

MCB ALUMNI NEWSLETTER

Greetings Alumni!!

Volume 1, Issue 1



We are excited to be publishing our first issue of MCB Alumni News! We hope that this newsletter will remind you of friends and old acquaintances, as well as keep you up to date on what's new at MCB and Ohio University. I especially would like to thank Ahmed Faik and Jessica Castle who did all the work to get this newsletter published.

2006 was a busy year for the MCB graduate program. The MCB office has undergone an important makeover this year. Because of budget cuts affecting the entire University, MCB is partnering with Biological Sciences office staff. Susan Svendsen is now in charge of budget and accounting, Angie Nilsen is responsible for graduate affairs and Linda Wise helps with purchasing. Two new faculty joined the program (our faculty now numbers 43 members) - Doug Goetz (Chemical and Biomolecular Engineering) and Shawn Chen (Biological Sciences), these additions signal a broadening of our interdisciplinary programs to include the College of Engineering. The MCB graduate program is involved in efforts at Ohio University at developing a bioinformatics infrastructure and curriculum. Dr. Lonnie Welch (School of Electrical Engineering and Computer Science) is heading this effort. The bioinformatics effort was jump started this year by NSF funding to Sarah Wyatt for the creation of genomics facility at Ohio University (see pg. 3 inside). The MCB Program was successful in obtaining funding for a real time PCR instrument through House Bill money, which will be an integral part of the genomics facility.

Page 2-3
New
Faculty &
Staff

Page 3-4
New
Students

Page 5
Recent
Graduates

Page 6
Funds and
Awards

Page 7
MCB Fall
Retreat

Page 8
Alumni
News

Nine new students were admitted to the program this year: Mansi Arora, Mohor Chatterjee, Shuhua Du, Elahu Gosney, Betsy Justus, Yan Liang, Wei Liu and Yi Liu, and Carolina Sempertegui. You will find brief bios of these excellent students beginning on pg. 3 of the newsletter. Several students graduated as well, some of which have described their thesis research beginning on pg. 5 of the newsletter. We offer congratulations to these fine students, although it is always difficult to say goodbye. I think that you will agree that the program is still committed to providing the very best training experience for its students.

The MCB Program fall retreat was held October 6-7 at Hocking Hills State Park. It was a successful outing for the many students, faculty and alumni that attended. We were excited to begin a new tradition associated with the retreat - that is to honor one of our alumni as outstanding MCB graduate. This year that honor was bestowed upon Dr Xinzhong Wang ('93). The fall retreat is described in greater detail beginning on pg. 7 of the newsletter. The next retreat will be held in fall '08, so start planning your visit to Athens now!

I hope you will enjoy reading the latest news about *your* MCB graduate program. Please feel free to contact me at any time. In addition, don't be

shy - send us some information about yourself, your "old" friends at OU would greatly appreciate hearing from you! We wish you have a great year of the pig!



Bob Colvin
March 2007

New Faculty/Staff

Molecular and Cellular Biology



Dr. Doug Goetz

BS Chemistry; Purdue
 MS Chemical Engineering; Purdue
 Engineer at Eli Lilly ~2 years
 PhD Chemical Engineering; Cornell
 Post-doc Pathology; Harvard Medical School and Brigham and Women's Hospital
 Assistant Professor Biomedical Engineering; Univ. of Memphis
 Professor, Chemical and Biomolecular Engineering; Ohio University
 Our laboratory studies the adhesion of inert particles and leukocytes to the vascular endothelium. We pursue these studies to achieve a fundamental understanding of various physiological and pathological processes and to develop novel therapies for the treatment of disease. Our work has three major thrusts: the first seeks to further the understanding of the biophysics of receptor-ligand mediated adhesion; the second seeks to advance vascular targeted drug delivery by exploring the interactions of drug carriers with the vascular endothelium; and the final area seeks to identify and characterize small molecule inhibitors of pathological inflammation.



Dr. Shawn Chen

Dr. Shawn Chen joined the MCB program and the Department of Biological Sciences as an Assistant Professor at the beginning of 2007. Dr. Chen started his graduate study in University of Maryland and obtained his Ph.D. in biochemistry from Virginia Commonwealth University in 2000. He then went on to work in a biotech company, Isis Pharmaceuticals, in San Diego, as a molecular microbiologist for four years. He decided to come back to academia where he finished a postdoctoral fellowship at the Scripps Research Institute in the laboratory of Professor Peter Schultz. Dr. Chen's research experience fits into the core of MCB program and he is setting up his lab to address questions in the interdisciplinary field of Biology and Chemistry. Currently, his research interests are in non-coding RNAs, which are taking the center stage in the post-genomic era. He is investigating the biogenesis and functions of ncRNAs and the mechanisms of RNA-protein, RNA-ligand interactions. His group is set to discover and develop RNA related molecular sciences in pathogens, industrial microorganisms and cancer cells using biochemical, molecular, informatic and genetic approaches.



Dr. Vijay Nadella

I joined the OU faculty last fall as the Director for the Genomics facility. I received my Masters in Molecular and Cellular Biology from Ohio University in 2003. I am very excited to be back to OU to manage this facility and believe that the newly formed Genomics facility will enhance research and teaching at Ohio University.

Angie Nilsen



I graduated from OU with a degree in Modern Languages, and have done a lot of traveling. I lived in Miami, Florida for several years after graduating, then returned to the Athens area. I've worked with the university for ten years, the last five of which have been with the Department of Biological Sciences as Graduate Secretary. I took over as administrative assistant for the MCB program when the former administrative assistant, Sarah Savage, retired last July. I now work half-time for MCB, and half-time with Biological Sciences. I particularly enjoy working with graduate students, and am happy to have the opportunity to do that in both my positions.

New Genomics Facility

The Ohio University Genomics Facility was created to enhance the research productivity of the researchers on campus and outside the community. The facility is equipped with the state-of-art instruments for DNA sequencing, microsatellite analysis, AFLP, SNP screening, DNA microarray scanner, quantitative PCR machine and other equipment to evaluate the DNA, RNA and protein integrity. The personnel at the facility also provide training and help with the experimental design. The facility also has dedicated computer workstations and special bioinformatics needs including customized programs for researchers can also be addressed here at the OU Genomics Facility in conjunction with the Bioinformatics group.

New Students



Mansi Arora

I obtained a master's degree in Biochemistry from the Maharaja Sayajirao University of Baroda in India. I joined the MCB program at Ohio University in Fall 2006. I joined Dr. Tomohiko Sugiyama's lab in winter 2007. The lab is interested in understanding the biochemical mechanisms of DNA recombination which is a process crucial for meiosis and in repair of damaged DNA. The aim of my project is to understand the interactions between various proteins taking part in eukaryotic recombination process, for eg Rad52, Rad51 and RPA.



Mohor Chatterjee

I am Mohor Chatterjee from India. I joined the MCB PhD program of Ohio University in Fall 2006. My home department is Environmental and Plant Biology (PBIO) and I am in Dr. Ahmed Faik's lab. I did my Bachelors in Botany and my Masters in Biochemistry from University of Calcutta in India. I am currently looking into understanding Arabinoglucuronoxylan (AGX) biosynthesis and their importance in wheat development. I am specifically focusing on glucuronosyltransferase that catalyzes the addition of D-glucuronic acid residues into the β -(1,4) xylan backbone of AGX. I really enjoy working in this project and lab. I hope to continue my future work in the PhD program in this area and try to solve some of the puzzles related to plant cell wall biosynthesis with my work.



Shuhua Du

I studied in Sichuan University in China before I came to OU in August, 2006. I enjoyed my four years' study as a biological science major back in Sichuan Univ. And now I am just at the beginning of my graduate study in Dr. Susan Evans's lab.



Elahu Gosney

I grew up in Athens, and graduated from OU with a B.S. in Biochemistry in 2003. After graduation, I was hired as a lab technician at Edison Biotechnology Institute in the lab of Dr. John Kopchick. In 2006, I started the MCB program while continuing my work as a lab tech. My work has focused on genomics studies of aging, diabetes and obesity.

Betsy Justus



MS, Molecular Biology and Biotechnology, Indian Agricultural Research Institute, New Delhi, India

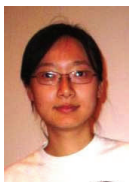
BS, Agriculture, Kerala Agricultural University, India

I joined the Wyatt lab and Department of Environmental and Plant Biology in the Fall of 2006 and is pursuing a Ph.D. in the Molecular and Cell Biology Program at Ohio University. I am currently getting up to speed and will contribute to the labs pursuit of the molecular components of gravitropic signal transduction using gps mutants, specifically gps2.

Yan Liang



My name is Yan Liang. I graduated from South China Agriculture University before I come to OU. Showing in the picture aside is the natural scenery of west China. Later, I hope I will have the chance to show you the delicate scenery of plant cell wall proteins through my current study in the biosynthesis of Hydroxyproline-rich Glycoprotein.



Wei Liu

My name is Wei Liu and I am from China. I got my B.S. degree in Sichuan University. Now I am a new student in MCB program. My advisor is Dr Shi-yong Wu. I am mainly interested in the signal pathway of protein translation.



Yi Liu

I am Yi Liu, a PhD student in Molecular Cellular Program. I graduated from Sichuan University in China and joined our MCB program in Fall, 2006. Right now I am working in Dr.Xiaozhuo Chen's lab at Edison Biotechnology Institute (EBI), in which the research mainly focus on the mechanism of some novel compounds with the mimic effect of insulin as well as some specific properties, like inhibition of adipogenesis and killing some certain kinds of cancer cells. With these effects, the compounds have the potential to be drugs that can be used to treat diabetes without worrying about putting on too much weight, which is better than insulin. I am enjoying my research in this area now, and I believe the result of our research will benefit a lot of diabetic patients in future.



Carolina Sempertegui

My name is Carolina Sempertegui. My home country is Ecuador. As a bachelor student in Ecuador, I studied infectious diseases with a focus on tuberculosis and respiratory viral and bacterial infections. Currently, my studies are focused on Chagas disease.

2006-2007 Dissertation & Defenses

Molecular and Cellular Biology



Akwasi Agyeman

I recently graduated from Ohio University with a Ph.D. in Biochemistry. My Ph.D. dissertation was on the T box antiterminator-tRNA recognition elements, under the excellent mentorship of Dr. Jennifer V. Hines, a member of the MCB faculty. My research has given indepth knowledge of the T box antitermination regulatory mechanism used mostly by Gram positive bacteria to regulate amino acid related genes. I am currently a postdoctoral research fellow at the Molecular genetics department of the Lerner Research Institute of the Cleveland clinic foundation.



Chrisanne Dias

I married in India this past December. I am currently in Glasgow because my husband is stationed there and I am currently searching for a postdoc. I received my PhD studying the regulation of HDM2, a negative regulator tumor suppressor gene p53. My research let to a publication in Cancer Research.



Yang Jie

During my PhD study, I characterized the genetic and protein expression, subcellular localization and function of three lysine-rich arabinogalactan-proteins in Arabidopsis, the model plant. These proteins are localized to the plasma membrane and are rich in vascular tissues, flowers and roots. They are required for normal plant growth and development, such as reproduction, leaf development, cell division and cell expansion. I am now in Honolulu, HI, working as a post-doc in a small plant biotech company. My research involves using chloroplast genetics to produce useful metabolites and medical proteins. I really enjoy working here, and I know that my education at OU got me here.



Liang Huang

My name is Liang Huang. I graduated in Nov. 2006. I am now working as a postdoctoral visiting fellow in the Laboratory of Molecular Pharmacology of National Cancer Institute of National Institute of Health. My dissertation research in the MCB program in Ohio University was to elucidate the regulation of fruit fly (*Drosophila melanogaster*) blood cell development. The particular factors I investigated were Dorsal and Dif, which are homologous to the mammalian NFkappaBs. I found that when the fly loses the function of the SUMO conjugase (Lesswright), Dorsal and Dif are activated, leading to the overproduction of blood cells (published in Developmental Biology in 2005). The complex interactions between Lwr, Dorsal, and Dif showed an example of a networking rather than a linear model of signal transduction. My current research project focuses on the regulation of mammalian DNA replication.



Dustin Thomas

In November 2006, I finished work on my Master's degree under Dr. Robert Colvin where I studied the protein ZnT-1's involvement in zinc efflux in rat cortical neurons. Utilizing RNA interference and a red fluorescent protein as a marker, I was able to compare zinc efflux rates of ZnT-1 knockdown neurons side by side with normal neurons. My findings provide evidence to support ZnT-1's role in the efflux of zinc in primary cultures or rat neurons. After finishing my thesis, I was hired on at the Cleveland Clinic's Taussic Cancer Center researching pathways and possible therapy strategies for multiple myeloma and melanoma.

Funds and Awards

Molecular and Cellular Biology

Dr. Yang Li...

...received another NIH grant award notice last week. Total is \$220,500. The new NIH grant entitled "Vesicular Zinc of Recurrent Mossy Fiber in Epilepsy" will support the study on the role of zinc in epilepsy. The hippocampal granule neurons in the brain are only cells that have been known to undergo the re-generation during epilepsy. Evidently, there are large amounts of zinc in these regenerated neurons. We want to investigate the possible link between zinc and recurrent epilepsy. Mr. Bastian (PhD student) has worked on the epileptic animal model in the lab. Dr. Tian is also involved in the project.

Ohio University receives grant for Genomics Facility

Drs. Morgan Vis and Sarah Wyatt received ~\$500,000 from the National Science Foundation to establish a genomics facility at Ohio University. The money was designated to purchase equipment for the facility and the Vice President for Research and College of Arts and Science provided money to support a full-time director for the facility. The facility will provide increased services to the research community at Ohio University including full-service sequencing, microarray analysis, and quantitative RT-PCR at a nominal charge. Training for students/researchers and assistance with experimental design are available for each of these technologies. The facility is fully functional and available to researchers as of March 1, 2007. For more information check <http://www.dna.ohiou.edu>.

Drs. Sharon Inman and Dr. Felicia Nowak ...

...received a \$150,000 grant from the NIH/NIDDK to study the effects of an antioxidant supplemented diet on the development of diabetes and diabetic nephropathy in a rat model of Type 2 diabetes/Metabolic Syndrome. They are also comparing male and female animals to assess the effects of gender in this model. The project is entitled "Effect of Antioxidants on Development of Diabetic Nephropathy".

Dr. Sarah Wyatt...

...has received the 2006 National Science Foundation, Division of Undergraduate Education, Course Curriculum and Laboratory Improvement for "GFP as a tool for multi-representational visual learning" co-PI w/ Drs. Janet Duerr, David Moore, and Gar Rothwell in the amount of \$140,000; the 2006 National Science Foundation, Functional and Regulatory Systems for "Functional characterization of a cytochrome P450 involved in gravitropic signal transduction" \$360,000; and the 2006 National Science Foundation, Major Research Instrumentation for "Acquisition of equipment for a Core Genomics Facility at Ohio University" co-PI w/Dr. Morgan Vis in the amount of \$448,509.



Yunjing Wang: recipient of the 2006-07 Donald Clippinger Graduate Fellowship

I am working with Dr. Sarah Wyatt and Dr. Harvey Ballard on the flower development of *Viola pubescens*. I was awarded this year the Molecular and Organismic Research in Plant History (MORPH) Cross-disciplinary Training Grant (\$3,000). MORPH cross-disciplinary training grant provides support for visits of undergraduate students, graduate students, postdoctorals, and early career faculty (assistant professors) to other labs to learn specific techniques. Like many other plants, *V. pubescens* can produce both open, out-crossing chasmogamous flowers and closed, self-pollinating cleistogamous flowers. The mixed breeding system ensures seed output and has reproductive advantages. Studying the molecular mechanism underlying the development of the two flower types can advance our knowledge of the successful mixed breeding system. My previous work indicates that some floral genes are differently expressed in chasmogamous and cleistogamous flowers. We are now interested in the regulation of these genes. A genomic library of *V. pubescens* is proposed to fulfill this purpose. Therefore, I was awarded the grant to go to Dr. Eric Stockinger's lab in the Horticulture and Crop Sciences Department of Ohio State University. The lab has successfully constructed 15 plant genomic libraries. I am now working in Dr. Stockinger's lab, trying to construct a genomic library of *V. pubescens* and screen the library for the floral genes we are interested in.

Events and Activities

Molecular and Cellular Biology

MCB Fall Retreat

The retreat was a great success and afforded the participants a chance to interact, learn, and relax. Fifty two students, faculty and alumni attended the two day meeting. The retreat kicked off with a stimulating keynote address given by Ed Mocarski on cytomegalovirus infection at the new Walter Hall lecture facility. The keynote talk was followed by a reception at the newly remodeled Grover Center.

The retreat reconvened bright and early Saturday morning at Hocking Hills State Park, for scientific sessions. A total of 33 posters and oral presentations were given by faculty, students, and alumni. A highlight of Saturday's activities was a lunch time panel discussion given by Drs. Shumin Yang (Maxigen, Inc., Redwood City CA), Zeqi Zhou (Egenix, Inc. Rochester, NY), and Xinzhong Wang (Biogen Idec Inc., Boston MA). The panel discussed "life after OU" and had many pearls of wisdom for MCB students.

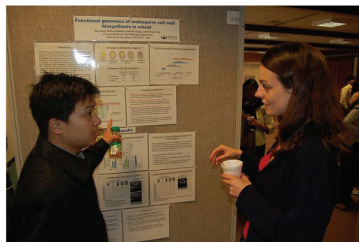
Of special note was the awarding of the first "outstanding MCB graduate" recognition to Dr. Xinzhong Wang. Wang (as he is known by friends at OU) was a graduate student of John Kopchick and worked on growth hormone receptor. He is currently a Principal Scientist at Biogen Idec Inc. He joined the legacy Biogen in 2002. His current research focuses on Tumor Immunology with the aim to develop novel therapeutics for cancer treatment.



Dr. Ed Mocarski discusses cytomegalovirus infection at the new Walter Hall lecture facility



Dr. Mocarski speaks with MCB faculty members Bonita Biegalke, Jack Blazyck, and Ken Goodrum at the newly remodeled Grover center



Poster session during the retreat on Saturday



Dean Ogles, alumni Xinzhong Wang, and Dr. Colvin at the reception



Alumni panel and Dr Xiao Chen answer student questions about life after OU

Alumni News

Molecular and Cellular Biology



Min Feng

I am currently the vice director and technical manager in the State Key Laboratory of Systematic and Evolutionary Botany at the Institute of Botany, Chinese Academy of Sciences. On a personal note, I have a half-year-old son and am very excited to be a mom.



Edward List

Since I have graduated from the MCB program in 2001, I have completed a post-doctoral fellowship for a small biotechnology company called DiAthegeen, and I am currently employed as a Research Associate at the Edison Biotechnology Institute in Athens, OH. At my current job I am studying growth, aging, obesity and diabetes. I am proud to be an alumnus of the MCB program and I feel that the experiences this unique interdisciplinary program set up at Ohio University has successfully prepared me for all the new challenges I have encountered. Looking back on the whole experience of being a graduate student in the MCB program, I am very pleased with the students, faculty and staff, facilities, and the university. I would definitely recommend this program to any prospective student.

Pictured with one of my undergraduate lab assistants (Annie Valente) and my technician (Amanda Palmer); at the 2005 Endocrine Society Conference in San Diego, CA.



Jennifer McCallister

After graduating in November 2005, I was hired as a research technician at the USDA – ARS center in Beltsville, Maryland. During my first year at ARS, I worked with Dr. Bill Turechek. The primary research interests of the lab were developing and improving management strategies for controlling diseases in commercial strawberry production through epidemiological methods and molecular biology. Currently, I am working with Dr. Janet Slovin. The primary research interests of the lab are the investigation of how plants tolerate extreme environmental conditions. Molecular biology approaches are being used to determine how plants' responses to stress can be used to improve plant growth and development in agricultural production. I am currently residing in Alexandria, Virginia. My fiancé and I have been planning for our fall 2007 wedding. In my spare time, I have been enjoying all the Washington, D.C. area has to offer.

Jennifer Rossi

After completing my combined BS/MS through the Honors Tutorial College and in John Kopchick's laboratory, I continued with a PhD at Brown University. I was in the Molecular Biology, Cell Biology & Biochemistry Program working in the laboratory of Dr Ken Zaret (now at the Fox Chase Cancer Center in Philadelphia). I studied mouse embryonic cell differentiation focusing on liver/pancreas specification. I currently live in London and am a Global Marketing Manager at Qiagen. I focus on our strategy in the forensic, biodefense and veterinary diagnostics markets and spend a significant amount of time traveling worldwide in this role. I am married to a Brit, Ben Schenker, and still have my boxer, Calvin, who was with me back in my OU days.



Tim, right, pictured
with Dr. James

Tim Shannon

I graduated in 1998 and moved on to post-doctoral training at Case Western Reserve University. After two years at Case I took a position at Francis Marion University in Florence, South Carolina. FMU is a primarily teaching institution with about 4000 undergraduates. I believe that one of the main reasons I am a successful teacher is due to the training I received in the MCB program. The MCB provided skills to prepare a lecture about a subject I knew nothing about, and sometimes did not want to know about, and to talk about it with a degree of expertise. In addition, the research training I received has prepared me to work with undergraduates on small research projects. Watching Calvin interact with his graduate students, other than me, and undergraduate students has given me the ability to guide students to be successful in their research endeavors. Two of the undergraduates that I have mentored perhaps a third have pursued graduate degrees. I am very thankful that I landed in a graduate program that provided many opportunities to advance professional and personally.

Phillip Taylor

I am the Dean of Science, Liberal Arts, and Business at Paul Smith's College in NY. I married Loralyn Hilton, a Biological Sciences fellow graduate student. We have a son, age 4, and live in the Adirondack Park of upstate NY.



Xinzhong Wang

I am currently a Principal Scientist at Biogen Idec Inc. I joined the legacy Biogen in 2002. My research focuses on Tumor Immunology with the aim to develop novel therapeutics for cancer treatment. One program is being evaluated in clinical trials. My research interests also include gene therapy and developing gene-based medicine for treatment of cancer and neurodegeneration diseases. Prior to Biogen, I was a Senior Scientist at Millennium Pharmaceuticals working on drug target discovery and validation for metabolic diseases. Before joining industry, I was a staff scientist at the Nessel Gene Therapy Center, Massachusetts General Hospital and Instructor of Medicine, Harvard Medical School (1998-2001). At Ohio University, I studied under Dr. John Kopchick on growth hormone receptor and its signal transduction pathways. I graduated from the MCB PhD program in 1993. After a brief stay in Dr. Kopchick's lab, I moved to Boston and did post-doc training in Dr. Brian Seed's lab in Harvard Medical School and Massachusetts General Hospital (1995-1998). My post-doc work mainly focused on Gene Therapy research and development of novel vectors for treating genetic diseases. I enjoys music, fishing, golf, skiing and watching sports on TV (all as parts of training from John's lab). I live with his wife and two children in the suburb of Boston.



Zeqi (Joe) Zhou

I am a PhD-88 graduate of the MBC Program and currently Vice President and Chief Scientific Officer of Egenix Inc., Rochester, NY. I am working on the co-development of oncology diagnostics and therapeutics for human cancers. Recently, I came to OU for the MBC Retreat. I presented my work on " Genetically Engineered Single Chain Bispecific Antibody Technology Development for Immunotherapy of Ovarian Cancer".