**Interdisciplinary Biosciences in the Department of Mathematics**

Faculty in the department are engaged in a wide range of research, utilizing advanced tools available from the University of Cincinnati’s College of Engineering and Applied Science and the College of Arts and Sciences. These include advanced tools and techniques from computational and applied mathematics, biology, chemistry, physics, and related fields. The goal is to foster interdisciplinary research and collaboration that can lead to new insights and breakthroughs in these fields.

**Benjamin Vaughan Joins Department’s Bioinformatics Research Group**

Benjamin Vaughan, an assistant professor of mathematics, joined the department in the summer of 2013. He is a joint appointment in the Department of Mathematics and the Department of Biology. Vaughan uses mathematical modeling to study the complex interactions that occur within biological systems. His research focuses on understanding the dynamics of biological systems, particularly those related to the movement of flagella, which propel bacteria such as Escherichia coli.

**PhD Student Aims to Revolutionize Cryptanalysis**

Dawntale Cabarcas, a 2012-2013 grad student, is currently working on a dissertation titled “Efficient Algorithms for Solving Polynomial Systems.” His research is focused on developing new methods for solving polynomial equations, which has applications in a variety of fields, including cryptography.

Cabarcas has already made significant contributions to the field of cryptography, and he has collaborated with colleagues in Germany to introduce the world’s fastest and most efficient polynomial solver, called MMAI and M2G.

**Student Research**

Hunter Davis, a senior at Stanford University, is working on a project titled “Cryptography.” His research involves developing new algorithms for solving systems of polynomial equations, which has applications in a variety of fields, including cryptography.

Hunter’s goal is to establish new security estimates for existing algorithms and investigate the feasibility of new algorithms. His work is supported by a grant from the National Science Foundation.

**Interdisciplinary Research Seminar Series**

The seminars focus on interdisciplinary research and feature speakers from a variety of fields, including mathematics, biology, and computer science. The seminars are open to the public and are held in the Department of Mathematics. The seminars cover a wide range of topics, including computational and perturbation methods, which are used to model the movement of flagella within bacterial systems.

**Sookkyung Lim, Donald French, Steve Pelikan and Margaret Kupferle**

Lim, French, Pelikan, and Kupferle are collaborating on a project titled “Modeling of Biofilms.” Their research focuses on understanding the complex interactions that occur within biofilms, which are communities of microorganisms that grow together on surfaces. Their work has applications in a variety of fields, including medicine and environmental science.

**Conclusion**

The seminar series provides a platform for interdisciplinary research and collaboration, fostering new ideas and breakthroughs in the field of mathematics.

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**Additional Information**

For more information about the seminars or to request a speaker, please contact the Department of Mathematics at math@uc.edu.
Jintai Ding was the winner of the 2010 Sigma Xi Young Faculty Award. The award recognizes distinguished scientific research accomplished by faculty members within 10 years of their terminal degree in connection with the award. Ding presented the lecture titled "What If Really Make the World Better?" in the Department of Mathematical Sciences. In addition, Ding also presented the lecture titled "What If Really Make the World Better?" in the Department of Mathematical Sciences. The lecture was part of the series "What If Really Make the World Better?" organized by the Department of Mathematical Sciences.

Ding was an Honorary Chair of the International Conference on Cryptology and Network Security, which was held in December 2010. The conference was supported by the National Security Agency (NSA). The conference was attended by over 300 participants from around the world. The conference was hosted by the Department of Mathematical Sciences.

Ding was also an Honorary Chair of the International Conference on Cryptology and Network Security, which was held in December 2010. The conference was supported by the National Security Agency (NSA). The conference was attended by over 300 participants from around the world. The conference was hosted by the Department of Mathematical Sciences.

Magda Peligrad was the winner of the 2010 Sigma Xi Young Faculty Award. The award recognizes distinguished scientific research accomplished by faculty members within 10 years of their terminal degree in connection with the award. Peligrad presented the lecture titled "What If Really Make the World Better?" in the Department of Mathematical Sciences. In addition, Peligrad also presented the lecture titled "What If Really Make the World Better?" in the Department of Mathematical Sciences. The lecture was part of the series "What If Really Make the World Better?" organized by the Department of Mathematical Sciences.

Peligrad was an Honorary Chair of the International Conference on Cryptology and Network Security, which was held in December 2010. The conference was supported by the National Security Agency (NSA). The conference was attended by over 300 participants from around the world. The conference was hosted by the Department of Mathematical Sciences.

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Thanks to All of Our 2009-10 Donors

We thank the following individuals and foundations for their generous donations to the Department. These gifts fund scholarships, awards and events for the faculty and students of our department and support the general mission of the University.

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The University of Cincinnati has been coordinated with the Cincinnati community and local officials in their efforts to enhance the quality of life for all residents of the city. The university has been actively working with local officials to address various issues that affect the quality of life in the city. These issues include crime, traffic, education, and the environment. The university has been working with local officials to address these issues and to promote the well-being of the city's residents.