

# DEPARTMENT OF BIOLOGY



SCHOOL OF  
ARTS & SCIENCES  
UNIVERSITY of ROCHESTER

Winter Newsletter 2015

## MESSAGE FROM THE CHAIR

Dear Biology Alumni and Friends,



Greetings from Rochester! Here is the department's Winter 2015 newsletter, which provides an update on the latest news and happenings within the department. In addition, several alumni have sent us news on what they are up to, so please be sure to check out that part of the newsletter.

If you haven't gotten in touch with us lately, please do so, as this will contribute to our growing network of UR Biology alumni and friends. Please send your news (professional, personal milestones, travel, etc.) to Brenna Rybak ([brenna.rybak@rochester.edu](mailto:brenna.rybak@rochester.edu)), and include photos, if you like, as they add a nice touch to the stories.

As a reminder, our departmental web site ([www.rochester.edu/College/BIO/index](http://www.rochester.edu/College/BIO/index)) provides the very latest news from the department.

As always, if you're ever in town, please drop in to say hello.

With best wishes,

*John Jaenike  
Professor and Chair  
Department of Biology*

**IN THIS ISSUE:** Biology Department Fall Retreat • Meliora Open House • Community Outreach in Biology  
The Posse Program at the University of Rochester • Faculty Headlines • Alumni Updates

# Biology Department Fall Retreat— Long Acre Farms

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**October 14, 2014**



This year, two department alumni were invited to present talks at the retreat. Dr. Harmit Malik, a member of the Division of Basic sciences at the Fred Hutchinson Cancer Research Center in Seattle and an Investigator of the Howard Hughes Medical Institute was one of the graduate student-invited speakers for the year 2014. Speakers invited by graduate students are typically chosen by popular vote from a pool of student-nominated invitees. During the visit, graduate students have one-on-one meetings with the speakers, and organize a dinner party for the speaker.

This year, Dr. Malik's visit coincided with the Biology department's annual retreat. Dr. Malik was also an alumnus of the Biology department at the University of Rochester. He received his Ph.D. from the University of Rochester under the mentorship of Dr. Thomas Eickbush, where he studied the evolutionary strategies of retrotransposable elements. After his graduate work, Dr. Malik was a post-doc in Steven Henikoff's lab at the Fred Hutchinson Cancer Center, where he studied the evolution of centromeres and centromeric proteins. He has been a faculty member at the Fred Hutchinson Cancer Research Center since 2003.

Dr. Malik studies the causes and consequences of genetic conflicts within (intra-genomic conflict) and between genomes (inter-genomic conflict). From an evolutionary biology perspective, his work focuses on how evolutionary 'arms races' may drive genetic innovations. During his talk at the retreat, Dr. Malik shared his lab's recent work on the evolution of intra-genomic conflict in *Drosophila* as a result of rapidly evolving centromeres and centromeric proteins; and how 'certain' centromeres gain the property to drive and obtain transmission advantage during meiosis. In addition, he also shared his lab's recent discovery of a gene, which causes hybrid breakdown between *D. melanogaster* and *D. simulans* hybrids.

The second speaker at the retreat was Dr. Yali Dou. Dr. Dou received her Ph.D. in Biology in 2000 in the laboratory of Martin Gorovsky. She then completed her postdoctoral training in the laboratory of Dr. Robert Roeder, at The Rockefeller University. In October 2006, Dr. Dou joined the faculty of the Department of Pathology at the University of Michigan where she is currently as an Associate Professor. Dr. Dou's research investigates chromatin-modifying enzymes and their relationship to human diseases. Her recent work has focused on two enzymes: the histone H3 lysine 4 methyltransferase MLL and histone H4 acetyltransferase MOF. In her research talk, Dr. Dou described the characterization of an inhibitor targeting the MLL1 H3K4 methyltransferase activity. This drug is able to specifically inhibit MLL1 activity by blocking complex assembly and specifically blocks proliferation of mixed-lineage leukemia cells. The talk described the potential applications of the compound in basic and translational research.

[Click here to view the Fall Retreat Slideshow \(13:05\)](#)

[Click here to view the Fall Retreat Obstacle Course Slideshow \(6:40\)](#)

[Click here to view the movie the 2nd-year Grads put together for the Fall Retreat \(4:30\)](#)

# Meliora Open House

**October 17, 2014**

As part of the University's Meliora Weekend festivities, the Department of Biology holds an Open House annually, inviting alumni, parents, students, faculty, staff and visitors to learn more about what the department has to offer. A myriad of information is available, from brochures about our undergraduate and graduate programs, the department specimen collection, and old photo albums and emeritus publications. Hors d'oeuvres and refreshments are provided and everyone is encouraged to attend. If you are interested in attending this year and would like more information, please send an email to our Administrator, Ms. Brenna Rybak at [brenna.rybak@rochester.edu](mailto:brenna.rybak@rochester.edu).

[Click here to view the Meliora Open House Slideshow \(1:49\)](#)

[Click here to view the UPBM Poster Session Slideshow \(5:23\)](#)

## Community Outreach in Biology

### **Rochester City School 8th Graders Visit the Biology Department**

Supporting the education of Rochester City School students is a focus of the department's community outreach program. On Monday January 12, the department hosted an 8th grade biology class from School 58 World of Inquiry High School. The goals of the visit were to expose students to hands-on lab experiments but, more importantly, to provide a positive introduction to college life, and instill in them the notion that attending a university like the UR is a very real possibility. The students seemed to enjoy the visit. On the bus back to school, Jordon commented, "They really spoiled us. I had a great time learning science and seeing the university". Stardaijah said, "I think I want to go to the UR now. This campus is beautiful and the professors are so cool!"

Upon arriving around 9 am, the 24 excited and eager students were split into Gold and Blue groups for morning and afternoon labs. After the morning lab, facilitated by Ms. Kristin Kelly, Teaching Lab Manager, the groups were taken on separate tours of the campus by undergraduates Samantha Boerner and Nathaniel



Woodard, followed by a pizza lunch in Wilson Commons. These kids were disciplined, smart, inquisitive and talented, led by a caring and able teacher, Lisa Zeller, who recently earned her Masters in Education from our Warner School of Education.

Many people contributed to the success of the visit. Professor Michael Clark created and taught a lab on the use of DNA gel electrophoresis as a test for human genetic diseases. The students loaded gels and analyzed the results to determine if their “patient” had the mutation responsible for Huntington Disease. Under Professor Bob Minckley, the students learned how to distinguish among a number of beautiful *Drosophila* species currently being studied in Professor John Jaenike’s lab. They practiced using dissecting microscopes, and produced detailed drawings of fly morphology. Graduate student Roxan Stephenson and M.D. Ph.D. student Aisha Siebert assisted the labs. Ms. Jenn Baylark, UPBM Coordinator, and Professor David Goldfarb coordinated the day’s activities. Before departing at 2 pm, the students were excited and happy to get backpacks adorned with the UR logo from the Admissions Office. The visit was a complete success, goals were met, lessons learned by all, and, most importantly, we learned that 8th graders think UR professors are cool!

### ***The Posse Program at the University of Rochester***

In the fall of 2014, the University of Rochester accepted ten Posse Scholars from the Washington, D.C. area as incoming freshman. The “[Posse Program](#)” is one of the most comprehensive and renowned college access and youth leadership development programs in the United States. Students are recruited into the program from high schools that are usually overlooked by traditional college recruitment programs, on the grounds that “Talent is everywhere, but opportunity is not”. Our ten Posse Scholars received a merit-based leadership award for four years of support.

Dr. Terry Platt, Past Professor of Biochemistry & Biophysics, and of Biology, and Faculty Co-Director for the Center for Workshop Education in CETL, was chosen last winter to be their Posse Mentor, supporting them to be successful through their first two years here at the University of Rochester. As a Posse Mentor, Terry meets with the students weekly, both individually and as a group, helps address their concerns about academic, extracurricular, social and career issues, and how to use the University’s resources, both formal and informal, to integrate them into the college community in ways that optimize the effectiveness of their talents and passions.

The University of Rochester has committed to continuing this program for at least five years. The goal is to sustain approximately forty Posse Scholars on campus. Over the twenty-five year history of Posse (the founder, Deborah Bial, received a MacArthur “Genius Grant” in 2007), participation has grown to over 50 colleges and universities, some of which accept 2 or more Possees per year (each from a different city). The college graduation rate for the 5,500 past and current Posse Scholars is an outstanding 90%. Many Posse Scholar graduates occupy positions of local and national prominence in business, education, health care, law, non-profit, and government organizations.

## **FACULTY HEADLINES**

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### **Vera Gorbunova appointed Doris Johns Cherry Professor (11.6.14)**

Congratulations to Professor Vera Gorbunova, who has been appointed the Doris Johns Cherry Professor.

[Read More...](#)

### **Are Male Brains Wired to Ignore Food for Sex? (10.17.14)**

Choosing between two good things can be tough. When animals must decide between feeding and mating, it can get even trickier. In a discovery that might ring true even for some humans, researchers have shown that male brains – at least in nematodes – will suppress the ability to locate food in order to instead focus on finding a mate.

[Read More...](#)

### **Less effective DNA repair process takes over as mice age (09.11.14)**

As we and other vertebrates age, our DNA accumulates mutations and becomes rearranged, which may result in a variety of age-related illnesses, including cancers. Biologists Vera Gorbunova and Andrei Seluanov have now discovered one reason for the increasing DNA damage: the primary repair process begins to fail with increasing age and is replaced by one that is less accurate.

[Read More...](#)

### **Targeting Cells’ Protein-making Machinery May Stop Harmful Bacteria (09.08.14)**

One challenge in killing off harmful bacteria is that many of them develop a resistance to antibiotics. Researchers at the University of

Rochester are targeting the formation of the protein-making machinery in those cells as a possible alternate way to stop the bacteria. And Professor of Biology Gloria Culver has, for the first time, isolated the middle-steps in the process that creates that machinery—called the ribosomes.

[Read More...](#)

#### **Alternate mechanism of species formation picks up support, thanks to a South American ant (08.21.14)**

Christian Rabeling and his team discovered the parasitic *Mycocyclus castrator*, an example of a still-controversial theory known as sympatric speciation.

[Read More...](#)

#### **When temperatures drop, newly-discovered process helps fruit flies cope (07.21.14)**

Rochester biologist Michael Welte and his team made their discovery while studying the internal mechanisms of the egg cell of the fruit fly, known as *Drosophila*. What keeps the assembly line functioning—based on the new research—is a protein called Klar.

[Read More...](#)

#### **Protein Anchors Help Keep Embryonic Development ‘Just Right’ (06.12.14)**

Research from Rochester biologists shows that different types of histone proteins need to exist in specific proportions in order not to damage a fruit fly’s DNA—and that any over-produced histones are kept in cellular storage facilities until they are needed.

[Read More...](#)

## Other news

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#### **Dr. Amanda Larracuente joins the faculty on January 1st!**

Dr. Amanda Larracuente, formerly a postdoc in the lab of Dr. Daven Presgraves, has officially joined the faculty in the Biology Department. [Read more about her research here.](#)

#### **Dr. Daniel McNabney working on important project!**

Dr. Daniel McNabney has been working on an in-depth, collaborative study into the anatomy of human reproduction and development that will be complete sometime around February 15th. He & his wife are excited to welcome a little girl!

#### **Dr. Terry Platt swims to victory!**

On November 2, 2014 in the 9th Annual Masters Swim Meet at RIT (a fund-raiser for the RIT swim team), along with 66 other swimmers from ages 23-87, Dr. Terry Platt swam 5 events. In two of them he set Niagara District (all of western NY) age group records, of :33.70 in the 50 yard butterfly (old record, :37.09 from 2003) and 6:26.02 in the 400 yard individual medley (old record, 7:05.77 from 2000); for the 100 yd butterfly, he missed the District record time of 1:31.53 by a scant 0.06 sec. He was proud to find that his time in the 400 IM turned out to be the 7th fastest time nationally among his age group peers in 2014.

More recently, Terry participated in the “Nickel Splash” meet at University of Buffalo on January 18. He was fortunate to set two more district records in his age group: in the 100 yard butterfly he swam 1:22.59 (old record 1:31.53 set in 2000), and in the 200 yard Individual Medley, his time was 2:55.93 (old record 3:12.62 set in 2006). Congrats, Terry!

## Alumni Updates

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**Jessica Sheu Gruttadauria, '12:** Third year grad student at The Scripps Research Institute ([click here to see more](#))

**Anthony Osinski, '11:** I graduated from UR with a BS in Cell and Developmental Biology in May 2011, and after completing my MPH in Epidemiology and Biostatistics at the Boston University School of Public Health, I accepted a position as an epidemiologist at the Massachusetts Department of Public Health.

**Lauren J. Reynolds, '11:** I thought I'd just drop a quick line to say that ultimately, I left the field of biology (I majored in Neuroscience at UR), to enter the field of law and just passed the PA Bar on Friday. I do miss the sciences and the research, so I try to read about it

when I can. The skills that I developed through the UR Neuro program no doubt were instrumental in getting me to where I am now. I am working at a small general practice firm in Pittsburgh focusing on corporate, tax and litigation work.

**Kristine Wadosky, '09:** I graduated with a BS in Molecular Genetics in 2009 and immediately started my PhD work at University of North Carolina at Chapel Hill in the fall of 2009. I just graduate with my PhD last May and have now accepted a postdoctoral position at Roswell Park Cancer Institute in Buffalo, NY.

**Moriah Heller Nissan, '08:** David Nissan and I (both biochemistry, '08) are still in "bio"-- He is a third year medical resident in psychiatry at Weill Cornell and I am a postdoctoral researcher in cancer biology at Sloan Kettering. We also just welcomed our daughter, Cora, in June. Give our best to the faculty!

**Thomas R. Hall, '96:** I am a 1996 graduate of the U of R and I was also in the College of Arts and Sciences and graduated with my BA in Biology. Professor Jaenike was my Ecology professor my junior year and served as my freshmen advisor. He was one of my favorite professors!



From the fall of 1996 to June of 2001, I served as the AP and Regents Biology teacher at Brighton High School. I created an AP Biology field trip to Mendon Ponds that was based off of a field trip we took with Professor Jaenike to the Kennedy Bog and Mendon Ponds Park. We even sampled mosquito larvae from the pitcher plants! I also got our AP Bio classes involved with the education labs at Strong Hospital where we used to perform our genetics labs each year. One of my favorite memories though, was when I studied in the Department of Dental Research under Dr. Robert Burne. I was a DeKiewet Cup winner and got to fly to Asheville, North Carolina to present my research. It was the first time I had ever flown! Thank you U of R for the incredible opportunity! This was in my junior year and all of my previous course work prepared me for the lab experience.

In 2001, I became an assistant principal at Brighton High School and later moved on to become principal of the French Road Elementary School in 2007, where I oversaw the science curriculum and collaborated with the U of R to bring Science Buddies to our school. In 2008, I earned my doctoral degree from the Warner School of Education. Since 2012, I have been the principal of Brighton High School.

I LOVED my time at the U of R and I have many fond memories of my time in various science classes there. From Dr. Werren, to Dr. Goldfarb, Dr. Ray, Dr. Kool, Dr. Kampmeier, Dr. Eickbush, Dr. Olmsted, Dr. Olek, and of course Dr. Hattman in Bio 110, I truly enjoyed my experience there! Thank you all!



**Christine M. Chruscicki, '90:** I graduated from the UR Class of 1990 with a double major: BA in Biology and BA in Psychology...After graduation, I went to SUNY Buffalo School of Medicine where I received my M.D. degree. I then was accepted to Duke University Medical Center in Durham, North Carolina where I did my internship and completed my Adult Psychiatry Residency and my Child & Adolescent Psychiatry Fellowship.

I am Board-Certified in both Child & Adolescent Psychiatry as well as Board-Certified in Adult Psychiatry and have a private practice in Pittsford, New York with my brother Joseph E. Chruscicki, MD - UR Class of 1992 Biology major and Phi Beta Kappa as well. He is also Board-Certified in Child & Adolescent as well as Adult Psychiatry.

In addition, for the past 2 years, I have been working part-time as the staff Psychiatrist at the UR's University Health Services on the River Campus-right next to Susan B. Anthony dorm. I also have a faculty appointment: Clinical Senior Instructor in Psychiatry, in the School of Medicine and Dentistry. It's nice to be back on campus, and I really enjoying helping the students.

**Gwen Tellegen, '85:** I just wanted to send greetings from San Diego! After graduating from the U of R in 1985, I earned two Master of Science Degrees from the University of Southern California (one in Marine Biology and one in Environmental/Civil Engineering). Today I manage southern California operations for an environmental consulting firm, working on environmental site investigation and remediation of impacted properties, in technical litigation support and assisting clients with environmental regulatory compliance issues. I've used bioremediation to clean up and redevelop brownfield sites, which now have residential and commercial uses. I will be heading back to the U of R for my 30th reunion in the fall of 2015 and look forward to showing the campus to my family at that time.

**Chair**

John Jaenike  
Email: [john.jaenike@rochester.edu](mailto:john.jaenike@rochester.edu)  
Phone: (585) 275-0009

**Administrator**

Brenna Rybak  
Email: [brenna.rybak@rochester.edu](mailto:brenna.rybak@rochester.edu)  
Phone: (585) 275-8837

**Newsletter Committee**

Brenna Rybak (Project Manager)  
Cheeptip Benyajati  
Xin Bi  
Daven Presgraves (Consultant)

*For more information about our department,  
please visit our website at  
[www.rochester.edu/College/BIO/index.php](http://www.rochester.edu/College/BIO/index.php)*

**Department of Biology**

402 Hutchison Hall  
P. O. Box 270211  
Rochester, NY 14627-0211  
Phone: (585) 275-3835  
Fax: (585) 275-2070

[www.rochester.edu/college/bio](http://www.rochester.edu/college/bio)

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