



A Note From the Chairperson



Dear Friends,

The end of the semester is, as usual, a very busy time in the department. Students are engaging in exciting new programs, and presenting their research at symposia both on and off campus. There was outreach to students in local schools. New faculty research was undertaken and grants received. This high level of activity in many areas is typical of the department and continues to make it a very ex-

cellent environment for students, faculty and staff.

I very much appreciate everything you all do to make all aspects of the department's mission thrive. Thanks again to all of you who regularly respond to the special requests for help that I make. So much of what we do would not be possible without your good-natured willingness to contribute your time to special projects.

It's been another highly successful academic year. Best wishes for a productive and enjoyable summer.

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Undergraduates Awarded Ricci Scholarship

Loyola has recently named the first group of students to its new bi-cultural immersion scholarship program. Beginning in Fall 2007, five Ricci scholars will begin the first of two semesters studying abroad: the first at the John Felice Rome Center, and the second at The Beijing Center for Chinese studies.

The students named to take part in this innovative program are high achieving sophomores, in high academic standing that had submitted a thesis proposal that integrated the cross-cultural focus of the scholarship with the students own field of study.

Two of the five honorees will be conducting studies pertinent to biology. Biology major **Alex Gottemuller** will conduct his project entitled, "*Italian and Chinese Perspectives*

on Embryonic Stem Cell Research." The project will analyze how European and non-western cultures approach an issue that has become a hotbed of controversy here in the United States. Also, **Nicole Dawson**, an Environmental Sciences and Finance double major studying under **Prof.**

Emma Rosi-Marshall, will conduct her study, "*Building Green in Italy and China.*" This project will compare and contrast the social views of green building and the environmental and economic aspects of those approaches.

The Ricci Scholarship is a great honor for students who wish to continue in the cross cultural Jesuit education. The Biology



One view Ricci Scholars can get used to: from the Umberto Bridge at the Rome Center.

Department congratulates these students and wishes them success in their coming adventure.

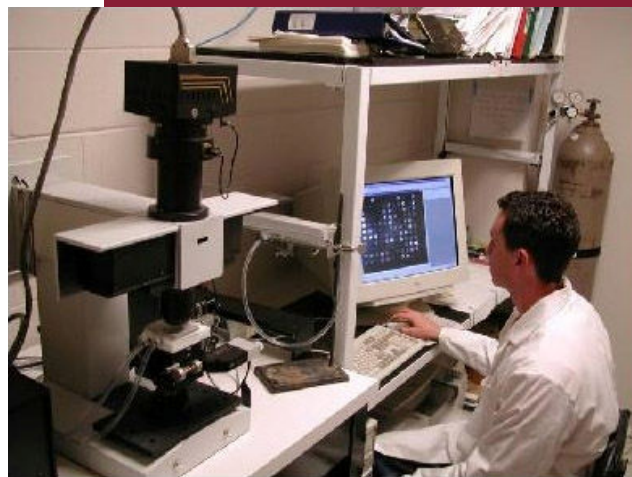
Dr. John Kelly Awarded Promotion and Tenure

The Department of Biology extends and big congratulations to Professor John Kelly on being awarded a promotion and tenure. John Kelly graduated from Dartmouth College, and went on to earn his PhD from Rutgers University. He went on to complete a postdoctoral fellowship at Northwestern. After teaching for three years at Northwestern, Dr. Kelly came to Loyola in the Fall of 2001. Dr. Kelly tells a his hopes for his future at Loyola.

I'm thrilled that I have been granted tenure here at Loyola. I've really enjoyed working here over the past six years and I'm extremely excited that I will be able to continue.

In terms of my future, I will continue to work towards being an outstanding researcher and teacher. For my research program, my main goals are to maintain extramural grant funding for my lab so that I can continue to involve as many undergraduate students, MS students, and hopefully PhD students in my research as possible, and to publish our work in top journals in order to make a significant contribution to my field. For my teaching, my main goal is to work on modifying the courses I teach (General Biology and General Microbiology) to make the students active participants in the courses as much as possible. I have been trying over the past few years to incorporate active learning strategies into my courses, and I have been very pleased with the results, so I plan to continue moving my courses in this direction.

In the next five years I would also like to see Loyola's Men's Basketball team make it to the NCAA tournament and the Cubs win the World Series, beating the Mets in game 7 of the National League Championship Series and the Yankees in game 7 of the World Series.



John Kelly, PhD
Professor

John Kelly Receives New NSF Grant

John Kelly, PhD, Microbial Ecologist for the LUC Biology department, along with Professors Christopher Peterson of the Natural Sciences department and Kimberly Gray of the Department of Civil Engineering at Northwestern University were recently awarded funding for their NSF grant proposal, "Mediation of denitrification by algal/bacterial interactions in stream periphyton: role of successional development and species identity." The following summarizes that proposal.

Input of dissolved nitrogen to aquatic systems, via agricultural runoff and atmospheric deposition of products of fossil-fuel combustion, has increased dramatically over the last century. High nitrate (NO₃) content in groundwater poses significant health risks, and elevated NO₃ loads discharged into the ocean from rivers have been implicated in the formation of "dead zones", or hypoxic oceanic regions, in coastal areas.

A primary means by which NO₃ is removed from aquatic systems is via denitrification, a bacterially mediated process that converts NO₃ to biologically unavailable nitrogen gas. Periphytic

biofilms, which are mixtures of algae, bacteria, and organic and inorganic detrital material attached to various surfaces in photic zones of aquatic systems, have been shown to be sites of high rates of denitrification.

Our preliminary work with these biofilms suggested that algal community composition influenced bacterial community composition, and that rates of denitrification were linked to algal community composition. These data lead us to hypothesize that the taxonomic content of bacterial consortia within attached biofilms is linked to the dominant algal species residing therein via use of distinctive carbon exudates, and that variation in critical biogeochemical processes (here, denitrification) is linked to variation in these associations. These hypotheses will be tested using biofilms cultivated under varied conditions in several settings: 1) streams in the Chicago area, 2) greenhouse-based artificial streams, and 3) laboratory chemostats fed by monospecific algal cultures.

This work will improve our understanding of the role of population- and community-level attributes in ecosystem processes, and the significance of microbial diversity to ecosystem function.

Loyola Hosts Junior Science and Humanities Symposium



Loyola University Chicago hosted the 32nd Annual Chicago Region Junior Science and Humanities Symposium in the Quinlan Life Sciences Building on March __, 2007. The symposium works as part of a program sponsored

by the Department of Biology in conjunction with the United States Army, Navy and Air force meant to promote research and development in the sciences, mathematics and engineering amongst High School Students.

Students from area high schools submitted papers of their research which were reviewed in turn by a panel of faculty judges. Six finalists were chosen to compete in the afternoon session.

The finalists include: Elliott Damashak, Evanston Township HS; Victor Liou, Illinois Math & Science Academy; Eva Feldman, Lincoln Park High School; Benjamin Simon, Evanston Township High School ; Elizabeth Rao, Lincoln Park High School, ; Julian Otis, Walter Payton High School.

Scholarship prizes of \$2000, \$1500, and \$1000 were awarded to the 1st, 2nd, and 3rd place finalists respectively, with the 1st and 2nd place winners moving on to participate at the National Symposium held at NASA Space Camp in Huntsville Alabama, 2-6 May 2007. The top three finalists: Elizabeth Rao– 3rd place, Julian Ortiz– 2nd place, and Benjamin Simon– 1st place.

Presenters at the National Symposium will be competing for scholarship prizes (top prizes = \$14,000 in additional to regional award) and a chance to attend the Youth International Science Forum in London this summer.

Photo: Dr. William Kroll (right) stands with JSHS finalists (from left to right) Elliot Damashak, Victor Liou, Eva Feldman, Benjamin Simon, Elizabeth Rao, and Julian Otis. Photo courtesy of Dr. William Kroll



Recent Events In Biology



Loyola University hosts the annual **Chicago Area Undergraduate Research Symposium** on Saturday 14 April 2007 in Kasbeer Hall at the Water Tower Campus. Loyola co-sponsors the event in affiliation with DePaul University, UIC, Northwestern University, University of Chicago and the Illinois Institute of Technology. CAURS featured Undergraduate poster presentations and research talks on topics ranging from biology to engineering with cash prizes awarded from the best abstracts, posters, talks and research proposals. Featured speakers included an opening address from Loyola President **Michael J. Garanzini**, a word on research from Northwestern University's **Dr. Thomas Meade**, and a keynote address from **Dr. John Murask** of the Loyola Medical School.

For more information visit www.caur.com

2007 Frontiers in Life Sciences Seminar

2007 Frontiers in Life Sciences Seminar
Dr. Thomas E. Wellems presents
**Malaria: Drug Resistance and
Disease Virulence Determinants**
April 12, 2007 at 4:00pm



Loyola University Chicago Crown Center Auditorium
1001 W. Loyola Avenue Chicago IL
Dr. Wellems is Chief of the Laboratory of Malaria and Vector Research, NIAID, NIH.
Contact: Biology Department at 773-508-3820
or Dr. Kim Williamson at kwil4@luc.edu
Sponsored by the Biology Department and College of Arts and Sciences
"Malaria Resistance," oil on canvas by Hunter O'Reilly

Graphic:
"Malaria
Resistance"
By Hunter
O'Reilly

"Malaria: Drug Resistance and Disease Virulence Determinants"

Dr. Thomas Wellems, MD, PhD, is Chief of the Laboratory of Malaria and Vector Research, NIAID, NIH, an organization maintaining an array of both domestic and overseas activities all devoted to the investigation of disease-transmitting insects and malaria biology. At this very special event, Dr. Wellems spoke on the challenges facing researchers, and the steps being made to meet those challenges in fight against a disease that kills between one and two million people per year worldwide.

The event was sponsored Department of Biology and the College of Arts and Sciences and coordinated by Kim Williamson.

BLURBS, TIPS and SHOUTOUTS



Professor Lori Andrews

**Professor of Law
at Chicago-Kent
College of Law and
Technology**

- **Professor Lori Andrews**, novelist and a Distinguished Professor of Law at Chicago-Kent College of Law and Technology, gave a presentation entitled, "**Genetic Policy and the Arts**" in an event sponsored by the Bioethics Minor Program. The lecture

looked at the role of artists in identifying the social and issues raised by new genetic technologies. A reception and book signing of Prof. Andrews new novel **Sequence** followed.

- Don't forget! Registration for the **2007 Fall Session** began April 16th. Meet with your Biology advisor to learn about available courses that would help with your academic plan.
- The Biology Department asks that all students, faculty and staff keep two treasured members of

the Loyola community in your prayers. **Dr. Andrea Holgado** slipped and broke her leg recently forcing her to miss the remainder of the semester. Dr. Ian Boussy suffered a stroke and was hospitalized March 16 2007. Since, he has been making slow but steady recovery. It is our dearest hope that our friends and colleagues return to us soon, happy and healthy.

- The Biology Department will host a seminar from Allison Abbott of Marquette University entitled "**Big Roles for Tiny Regulators: Functional Analysis of microRNA genes in C. elegans Development.**" April 18, 11:30am LSB 212.
- **Dr. Gina Zainelli** will be leaving Loyola to pursue a tenure track position at Dominican University. The Biology Department thanks Dr. Zainelli for her dedicated service and wishes her success in her new position.

Congratulations, Service Award Recipients!

Audrey M. Berry,
Administrative Assistant
20 Years of Service
Start Date: 1/21/1987



William J. Wasserman,
Professor
15 Years of Service
Start Date: 8/20/1991



Jerome B. Lucas, Animal Care
Tech
15 Years of Service
Start Date: 6/8/1992



John J. Kelly, Professor
5 Years of Service
Start Date: 7/1/2001



F. Bryan Pickett, Professor
10 Years of Service
Start Date: 8/15/1996

LOYOLA UNIVERSITY CHICAGO



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Submission Guidelines

The newsletter will be used to promote and be devoted to covering the activities, seminars and events; initiatives and developments; faculty, student and staff awards. Creative works by our Departmental members, announcements and profiles will be covered.

The newsletter is circulated within the department and will be made available on the Internet via the Biology website. Our goal is to publish online on a bimonthly basis throughout the year.

Authors/contributors should keep in mind that readers may not specialize in their particular area of work.

Articles vary in length between about 50 and 600 words.

We welcome photographs and images to accompany articles; please provide captions when submitting the photographs/images. Either hard copy or digital formats of the images are acceptable.

Articles may be submitted by any method; however, the preferred transmittal is electronic format via e-mail; bnorto1@luc.edu

The Department of Biology newsletter is prepared and edited by Audrey Berry, Pam Bradley, Brian Norton and Jeff Doering.

Native Chicago Sapling Dedicated on LUC Campus

In a dedication ceremony on April 23, the newest addition to the Lake Shore Campus was revealed: a native Chicago Burr Oak sapling planted outside of Piper Hall. Dr. Roberta Lammers-Campbell of the Biology Department won the sapling while attending a Chicago Wilderness conference in 2006 and decided to donate it to Loyola in the hopes of promoting Chicago natural history and to serve as testament to the university's commitment to environmental awareness.

Notably attendees of the dedication included LUC president Fr. Michael Garanzini, S.J. and Assistant Provost and CUERP Director Nancy Tuchman. Beta Beta Beta Biology Honor Society and the Student Environmental Alliance coordinated the dedication.

Photos (Top) Dr. Roberta Lammers-Campbell (right) looks on as Loyola University President, Fr. Michael Garanzini, S.J.(left) shovels fresh soil over the new oak sapling outside piper hall.

(Bottom) Fr. Garanzini (center) is joined by (from left) Student Environmental Alliance President Laura Bertrold, CUERP director Dr. Nancy Tuchman and Dr. Lammers-Campbell admire the Lake Shore campus's newest addition.

Photos courtesy of Mark Beane.

