## A Word from the Chair

I am very pleased that this journal, the Ball State Undergraduate Mathematics Exchange, has come to fruition. The editorial committee, led by Hanspeter Fischer and Ahmed Mohammed, has brought the project from an idea to the first issue in about eighteen months. In many ways, the Exchange is a testament to their dedication to our majors. This journal should prove quite valuable to our majors over the coming years.

In this issue, you will find articles by eleven of our current and recent students. You will find articles that encompass a variety of mathematical topics from number theory to probability, from quantum mechanics to



linear algebra, from mathematics education to actuarial science. It is truly an impressive body of work by our upperclassmen. Hopefully, our younger majors will come to understand that there are contributions that they can make as well and become inspired to pursue mathematical projects of their own.

Of course, there are many others to thank. The sponsorship of the Eli Lilly Foundation through a Lilly II grant has been an essential ingredient in getting the Exchange to print. The first student editor, Matthew Davis, has set a high standard for quality and efficiency. I would especially like to thank all of the students who have contributed to this volume. It is ultimately the quality of the work of our students that will make the Exchange a success.

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Dr. Dale Umbach