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## Introducing Volume 3

Editorial Board

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# Introducing Volume 3

## Editorial Board

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### Abstract

This report provides a brief introduction to *Spora* and what you can expect from the articles included in this volume.

**Keywords:** undergraduate research, mathematical biology, faculty coauthors, open-access

## 1 A One-of-a-Kind Journal

As *Spora* enters its fourth year, it remains the only journal dedicated to biomathematical research conducted by undergraduate researchers and their faculty mentors. Indeed, for all submissions at least 50% of the authors are required to have been undergraduates at the time the work was completed. *Spora's* readers enjoy high-quality research and exposition articles that describe mathematical and statistical techniques to solve problems in biological settings. The focus of submissions take a variety of forms from development of mathematical models of biological systems to computational, statistical, or theoretical analysis of existing models. In this issue, topics range from agent-based modeling of infectious diseases to stochastic analysis of circadian clocks. In particular, this issue contains the paper that won the Outstanding Undergraduate Research in Biomathematics and Ecology Scholarship and Teaching (OUR-BEST) Award at the 10<sup>th</sup> Annual Symposium on Biomathematics and Ecology Education and Research. This most recent winner, under the direction of Dr. Powell at the University of St. Francis, presents a model detailing strategies to mitigate the effect of devil facial tumor disease on Tasmanian devils.

A research team directed by Dr. Peercy of the University of Maryland, Baltimore County studied the interaction of calcium and metabolic oscillations in pancreatic  $\beta$ -cells. Agent-based models were the focus of a group directed by Dr. Highlander from the University of Portland. Also under the direction of Dr. Highlander, another group tackled an interesting problem of modeling the spread of the Zika Virus at the 2016 Olympic Games. Dr. Swanson and her student investigated aggregation of proliferating microglia in response to amyloid-beta in dementia. Modeling cycles of the heart under various signaling conditions was the focus of a research team directed by Dr. Gobbert. Finally, this issue includes an article on a stochastic analysis of a mammalian circadian clock investigated by Dr. Shtylla and her student.

We welcome future contributions to *Spora*. Articles submitted to the research section should be interdisciplinary in nature, should possibly even include experimentation, and should appeal to a wide audience from related fields. The research can be of novel or established mathematical and/or statistical approaches to biological problems. *Spora* also accepts submissions to an exposition section. Such articles describe particular areas of mathematical biology research. Undergraduate capstone projects or reviews, consisting of critical and constructive analysis of the literature in a specific field, are appropriate for this exposition section. This section may include Review articles, as well. For reviews, it is also appropriate to include mention of relevant software or instrumentation.

We would like to thank our silent army of tireless editorial staff. Devin Akman designed the cover artwork of this volume. Editorial Manager Ryan Bunge worked with the authors of each accepted manuscript to get the articles ready for publication. Last but not least, we thank the section editors and anonymous reviewers whose efforts make *Spora* a high-quality journal of which we can all be proud.

## 2 Advantages of Spora

We are pleased to announce that *Spora* is now indexed in Google Scholar. Starting with the next volume, we also expect to have the journal and all future and past articles published in *Spora* to be assigned their own universally recognized Digital Object Identifier (DOI).

A primary goal of *Spora* is to make undergraduate research in biomathematics freely and quickly accessible to the public. With this goal in mind, *Spora* remains committed to fast review and rapid turnaround (with decisions typically reported within two months or less). *Spora* also provides open access to readers and has a low publication fee.