one/some of the reviewers. These articles will be commissioned by the Editors-in-Chief. Articles are peer-reviewed at the discretion of the editors and will typically be one to four pages in length.

Perspectives This type of article will focus on a broad range of subjects relevant to the field and its practitioners: science policy and research funding, careers in mathematical biology, research conduct, public engagement, and a variety of other related topics, including opinion pieces. These articles will be peer-reviewed at the discretion of the editors or the editorial board.

Unsolved problems These peer-reviewed articles will discuss a research topic of importance to the mathematical biology community that is poorly understood and is in need of attention. They can include unexplored or challenging questions, emerging opportunities, or an unexplained phenomenon. These articles are intended to stimulate researchers, including students, to think about future research directions inside or outside their area of expertise. They should be aimed at a broad audience and should include a discussion of the basic science, why it is important, what work has been

done, major challenges to understanding the question, competing hypotheses, and what advances will be necessary to solve the problem.

Education Training and education in interdisciplinary fields is particularly challenging and of crucial importance for the future of mathematical biology. The Bulletin will contribute to this effort by publishing articles that discuss ideas, methods, tools, and activities to enhance research and education, both inside and outside the classroom. They can take several forms, ranging from historical reviews to practical tutorials. Articles can also provide practical and background information on important mathematical or computational methods and approaches used to investigate interesting biological problems. These articles will be peer-reviewed.

By broadening the scope of the journal and providing flexible contribution formats, we expect the Bulletin to remain an important resource for its authors and readers, helping them move mathematical and quantitative biology forward, as they meet ever more complex and exciting challenges in the life sciences. It is the goal of the new Editors-in-Chief to provide a publication process that is author-friendly, and as speedy as possible, while maintaining the highest scientific standards. The Bulletin of Mathematical Biology will continue to evolve with the times, and the editors welcome input to ensure that the journal serves the needs of the mathematical biology community.