MCB

Department of
Cell and Developmental Biology

GREETINGS FROM THE HEAD

Jie Chen

Dear CDB friends,

Welcome to the first CDB newsletter. The year 2014 was marked by exciting developments in the department. Outstanding work by our faculty and staff has led to major research accomplishments, and our wonderful students have continued to make us all very proud. Some of these achievements are described in this newsletter, as are the stories of two alumni. I hope you will enjoy reading them.

We started year 2014 celebrating Prof. Phil Newmark's renewal as HHMI investigator. Phil's research program has continued to reach new heights. The department was also proud to see the promotion of Prof. Bill Brieher and Prof. Brian Freeman to Associate and Full Professor, respectively, and the naming of Prof. Andy Belmont as Lincoln Professorial Scholar by the College of Liberal Arts and Sciences. Our faculty search in the area of Developmental Biology led to the successful recruitment of Dr. Xin Li from Claude Desplan's Laboratory at New York University. As a new Assistant Professor in the department, Xin brings an exciting program of investigating molecular mechanisms of neural diversity using the *Drosophila* medulla as a model system.

Despite the continued abysmal funding climate in the nation, our faculty have succeeded in maintaining the highest caliber research programs. Publications in Nature, Nature Communications, Current Biology, Journal of Cell Biology, Cell Reports, Proceedings of the National Academy of Sciences, etc., reported high-impact discoveries ranging from new insights into tissue and organism regenerative potential to the molecular actions of the Fragile X Syndrome protein. CDB faculty's innovative and productive collaborations across campus are pushing the frontiers of groundbreaking research. For instance, as one of the first recipients of the National Science Foundation's BRAIN initiative awards, Prof. Martha Gillette is leading a team of neuroscientists, engineers, and chemists from across campus to develop and employ innovative technologies to analyze brain network dynamics and change in real time. Prof. Lisa Stubbs, leader of the Gene Networks in Neural & Developmental Plasticity theme at the Institute for Genomic Biology, heads a multidisciplinary effort funded by the Simons Foundation to search for cross-species principles underlying animal social behaviors.

Looking ahead, we are committed to maintaining competitive research programs that will withstand fiscal difficulties anticipated from both the state legislature and federal funding agencies. Recruiting and, just as important, retaining outstanding faculty has been an important goal for the department. With the ever-increasing sizes of start-up and retention packages, and the ever-decreasing level of funding from the university, the department needs the support of our alumni and friends more than ever. Together, we will keep CDB strong and innovative. •

SPRING 2015 NEWSLETTER

IN THIS ISSUE

ABOUT THE NEWSLETTER

The Cell and Developmental Biology Newsletter is an annual publication of the Department of Cell and Developmental Biology in the School of Molecular and Cellular Biology at the University of Illinois, Urbana-Champaign. The newsletter is written by CDB faculty and friends, and is designed by MCB Communications.

Our alumni are important to us. We want to hear from you. Send us your latest news, and we'll include it in the next newsletter's CDB Family News. We also welcome articles and suggestions for future newsletters. Here's how to reach us:

Cell & Developmental Biology
University of Illinois at Urbana-Champaign
B107 CLSL, MC-123
601 South Goodwin Avenue
Urbana, IL 61801
email: cdb-news@mcb.illinois.edu

ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA-CHAMPAIGN

FLATWORM CHAMPIONS

NEWMARK LAB STUDIES FLATWORMS WITH INCREDIBLE POWERS OF REGENERATION

by Doug Peterson

The sun was just setting in Barcelona when biologist Phil Newmark attached pieces of liver onto several hooks and then placed the bait in a deserted water fountain off of the beaten path near the Miró Foundation. The next morning, the liver teemed with tiny non-parasitic flatworms known as planarians—exactly what Newmark and fellow biologist Alejandro Sanchez Alvarado were fishing for in Barcelona.

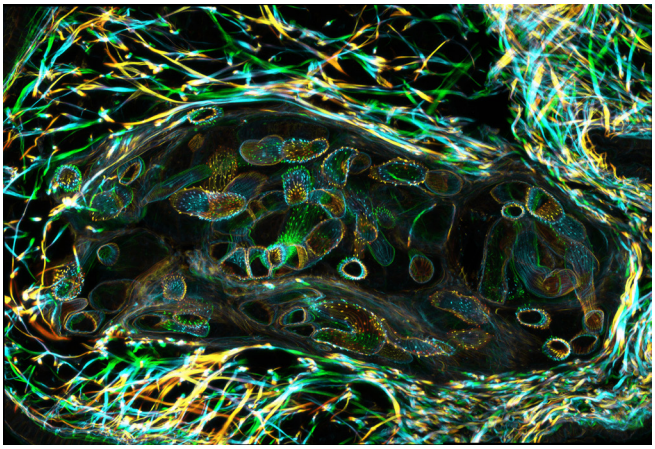
Newmark brought the planarians back to the Sanchez Alvarado lab at the Carnegie Institution in Baltimore, where he was doing postdoctoral work at the time in 1998. Today, hundreds of thousands of descendants of a single planarian, brought from Barcelona, can be found in over a dozen labs across North America. Among those labs is Newmark's own laboratory at the University of Illinois, one of the leading research groups working on planarians.

Planarians have become an important research animal, known for their incredible ability to regenerate lost body parts. Newts and salamanders can regenerate limbs, starfish can regrow arms, and zebrafish can regrow fins and portions of the heart, but planarians are masters of regeneration. They can recreate an entirely new organism from a tiny slice—as small as 1/279th of their body.

"They're among the champions of those organisms that can regenerate from such small pieces of their bodies," says Newmark, a Professor of Cell and Developmental Biology and an investigator of the Howard Hughes Medical Institute.

Because of this unique ability, planarians make ideal laboratory animals for studying basic biological processes, such as how adult stem cells are orchestrated to create an organism's many body parts.

"Planarians contain a population of adult stem cells throughout their lives. When you cut off a piece of a planarian, these stem cells can give rise to everything that was there before," Newmark says. "They have to rebuild an entire brain, rewire the light-sensing and chemical-sensing organs, and remake the gut. We're interested in how that happens."



Tissue section of a developing *Schistosoma mansoni* larva (center) living inside the muscular tentacle of its snail host (periphery). The colors indicate different depths within the tissue. Image credit: Bo Wang, winner of the 2013 FASEB BioArt Competition.

Scientists have long been fascinated with planarians, going back to the 18th century, but technological limitations always stymied attempts to understand how they mastered such feats of regeneration. With the biotech revolution and the sequencing of the planarian genome, there has been a resurgence of interest in them, as Newmark and others try to determine what genes are required for different parts of the regeneration process.

In addition to studying how planarian stem cells turn into cells that make up the gut and nervous system, the team in Newmark's lab is particularly interested in how planarians recreate germ cells—the cells that develop into sperm or eggs.

"We want to know if the way they do this is similar to what happens in mammals, or whether planarians have another way to make germ cells," Newmark says.

In addition to teasing out the genetic processes behind the regeneration of planarians, Newmark's lab studies other important flatworms, including schistosomes. These parasitic flatworms cause schistosomiasis, one of the major neglected tropical diseases. This disease affects over 200 million people, mostly in Africa, but also in parts of Asia and Latin America.

When people come in contact with tainted water, these tiny flatworms burrow through the skin and then enter the vasculature. After male and female worms find each other inside their human host, they pair, and then the female produces hundreds to thousands of eggs every day. Many of the eggs are excreted, but about half can remain in the body and become embedded in host tissues (for example, the liver or bladder, depending upon the species). These eggs create a massive inflammatory response, leading to chronic tissue damage, and children afflicted with schistosomiasis fail to thrive.

According to Newmark, schistosome parasites also have an uncanny ability to survive for a long time—as many as 30 years—inside a person's body. One drug on the market targets the parasite, but there is great need for more than just one weapon against this disease. Therefore, their lab is trying to better understand the infection process and ways to kill the parasite.

For instance, they have evidence suggesting that the secret to the long survival of schistosomes is stem cells that allow the parasite to replenish tissues within the hostile environment of the human body—much the way that planarians use stem cells to regenerate. This finding could lead to ways to target the parasite's biology.

The lab is also studying how the schistosomes penetrate the skin, for as he points out, "You can't think of prevention until you have a better understanding of the process of infection."

One of the newest areas of research in the Newmark lab focuses on another parasite—the infamous tapeworm, a type of flatworm that can grow dozens of feet long in the human gut. A tapeworm builds new segments on its ever-lengthening body by using stem cells, which again ties to the lab's research on planarians and their use of stem cells.

When Newmark was a postdoctoral fellow in Barcelona during the 1990s, he was drawn to research on planarians because only a handful of labs were studying them at the time. It was an unexplored area.

"Back then, regeneration in these organisms was an unsolved biological question that hadn't been approached with molecular tools," Newmark says. "That's the exciting thing about being a biologist now. We have the technology to look at creatures that would have been nearly impossible to study before." •

Professor Newmark has trained numerous young scientists. Here is a sample of the Newmark lab alumni.

Undergraduates

Tyler Bold

Graduated with High Distinction in Cell and Structural Biology (May 2004); Cell and Structural Biology Award for Distinguished Research; M.D./Ph.D, NYU School of Medicine.

Current position: Resident Physician in Internal Medicine at Brigham and Women's Hospital, Boston, MA

Nina Hosmane

Graduated with Highest Distinction in MCB (Honors) (May 2011); Procter & Gamble Co. Award for Undergraduate Student Research; Award for Best Senior Thesis, School of Molecular and Cellular Biology; Departmental Award for Outstanding Research in Cell Biology.

Current position: graduate student, Johns Hopkins University School of Medicine

Bram Lambrus

Graduated with Highest Distinction in Biochemistry (May 2011); Merck Index Award for Outstanding Senior; Sidebottom Award for Outstanding Thesis.

Current position: graduate student (NSF Graduate Research Fellowship), Johns Hopkins University School of Medicine

Marla Tharp

Graduated with Highest Distinction in MCB (May 2014); Procter & Gamble Co. Award for Undergraduate Student Research; Outstanding Undergraduate Research Achievement Award, CDB.

Current position: graduate student, Johns Hopkins University

Graduate students

Tingxia Guo, PhD in Cell and Developmental Biology (2007). Iacocca Family Postdoctoral Fellow and JDRF Postdoctoral Fellow, laboratory of Matthias Hebrok, Diabetes Center, UCSF.

Current position: Scientist II, Fluidigm Corp., San Francisco, CA

Yuying Wang, PhD in Cell and Developmental Biology (2010).

Current position: Postdoctoral Fellow, laboratory of Bruce Appel, University of Colorado School of Medicine

Claire Miller, PhD in Neuroscience (2011); MD, University of Illinois.

Current position: Resident in Child Neurology, New York University School of Medicine

Joel Stary, PhD in Neuroscience (2012); MD, University of Illinois.

Current position: Resident in Neurosurgery at Virginia Commonwealth University

Tracy Chong, PhD in Cell and Developmental Biology (2013).

Current position: Research Specialist, Howard Hughes Medical Institute

Post-doctorates

Francesc Cebrià (2002- 2005). Fulbright Scholar; EMBO Long-Term Fellowship.

Current position: Associate Professor, Department of Genetics, University of Barcelona

Ricardo Zayas (2003-2007). Fellow of the Jane Coffin Childs Memorial Fund for Medical Research.

Current position: Associate Professor, Department of Biology, San Diego State University

James Sikes (2009-2012). Ruth L. Kirschstein National Research Service Award (NIH).

Current position: Assistant Professor, Department of Biology, University of San Francisco

Labib Rouhana (2009-2013). NSF Postdoctoral Fellowship; National Academies Ford Foundation Postdoctoral Fellowship.

Current position: Assistant Professor, Department of Biology, Wright State University

Ryan King (2008-2014).

Current position: Assistant Professor, Department of Biology, St. Norbert College

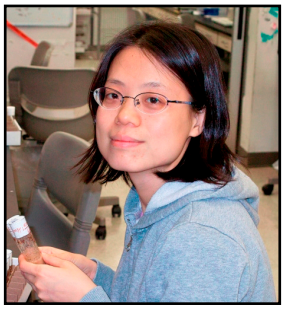
Jim Collins (2008-2014). Ruth L. Kirschstein National Research Service Award (NIH).

Current position: Assistant Professor, Department of Pharmacology, UT Southwestern

2014 Newmark Lab Holiday Party

First row (left to right): Caitlin Dingwall, Ayana Jamal, P. Newmark, Amir Saberi. Second row: Jayhun Lee, Jiarong Gao, Melanie Issigonis, Alyshia Scholl, Tracy Chong, Umair Khan, Bo Wang. Third row: Tania Rozario, Trudy Preston, Dave Forsthoefel, Rachel Roberts-Galbraith.

WELCOME DR. XIN LI



Dr. Xin Li joined the faculty of the Department of Cell and Developmental Biology as an assistant professor in November 2014.

Dr. Li received her PhD in Molecular Genetics and Developmental Biology from Northwestern University, Evanston, IL, and completed her postdoctoral studies at New York University. Xin Li is excited to join the Department of CDB and set up her new lab. Her current research is focused on investigating the mechanism of temporal patterning of neural progenitors to generate neural diversity.

How the remarkable diversity of neurons is generated from a small group of neural progenitors is a key question in developmental neurobiology. Studies in vertebrates and *Drosophila* have shown that neural progenitors are temporally patterned to generate different neural types in a defined order.

During her postdoctoral research with Dr. Claude Desplan, Xin Li and her colleagues identified a temporal cascade of transcription factors that are sequentially expressed in neural progenitors of the Drosophila medulla, the first color-information processing center of the brain. This temporal sequence of transcription factors enable the neural progenitors to generate different neuron types at different temporal stages as they age.

In the future, Li's laboratory will expand on this discovery and pursue three directions in temporal patterning of neural progenitors. The first is to compare the transcriptome profiles of neural progenitors at different temporal stages. The second is to determine the molecular clock that precisely times the sequential transitions between different temporal stages. The third is to study how the effect of the temporal sequence expressed in neural progenitors is 'memorized' by the progeny to adopt different fates.

By combining both molecular genetic and genomic approaches, Dr. Li hopes that her lab's research will help us better understand the normal neural developmental process to generate neural diversity. •

STUDY: DIFFERENT SPECIES SHARE A 'GENETIC TOOLKIT' FOR BEHAVIORAL TRAITS

Professor Lisa Stubbs and colleagues found that distantly related organisms share key genetic mechanisms that help them respond to threats.

by Diana Yates, University of Illinois News Bureau

From left, Bioengineering Professor Jian Ma, Cell and Developmental Biology Professor Lisa Stubbs, Entomology Professor and Institute for Genomic Biology Director Gene Robinson, Animal Biology Professor Alison Bell
Photo by L. Brian Stauffer

The house mouse, stickleback fish and honey bee appear to have little in common, but at the genetic level these creatures respond in strikingly similar ways to danger, researchers report. When any of these animals confronts an intruder, the researchers found, many of the same genes and brain gene networks gear up or down in response.

This discovery, reported in the Proceedings of the National Academy of Sciences, suggests that distantly related organisms share some key genetic mechanisms that help them respond to threats, said University of Illinois cell and developmental biology professor Lisa Stubbs, who led the research with animal biology professor Alison Bell and entomology professor and Institute for Genomic Biology director Gene Robinson. Bell and Stubbs also are IGB faculty.

"We knew that a variety of animals share genes for some common physical traits. Now it appears that different organisms share a 'genetic toolkit' for behavioral traits, as well," Stubbs said.

The team used comparative genomics to look at changes in brain gene expression in the house mouse (*Mus musculus*), stickleback fish (*Gasterosteus aculeatus*) and honey bee (*Apis mellifera*) in response to intrusion by a member the same species.

"One of the striking findings is that elements of the brain gene-expression response to a territorial intrusion were common to all three species, despite vast differences in brain anatomy among the three," Bell said. "This is meaningful because it suggests that molecular similarities run deeper than brain structural similarities."

All three species saw changes in the expression of genes that regulate hormones and neurotransmitters that are known to influence behavior. Other shared responses involved genes that contribute to brain developmental processes; metabolic genes; genes related to muscle contraction and blood supply; and genes associated with the formation of synapses, the growth of neurons and the differentiation of glial brain cells.

"To find common sets of activated genes, in species that evolved their behavioral responses to intruders hundreds of millions of years apart from each other, gives hope that scientists will be able to make use of comparative genomics to better understand how the behaviors of different species relate to each other, and to ourselves," Robinson said.

The Simons Foundation supported this research. •

STRONG ILLINOIS FOUNDATION: ALUMN STEVE ROGERS

by Deb Aronson

Steve Rogers and family

After completing college at Purdue University, Steve Rogers, PhD '00, knew he wanted to go to graduate school in cell biology. But where would the Rochester, NY-native go?

"I applied to lots of programs, but I was very impressed by the diversity of the [CDB] department and the quality of the people, even though at the time it was still a very young department," he said.

Rogers, who had offers from several other programs, chose CDB and never looked back. He has been on the faculty at the University of North Carolina, Chapel Hill, for the last decade.

At Illinois, Professor Vladimir (Volodya) Gelfand was doing work with microtubules that interested Rogers.

"Volodya was looking at microtubule-based motors," says Rogers, associate professor of biology. "He was doing some really exciting things in the lab, so I joined him."

While a graduate student, Rogers also was the manager of the confocal and light microscopes in the Imaging Technology Group at the Beckman Institute. In addition, he used microscopy intensively in his thesis research, which involved watching motor proteins moving organelles around using reconstituted assays.

"I use a lot of microscopy in the work I do because I'm a very visual person, that's just the way my brain works," says Rogers.

Rogers has very fond memories of Urbana-Champaign, though his main memories are of working night and day.

"My overall training with imaging and with cell biology at Illinois certainly laid the foundation for my future work," he says.

He also made lifelong friends here.

"Working in the lab – that was my thing," he says of his years in Urbana-Champaign. And he loved it. "My circle of friends was made of other graduate students, some of whom have become my best friends. My most valued friendships come from my time at Illinois."

Rogers has been working on microtubules since he arrived at Illinois, and as techniques have been developed — some that he himself had a hand in — he's been able to contribute more and more to understanding how they function.

For example, as a post-doc in Ron Vale's lab at University of California, San Francisco, Rogers developed "a prep to get cells to attach as a flat layer on a cover slip which made them amenable to time lapse photography." Using GFP tags, Rogers was then able to observe the dynamics of the cytoskeleton.

"Up until then, nobody had really done that," says Rogers.

In addition, Rogers says, flies are very susceptible to RNAi, so he could easily inactivate genes that he wanted to understand the role of. That combination of new techniques and old ones enabled him to advance the field.

His work now is expanding to include, not only microtubules function, but also what controls microtubules.

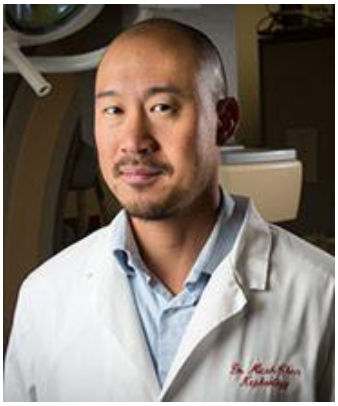
"We are looking at accessory proteins that regulate microtubule dynamics, which is a pretty wide-open field right now," says Rogers. "The really useful thing is, now we have a model system (*Drosophila*) where we can ask questions about how things work at the level of cells and combine that with the preexisting body of knowledge of the fly as model system. That means we can begin to ask questions about how things function, not only at the level of the cell, but also how the molecules participate in development of the organism.

"There are not many fields where you can have a foot in both cell biology and the developmental biology realm," he says.

Being exposed to cutting-edge imaging technology, practicing basic bench science, and experiencing nose-to-the-grindstone hard work at Illinois, helped lay a deep and strong foundation for Rogers's success. Given that foundation, as well as his deep-rooted passion, Rogers will continue to contribute great advances in his field. •

SWEET SUCCESS: ALUMN MICAH CHAN

by Deb Aronson



Micah Chan came to Illinois as an undergraduate with a dream of being a doctor, and he has realized that dream. As a national nephrology expert, Chan has been a leader in advocating for peritoneal dialysis (PD), a technique that uses the small blood vessels in the peritoneum to filter toxins from the blood, rather than using a dialysis machine.

In PD, sugar-rich fluid is infused into the belly through a catheter. That fluid pulls toxins from the blood via diffusion. The process runs daily while the patient sleeps, allowing for more regular dialysis and resulting in "higher quality of life," says Chan.

Chan studied cell and developmental biology (formerly called Cell and Structural Biology, or CSB) because he thought it might help him stand out when he applied to medical schools. Chan also liked the practical aspects of anatomy lab, microbiology and immunology, which many medical students don't get as undergraduates.

"I really gained independence and maturity at Illinois and at the same time I had great mentors who really guided me throughout," he says. "Being a relatively small group of students in the major, the teacher-student ratio was smaller, so you had a more personal touch."

After graduation however, it looked as if Chan's dream of becoming a doctor would falter. The 1990s were an extremely competitive time for medical school candidates and his first application efforts resulted in no offers. Chan did not give up. After working for a few years and earning a master's in public health (MPH) program at San Jose State University, he was accepted at St. Georges Medical College in Grenada. It was not, perhaps, the most prestigious medical school, but it is vastly underappreciated, he says. Chan admired his classmates, many of whom had a wide variety of experiences, like himself, "not just your typical straight A students," he said.

From there Chan consistently excelled, matching at the Medical College of Wisconsin, becoming Chief Resident out of 120 residents, then moving on to the University of Wisconsin, Madison, where he had two years of nephrology training and one of interventional training. Today he is the Clinical Chief of Nephrology, Director of Home Dialysis and Associate Professor at the University of Wisconsin School of Medicine and Public Health.

Chan's interest in nephrology was sparked by his CSB physiology classes. He became intrigued by how kidneys, organs the size of a fist, not only clear toxins from the blood but also maintain the acid/base balance critical to the homeostasis of all organ systems, make hormones that make blood and metabolize vitamin D, critical to bone health.

"The kidney has so many different functions that most people don't know about," says Chan.

Chan says University of Wisconsin Hospitals and Clinics is one of only a handful of places that have interventional nephrology, which means he surgically inserts ports, long-term catheters, and catheters for peritoneal dialysis, as well as angioplasties and stenting of arteries and veins when needed for hemodialysis.

"Very few in academics do this, so I'm kind of unique," he says.

His support of peritoneal dialysis at Wisconsin means that, instead of having 8 percent of the patient population on PD, which is typical, more than 25 percent of their dialysis patients are on PD.

Chan's success is all the more sweet given his parents' struggles. Chan's parents met while fleeing Mao Zedong's repressive and bloody regime. His father, the eldest son of a colonel in Chiang Kai-shek's army, arrived in the U.S. in 1960 with $40 to his name, coming later to Illinois for his doctorate in microbiology. Chan's mother, who came from a family of scholars, also had to flee China. The two married at Illinois.

Chan, who graduated in 1992, has his own fond memories of being a student at Illinois, from cheering for Lou Henson's Flying Illini, to meeting his future wife and making lifelong friends, such as Newton Kwan and Tom Lotseng, within the CSB department.

Having realized his dream, Chan's drive has not diminished. That is lucky, because demand for Chan's expertise will only grow. Currently 27 million Americans have chronic kidney disease and that number is increasing. With Chan's vision and expertise in PD and vascular access, he'll be there to help as many patients as he can, fulfilling his lifelong dream of being a medical doctor. •

CDB FACULTY NEWS 2013 – 2014

Professor Andrew Belmont

Prof. Belmont was named Lincoln Professorial Scholar in 2014 by the College of Liberal Arts and Sciences, in recognition of his outstanding research accomplishments as well as excellence in teaching and service. The Belmont laboratory has pioneered approaches that allow visualization of chromosome dynamics in live cells, and has uncovered novel insights into chromatin folding and its biological impact. Prof. Belmont's work has been supported by the National Institutes of Health, National Science Foundation, and Human Frontier Science Program.

Professor Bill Brieher

Prof. Brieher was promoted to Associate Professor with tenure in August 2014. He was selected by the College of Liberal Arts and Sciences as a 2014 Helen Corley Petit Scholar to recognize his exceptional achievements at the time of tenure. Prof. Brieher's laboratory studies how cells organize actin cytoskeleton to control cell shape, cell motility, and morphogenesis. Prof. Brieher's research has been supported by the National Institutes of Health, the American Heart Association, and a Basil O'Connor Award from the March of Dimes Foundation.

Professor Brian Freeman

Prof. Freeman was promoted to Professor in August 2014. A recipient of the Friedrich Wilhelm Bessel Research Award by the Alexander von Humboldt Foundation, Prof. Freeman investigates the regulation of fundamental nuclear processes, such as transcription and chromatin remodeling, with a focus on molecular chaperones. His research is supported by the National Institutes of Health.

Professor Phillip Newmark

Prof. Newmark was elected a fellow of the American Association for the Advancement of Science (AAAS) in 2014, for his contributions in the field of Developmental Biology, with particular emphasis on regeneration and germ cell development. The Newmark lab has been funded by the National Institutes of Health, the National Science Foundation, and the Howard Hughes Medical Institute.

Professor Kannanganattu Prasanth

Prof. K. Prasanth was promoted to Associate Professor with tenure in August 2013. His research is focused on understanding the functions and mechanisms of long non-protein coding RNAs (lncRNAs) in regulating fundamental cellular processes and their relevance to human diseases including cancer. Prof. Prasanth's research is supported by the National Institutes of Health and the American Cancer Society.

Professor Supriya Prasanth

Prof. S. Prasanth was promoted to Associate Professor with tenure in August 2013. The long-term goal of the Prasanth laboratory is to understand how DNA replication and chromatin organization are coordinated to control cell cycle progression in mammalian cells. Prof. Prasanth is a recipient of the National Science Foundation CAREER award, and her research is also supported by the National Institutes of Health.

RECIPIENTS OF PHD IN CDB 2013 - 2014

Tracy Pei Mei Chong, May 2013

Thesis title: "Characterization of the Hermaphroditic Reproductive System and Sexual Development in the Planarian *Schmidtea Mediterranea*"

Current position: Research Specialist, Howard Hughes Medical Institute

Jonathan Rhine, May 2013

Thesis title: "Pat-12, An Atypical Pat Protein Involved in Fibrous Organelles in *C. Elegans*"

Current position: Resident, Southern Illinois University School of Medicine

Sara Cook, Dec 2013

Thesis title: "Molecular Signaling Programs Underlying Neutrophil Polarity and Chemotaxis"

Current position: Medical Scholars student, University of Illinois College of Medicine

Stephanie Tsang Mui Chung, Dec 2014

Thesis title: "Sgk196 Controls Stem Cell Fates by Promoting the Degradation of Tgfß Family Receptors"

Current position: Postdoctoral fellow, Department of Pharmaceutical Sciences, University of Hawaii at Hilo, Hawaii

Frank Echtenkamp, Dec 2014

Thesis title: "Characterization of the p23 Interaction Network"

Current position: TUM University Foundation Fellow, postdoctoral, Technishche Universität München, Germany

Yijie Geng, Dec 2014

Thesis title: "A Chemical Biology Study of Human Embryonic Stem Cell Pluripotency and Differentiation"

Nidhi Khanna, Dec 2014

Thesis title: "Molecular Mechanisms of Mammalian Cell Survival and Differentiation"

Current position: Postdoctoral fellow, Biology Group, Wellspring Biosciences, San Diego, CA

Nimish Khanna, Dec 2014

Thesis title: "Mechanisms and Functional Significance of Nuclear Compartmentalization"

Current position: Postdoctoral fellow, Department of Biological Sciences, University of California, San Diego, CA

Cell & Developmental Biology
University of Illinois at Urbana-Champaign

B107 CLSL, MC-123
601 South Goodwin Avenue
Urbana, Illinois 61801

GRADUATE FELLOWSHIP FUND

Our graduate program is critical to the research enterprise as well as the educational mission of the department, the success of which relies on the excellence and dedication of the faculty, and financial support of students on research assistantships. The department is working to endow the first Graduate Fellowship Fund to provide research assistantships to the most promising graduate students, which will not only help us recruit and nurture the best and brightest, but also boost faculty research programs against the severe shortage of federal research funding. Our goal is to raise $150,000 in the next few years in order to support fellowships on an annual basis. We hope that our alumni and friends will help us reach this goal and contribute to enhancing our graduate program. Your donation of any size will be greatly appreciated.

I would like to make the following contribution to CDB

$_____ Cell and Developmental Biology Graduate Student Fellowship Fund (341354)

Name / Spouse / Partner name if a joint gift: _____

Email Address: _____

☐ My check is enclosed, payable to the **University of Illinois Foundation**

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