A Word from the Chair

In 1899, Charles H. Duell as Commissioner of the U.S. Patent and Trademark Office penned the memorable quote, "everything that can be invented has been." Of course, this was not the case! In mathematics, a new result often leads to the realization of additional uncharted terrains. Much of the work reported in this issue of the *Exchange* not only builds from recently-realized mathematical questions, but also brings to light additional questions.

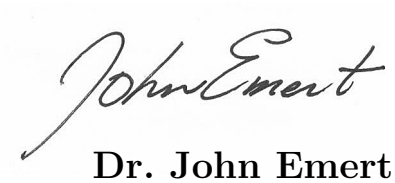
Anthony Rizzie and Andrea Zentz report on their internship experiences at Oak Ridge National Laboratory and Illinois State University, respectively. Rizzie worked on a piece of a larger, continuing research project at Oak Ridge, developing the mathematical models necessary to evaluate experimental data and test results. Zentz was part of a National Science Foundation-supported research experience for undergraduates. Her paper reports on her work to attack certain cases of the Oberwolfach problem, an unresolved question in graph theory that has generated much interest and activity in the research community.

Megan Elbrink and Eileen Long present abstracts of their Senior Thesis. Elbrink compiled and categorized common mathematical errors in secondary education. Long analyzed crime data to examine the impact of two possible deterrents. Reports on student club and seminar activities are also included.

An article by University colleagues Ann Blakey (Biology), Jay Bagga (Computer Science), and Munni Begum (Mathematical Sciences) highlights a developing program in biocomputational methods. This synthesis of fields examines newly-realizable questions through fresh, customized research methods. The first cadre of students in this program are being recruited for a Fall 2008 team-taught course, and their successes will be included in future *Exchanges*.

Neal Coleman's article on paradoxes affirms my initial point—that mathematics by its nature spawns additional mathematics. The beauty evident through the intricate, surprising, and at times bizarre structure of mathematics keeps mathematics and mathematicians fresh, engaged, and ready for new and unexpected challenges.

Best wishes for the coming academic year,



Dr. John Emert

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