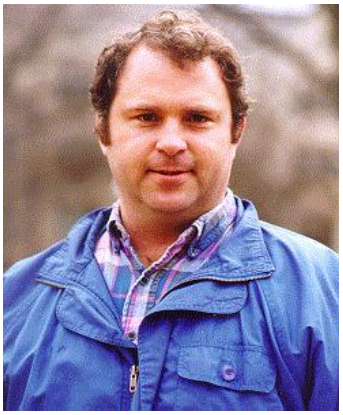
Spring 2005

Biochemistry News

Kansas State University – Alumni and Friends Newsletter

Newsletter Highlights

News from the Department Head



Greetings from the Department of Biochemistry. We have started the spring semester, and the department is bustling with teaching and research activities. We have had a few changes in the department faculty during the last year. Xuemin (Sam) Wang has moved to St. Louis, where he accepted positions as E. Desmond Lee and Family Fund Endowed Professor of Biology at the University of Missouri, St. Louis and as a Principle Investigator in the Donald Danforth Plant Science Center. Although we will certainly miss Sam and his contributions to research and teaching, he remains an adjunct professor in our department and will continue some collaborations here, so we expect to continue some fruitful interactions.

A new assistant professor, Qize Wei, joined the department in December. Dr. Wei came to us from the laboratory of Robert Adelstein at NIH, where he has been doing postdoctoral research in several areas related to gene regulation in mammalian development. He has moved into a laboratory in Chalmers Hall, as the first member of the department to occupy that new building. We are currently conducting a search for another new faculty member, so we are in an exciting time of opportunities for collaborations and interactions with new faculty members. One familiar “new” face in the department is Jerry Reeck, who has returned to the department on a full time basis, after serving for several years as Associate Dean of Arts and Sciences. Jerry’s office is next to mine, and it is nice to hear singing in the hallway again and to have him nearby for frequent research discussions. Jerry describes his ongoing research projects later in this newsletter.

We would like to keep up to date with our alumni and friends. Please let us hear from you with your news, and stop by to visit if you happen to be in Manhattan.

Mike Kanost

Eye Research on the Prairie

Eye diseases such as age-related cataract and macular degeneration, corneal inflammation and diabetic retinopathy constitute a growing health concern as the mean age of the population increases and with increasing complications from obesity and diabetes-related diseases. A group of scientists at K-State is interacting in research programs with ultimate goals of addressing problems in vision and eye health. The "Eye Group" includes two members of the Biochemistry faculty: Professors Dee Takemoto and John Tomich, with Larry Takemoto and Gary Conrad, both University Distinguished Professors from the Division of Biology, and Harriett Davidson, Professor and Board Certified Veterinary Opthalmologist from the Department of Clinical Sciences. This group is currently supported from grants from the National Eye Institute totaling over $1.2 million/year for multiple years of support.

Dr. Dee Takemoto researches the mechanism by which the regions of the eye communicate through channels called gap junctions. These protein channels allow non-specific passage of small molecules from one cell to another. Gap junctions are the major means of communication of retinal and lens cells which either lack or have a limited vascular system. However, passage of some molecules, such as free radicals occurring during oxidative stress, can lead to cell death, resulting in retinal degeneration or cataracts. The opening and closing of gap junctions is a regulated process. They are closed by phosphorylation of the gap junction proteins by protein kinase C gamma. The Takemoto group is working to find peptides that activate this enzyme and close gap junctions when eye cells are exposed to stress. Biochemistry undergraduate students, Dan Madgewich, Jonathan, McCulley, Jerry Robben, and graduate student Vladimir Yevseyenkov are working on the project in Dr. Takemoto's laboratory.

Graduate student Vladimir Yevseyenkov with Dee Takemoto, investigates regulation of gap junctions in the retina.

Suma Somasekharan, graduate student with John Tomich, investigates how a channel-forming peptide stimulates transport of drugs into the eye.

A problem in treating eye diseases is that drugs do not easily pass into the eye from the bloodstream or when applied topically. Dr. John Tomich's research group is working to provide a means to enhance uptake of substances into the eye by topical application on the cornea. They are testing the effects of a synthetic peptide derived from a naturally occurring channel, which transiently opens the paracellular pathway of polarized epithelium. Shortly after treating cells or eye tissues with this peptide, tight junctions are disrupted, and drugs or other agents are able to cross the barrier membrane. Biochemistry students who are currently working on the project include biochemistry undergraduate Ryan Peck, who is using NMR to solve the solution structure of the active peptide and graduate student, Suma Somasekharan, who is studying the cellular mechanism that is responsible for disrupting the tight junctions in response to the addition of the peptide. Research Assistant Professor Takeo Iwamoto prepares all of the peptide samples used in the project.

In the Division of Biology, Dr. Larry Takemoto is carrying out research on cataracts and transport of proteins and other molecules into the lens, while Dr. Gary Conrad's group studies proteoglycans involved in development of the cornea. Dr. Harriet Davidson, from the College of Veterinary Medicine, collaborates in studies requiring eye surgery, intraocular injections, and measurements of uptake into the eye. The Eye Group has been successful in obtaining significant funding from the National Eye Institute for major research equipment that has benefited the department and the campus. Recent publications and patent applications demonstrate the research progress of this group of K-State scientists, leading ultimately to improved health and quality of life.

The Wanda Bates Biochemistry Undergraduate Scholarship

Wanda Bates, a secretary in the Department of Biochemistry from 1967 to 1986, has made a $5000 donation to support undergraduates in the Biochemistry program at Kansas State University. We are so grateful to Mrs. Bates for her generous contribution. Read on to learn how she currently enjoys spending her time. Then, some now “old” faculty members comment about the secretary who helped them when they were fledgling faculty members.

Wanda Bates:
Since retiring I have done some writing of short stories, poetry, an autobiography, and a novelette about my experiences teaching in a rural consolidated school in northern Iowa. I have had book reviews printed in the Mercury occasionally. I have enjoyed visits to or from my children and grandchildren, some of whom live in Lawrence and Wichita, and I now have my first great-grandchild, Allison Zoe McNellis, of Kansas City. I am quite excited right now in getting e-mails from Grandson David Bates, who has gone to the South Pole where he will be employed for l3 months repairing and maintaining radio equipment. I am very much interested in the Biochemistry Department and have felt keenly the losses of faculty through death. I have many happy memories of my years as a secretary in the department from l967 to l986. I am living on in the home where we moved in l958. I lost Herbert to leukemia in l994. I will be 90 years old in January.

Larry Davis:
The main thing I remember was Wanda’s remarkable ability to do not just typing but effective editing of manuscripts, grants etc. Far more important than just being able to proof-read, which she was also excellent at. That's an art that has fallen into disrepair in many quarters. And she was able to keep calm when absent-minded professors came in at noon needing notes typed for a 1:30 lab recitation. This was before word processors so the amount of actual typing, without the chance for on-the-spot correction was much greater. She did make the transition to word processing with the new IBM machines.

Jerry Reeck:
She was a very, very good writer and very skillful at making suggestions in a supportive way. Quoting David Cox: 'Wanda is the best person at her job I've ever known'. What he meant is that of all the people he had seen working at their various jobs, she did hers better than anybody else he had known (including many, many university profs, researchers and administrators) did theirs. She wrote on her own -- reminiscences and poetry, was very active in this regard.

Karl Kramer:
Wanda was always the most pleasant, efficient and professional person to interact with in the main office even for those of us who were just adjunct types. And on top of that she could bake the best cakes for departmental social functions. Now it is a special treat for me to visit her at her home when I deliver a "meals-on-wheels" lunch to her occasionally. Wanda belongs in the departmental hall of fame for all of the great support that she provided us for so many years before and after her retirement.

Dee Takemoto:
Wanda wrote wonderful poetry. One I remember dealt with age and how she used to be bothered by how you look when you get older but then you reach a point where that changes. She also had a long time friend in Japan who had even sent her wedding kimono as a gift.

Tom Roche:
Wanda was my salvation as a young faculty member. She patiently corrected my spelling (sometimes repeatedly) and grammar. Whenever she said "Do you really want to say...", I knew I did not and that my manuscript/grant proposal was about to be improved. I greatly appreciate her generous sharing of her skills as a writer and editor. The other thought that always came to my mind during my interactions with Wanda, struck me again when I had the fortune to go to lunch with her recently, Wanda is just a wonderful person.

S. Muthukrishnan
I admire Wanda Bates for all her extraordinary professional skills that all other faculty who had known her longer than I have written about so eloquently. But I remember especially her kindness, warmth, and respect for cultural differences that is uniquely mid-western. The image of Dr. Herbert Bates waiting in the Biochemistry office for Wanda to finish her day’s work, often helping her to get through some chores, has taught me all about true love that lasts a life time.

*Please see page 10 for further information if you would like to contribute to the **Wanda Bates Scholarship Fund** or other Biochemistry scholarship funds*

From the Laboratory of Om Prakash

Our laboratory uses multidimensional NMR spectroscopy along with computer aided molecular modeling to solve structural and dynamics problems in molecular pharmacology, rational drug designing, protein folding and solution phase biostructure. We are interested in utilizing structure of peptides, proteins, enzymes, receptors and acceptors as templates in drug designing. We are also interested in developing programs and routines for computer-aided structure and conformation elucidation. Once an accurate model is determined, we use it as a template for design of appropriate constrained peptide ligands.

Ms. Yu Xi Gong is a research assistant who takes care of the 500 MHz NMR spectrometer and helps users in acquiring high-resolution multi-dimensional NMR data and protein homology modeling, Graduate student Huaien Dai is working on NMR solution structure determination of *Manduca sexta* cuticle proteins, and Alvaro Herrara is a graduate student whose project involves solving the solution structure of channel forming peptides. Darren Allen, an undergraduate student who joined us during the last semester, is working on NMR data based structure calculations programs.

Recently we have added a 3mm inverse detection NMR probe and a SGI-Octane workstation to the protein NMR facility of our department. The new probe is functioning well and it has enhanced our instrument capabilities in terms of sensitivity and resolution. Now we can undertake NMR studies for the samples available in small quantities. This probe should also allow us to perform phosphorous-31 NMR experiments in addition to proton, carbon-13 and nitrogen-15 NMR studies. Now we have more than eight workstations in the protein NMR facility to process multi-dimensional NMR data remotely. These workstations are also being used for teaching several courses, including NMR spectroscopy Laboratory, 2D NMR of Macromolecules, Protein Structure Laboratory, and Biophysical Studies of Macromolecules.

From the Laboratory of Jerry Reeck

After several years in the dean's office, I moved back to the department on a full time basis in the summer. We have two projects underway and I am exploring other possibilities as well.

Our more advanced project is on the proteins and enzymes secreted by salivary glands of aphids in their attack on plant tissue. In setting up shop on a plant leaf, an aphid physically probes in search of phloem sap and at the same time secretes proteins and enzymes that help in the probing. Using a cDNA library created from salivary gland mRNA, we have begun to identify some of these enzymes. We are in the process of expressing individual pea aphid enzymes of interest in *E. coli* and in cultured insect cells, and devising ways to investigate their functions. RNAi appears to be a promising tool—one that we are currently developing in the pea aphid. This work is being done as a part of a longstanding collaboration with Professor John Reese of the Department of Entomology.

The second project is a collaboration with a fish ecologist, Dr. Keith Gido, of our Division of Biology. We are interested in the roles of heat shock proteins in the temperature adaptability of Kansas minnows. Some of these species differ widely in their ability to adapt to a range of temperatures, and we are accumulating evidence that suggests an involvement of heat shock proteins, especially hsp70s, in this adaptability.

In addition to these projects, I hope to return to my laboratory's earlier studies of Factor XII, a human blood coagulation factor, and inhibitors of it.

Hageman Lecture

This year's Richard H. and Elizabeth C. Hageman Distinguished Lecturer in Agricultural Chemistry was Dr. Michael Thomashow of Michigan State University. Dr Thomashow spoke on "Gene Regulons and Regulatory Circuits Involved in Plant Cold Acclimation," and he led a colloquium on the topic of "Improving Plant Abiotic Stress Tolerance through Genetic Engineering". Professor Thomashow investigates cold-regulated genes of plants and bacteria.

He is the director of a Center for Genomic and Evolutionary Studies on Microbial Life at Low Temperature, funded by the NASA Astrobiology Institute. He has also served on various NASA grant panels, in particular those relating to Mars. Professor Thomashow has received honors including an Alexander von Humboldt Foundation Award, election as a Fellow of the American Academy of Microbiology, and most recently election as President-elect of the American Society of Plant Biologists. He has served on numerous editorial boards and national agency review panels, given congressional testimony on genetically engineered plants and this year chaired the organizing committee for a Keystone Conference on plant responses to abiotic stress.

Recent K-State Biochemistry Alum Serves in Iraq

Many of you will remember Lynn Wagner, who worked as an undergraduate in Mike Kanost's lab (B.S. 1997) and was a graduate student with Dee Takemoto (PhD, 2003). After graduation, Lynn did postdoctoral work at the University of Washington in Seattle on protein kinase C involvement in growth control in cancer cells. Last fall her Reserve Unit was called up to go to Iraq. She is currently stationed near Baghdad and has the dangerous job of commanding a gun truck protecting convoys as they move to and from the Baghdad airport. She has kept in contact while in Iraq through regular e-mails to Dee, and recently she visited us in Manhattan during a short leave and shared her experiences through over 900 pictures taken while serving her country.

If you would like Lynn's email or mailing address, please contact the Department of Biochemistry.

Recent Biochemistry BS/BA Graduates

Darin Allen (BS 2004)

Seth Chapman (BA 2004)

Lindsey Hahn (BS 2004)

Jena Nolte (BS 2004)

Ozozoma Omoluabi (BS 2004)

The Department of Biochemistry Welcomes New Faculty Member Qize Wei

Dr. Qize Wei began as Assistant Professor in the Department in December. He received an M.D. from Guangxi Youjiang Medical College, M.S. in biochemistry from Guangxi Medical University, and Ph.D. from Peking Union Medical College. Dr. Wei worked as a postdoctoral research associate from 1994-1997 in the Division of neurogerontology at the University of Southern California, conducting research on monoamine oxidase in the nervous system. From 1997-2004, he was a Postdoctoral Visiting Associate in the Laboratory of Molecular Cardiology in the National Heart, Lung, and Blood Institute of NIH, working projects including function of the cytoskeleton in cytokinesis and gene regulation and signal transduction pathways involved in mammalian embryonic development.

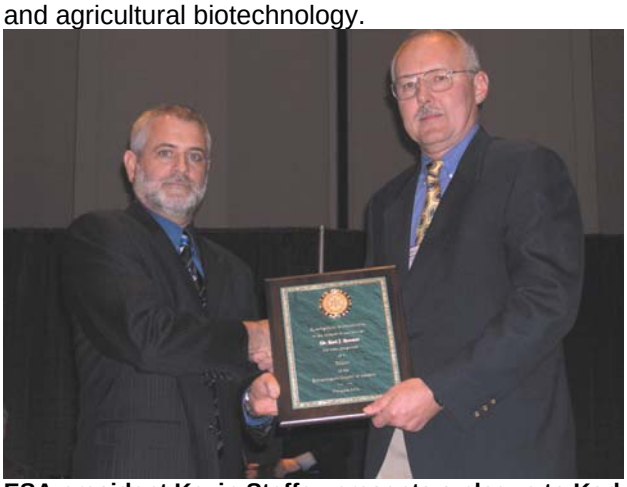
In his laboratory at KSU, Dr. Wei is beginning research on projects involving the transcription factor Pitx2 and on function of a guanine nucleotide exchange factor MyoGEF. Pitx2 is a homeodomain transcription factor. Its mutations in humans have been linked to Rieger syndrome, which is characterized by abnormalities in the face, limb, heart, teeth, eyes, and pituitary. The identification of Pitx2 downstream target genes and signaling pathways should make it possible to understand the underlying mechanism leading to Rieger syndrome in humans. He is using a cell line in which Pitx2a, one of the Pitx2 isoforms, is expressed in the presence but not in the absence of doxycycline and has identified several potential Pitx2a downstream target genes, such as PRGAP (Pitx2a-regulating GTPase-activating protein). He is currently investigating these potential Pitx2a downstream target genes using cell culture and mice as models, in order to understand their roles in mediating Pitx2a functions. This research is funded by an NIH Career Transition Award.

Dr. Wei's second project involves myosin-interacting guanine nucleotide exchange factor (MyoGEF). He has found that this protein binds to non-muscle myosin II-A, concentrates at the cleavage furrow of dividing cells, and activates a GTPase, RhoA. He is investigating the function of this protein in assembly of a protein complex at the cleavage furrow and its anchoring to the central spindle, as part of a mechanism required for the final stages of cell division.

Karl Kramer Honored by the Entomological Society of America

Dr. Karl. Kramer has been elected to the rank of Fellow of the Entomological Society of America. Karl is emeritus adjunct professor of biochemistry at Kansas State University and retired research chemist at the Agricultural Research Service-U.S. Department of Agriculture Grain Marketing and Production Research Center. He was recognized in November at the society's annual meeting in Salt Lake City, Utah. The designation of Fellow recognizes Kramer for making significant contributions to the fields of insect biochemistry, physiology and molecular biology during his career as a scientist. Results of his research have had an impact in insect molecular science and on pre- and post-harvest insect pest management programs.

Previously, Kramer was named a Fellow of the American Association for the Advancement of Science for exceptional contributions to insect biochemistry, particularly cuticle biosynthesis and degradation, metabolic regulation, neuropeptides, and insect growth regulators. He is author of more than 225 peer-reviewed publications in protein biochemistry, enzyme biochemistry, insect biochemistry, physiology, molecular biology, toxicology, nutrition, endocrinology, economic entomology and agricultural biotechnology.



ESA president Kevin Steffey presents a plaque to Karl Kramer, recognizing his research achievements as Fellow of the Society

Larry Davis Studying Water Quality in Siberia

K-State News Service

Think Siberia and chances are you don't think of the weather as being as hot as a Kansas summer; or the landscape to be mountainous and as towering as the Rockies. But that's just what a group of Kansas State University faculty members, a K-State graduate student and two students from the University of Kansas found this summer in the Altai Republic, where they worked with faculty members from Gorno-Altaisk State University to study water quality and the state of environmental journalism. K-State's Larry Davis, professor of biochemistry, and Jim Steichen, associate director and professor of biological and agricultural engineering, were accompanied by Heidi Mehl, a KU student in evolution and ecology, to work on issues of water quality in the region of Lake Teletskaye, which borders the Altai Preserve, a United Nations Educational, Scientific and Cultural Organization World Heritage site. Davis' team attempted to establish baseline values for water quality around the outlet, the most accessible part to visitors of the pristine lake, which is nearly 1,000 feet deep and 50 miles long. In that area, hundreds of people camp out with few organized camping sites, no purified water and very basic toilet facilities.

Despite its relatively remote location, Lake Teletskaye is under pressure for development of resorts and camping places for vacationers from Moscow and Novosibirsk, which is located in the far north of Siberia. "Environmental advocacy at the grassroots level seems to be very limited," Davis said. "Organizations like our Audubon Society and The Nature Conservancy seem to be nonexistent. Individual political lobbying by scientific advisers or professors has been effective in having areas designated as World Heritage sites. Now the challenge is to have the areas actually protected from economic exploitation. That will be an on-going effort that we hope to contribute to."

The Altai Republic is an area of special interest, located where Kazakhstan, Mongolia and China join Russia. It is not a large territory—only 40,000 square miles with a population of about 200,000—but it encompasses a huge amount of biodiversity. Several designated World Heritage sites, including the refuge of the snow leopard, are found there.

According to Davis, the republic has many fragile ecosystems and rare species. It is under considerable pressure from surrounding countries, particularly China and Russia, who wish to exploit the mineral resources at minimal cost. He said forest fires are also an increasing threat, as in the United States. K-State has an exchange agreement with the university that will allow other students the opportunity to study in Gorno.

Willard S. “Bill” Ruliffson

Willard Sloan “Bill” Ruliffson, 86, a native of Storm Lake Iowa, a long time resident of Manhattan, Kansas and Watkinsville, Georgia, died at the Methodist Manor Retirement Community in Storm Lake on January 1, 2005. Professor Ruliffson joined the Department of Chemistry at Kansas State University in 1953 and then helped to form the Department of Biochemistry in 1960, where he worked until his retirement in 1983. He was born July 19, 1918, in Balaton, Minnesota. He graduated from Buena Vista College in May 1940. His first job after college was as a music instructor and science teacher at Quimby, Iowa. Bill then served in WWII as a commissioned officer and a B-24 and B-25 command pilot from 1941-1945. He was awarded M.S. (1948) and Ph.D. (1953) degrees from the University of Iowa before beginning his faculty position at Kansas State. He taught General Biochemistry, Intermediary Metabolism, and Hormones for many years. He introduced and taught until his retirement the Biochemistry and Society course, which remains a popular course today for nonscience majors. Bill’s other interests included vocal music, both chorus and barbershop and he was an accomplished clarinet player. He enjoyed tennis, bicycling, and the companionship of a Golden Retriever dog, Cherokee. Memorials in Bill’s memory may be made to the Willard & Ora Ruliffson Memorial Scholarship at Kansas State University.

Recent Graduates from the Biochemistry Graduate Program

Mahalaxmi Aburi (PhD 2004, Smith). *Computational Studies of Opioid Peptides and Their Receptor Complexes* (Postdoc, Columbia University pharmacology department).

Haiying Bao (MS 2004, Roche). *Regulation of Pyruvate Dehydrogenase Kinase 2 and Related Functional Properties of the Human Pyruvate Dehydrogenase Complex* (Research Assistant, NYU Medical Center—Skirball Institute of Biomolecular Medicine).

Micheal Barnett (PhD 2004, Zolkiewski). *Investigation into Stable Substrate Interactions of the Molecular Chaperone ClpB* (Postdoc, KSU, Takemoto).

Marisol Castaneto (MS 2003, Reeck). *Gene Expression in the Salivary Glands and Gut of Pea Aphid, Acyrthosiphon Pisum (Harris).* (Captain, U.S. Army, Texas).

Hui He (MS 2004, Asano). *Genetic and Biomedical Characterization of Factor Interactions Involving Eukaryotic Translation Initiation Factors eIF1 and eIF5* (Microbiologist, KSU veterinary medicine program).

Yueyun Hong (MS 2004, Wang). *Multifacted Roles of Phospholipase Dα1 in Drought Stress and Genetic Manipulation of Phospholipase Dα2, 3, and 4 in Arabidopsis Thalina*. (PhD Student, University of Missouri—St. Louis).

Lisha Breuer/ Kelo (MS 2004, Kanost). *RNA interference to investigate the function of a beta integrin expressed in Manduca Sexta hemocytes*. (Research Assistant, KSU, Kanost).

Weiqi Li (PhD 2004, Wang). *Functional Characterization of Phospholipase D-delta in Response to Freezing and Water-Deficit Stresses in Arabidopsis thaliana* (Head of Biology Department, Honghe University, China).

Zhonghua Liu (PhD 2004, Zolkiewski). *Characterization of Human TorsinA, an AAA+ Protein* (Postdoc, KSU, Zolkiewski).

Rich Suderman (PhD 2004, Kanost). *Cuticle Sclerotization in Manduca Sexta: An In Vitro Sclerotization Model* (Postdoc, Florida Atlantic University).

Zhongwen Tang (MS 2004, Takemoto). *Lens Epithelium-Derived Growth Factor Effects on Protein Kinase C and Regulation of Gap Junctions in ARPE-19 Cells* (Graduate student, KSU statistics department).

Youren (Tony) Tong (PhD 2004, Kanost). *Structure and Function of Serpins from Hemolymph of the Tobacco Hornworm, Manduca Sexta* (Postdoc, Harvard Medical School).

Zhefeng (Jeff) Zhao (PhD, Zolkiewska). *Signaling and regulation of Adam12 and integrin α7β1 two muscle - specific adhesion receptors* (Postdoc, KSU, Zolkiewska).

Alumni News

Christina Chang (PhD 1988, Davis) is an associate professor of Medicine at UC-San Diego. Christina has become a specialist in neuroblastoma, particularly the role of NDP Kinase in control. She recently hosted a get-together of the southern California branch of the biochemistry alumni group. **Binghui Shen** (PhD 1991, Davis) made the trip down from LA, along with a number of others, including **Shenjiang Liu** (PhD 1993, Roche).

Sylvia Nemmers (BS 1989; MS 1992, Krishnanoorthi) is teaching special education in Las Cruces, NM, and working on a graduate degree in that subject area at NMSU.

Mingshun Chen (PhD 1991, Reeck) is a researcher with the USDA/ARS in Manhattan, KS and an adjunct assistant professor of Entomology at KSU.

Kirk Clark (PhD 1991, Reeck) works for Novartis in the Boston area. He and his family were back in Manhattan for Brenda's parents' 50th wedding anniversary at the end of December 2004.

Binghui Shen (PhD 1991, Davis) is now Director of Radiation Biology as well as full professor at City of Hope Medical Center, Duarte, CA. His older daughter is studying for the ACT.

Marilyn Baguinon's (PhD 1992, Davis) son Glenn graduated from Kutztown University with a degree in Professional Writing, and he now has a fulltime job. Her son Harold is a sophomore at the University of Pittsburgh.

Darren Klish (BS 1992, Davis; MS in epidemiology at Yale) completed his MD at the University of Kansas Medical School in 2003. He was a transitional intern-resident at Western Pennsylvania Hospital in Pittsburgh. He is now a radiation oncology resident at KU Medical School.

Lee Zou (MS 1992, Davis) recently took a position as Assistant Professor at Harvard Medical School, MGH Cancer Center. His wife Helena and son Kevin spent several months in China and have joined him in Boston.

Anthony Cole (MS 1994, Anderson) completed his PhD in 2001 at the University of Missouri in plant microbiology and pathology. He is now an assistant professor at Dakota Wesleyan University, teaching biochemistry in the biology department. He can be contacted at: *Dakota Wesleyan University, 1200 W University, Box 458, Mitchell South Dakota 57301.*

Yi Guo (MS 1994, Davis) is working as a biochemist for the Crystallography Group. She began in Eli Lilly and Co. four years ago and enjoys working with the x-ray group. She is running the Indy500 mini marathon with other 30,000 participants. Yi and her husband Ling (Civil Engineer from KSU) travel around the world. They are the parents of a two year old son, Mark.

Jayme Morris-Hardemann (BS 1995; MS Animal Science) is teaching General Biochemistry this Spring at KSU, a course she has taught several times. She is also director of CASA (Court Appointed Special Advocates) for Riley County, and she is a candidate for Manhattan City Commissioner.

Liwen Xu (PhD 1996, Wang) is a research associate at Stanford. Her older child is already in high school, and her younger is in elementary school.

Khalid Abdul-Razzaq (PhD 1998, Reeck) is now a dean at the Jordan University of Science and Technology. His daughter Gada, who was born in Manhattan, is applying for graduate school in biochemistry at KSU.

Yong Yu (PhD 1998, Davis), along with wife **Xiahui Zhu** (MS 1998, Krishnan) and daughter Amy, took a trip to China this past summer. Yong continues to work at the Boston University Medical School, and Xiahui works for a biotech company.

Qiang Xiao (MS 1998, Davis) recently passed the first stage of the USMLE, intending to make future use of her medical training. Meanwhile, she works in the biotech industry in CA.

Zarry Tavakkol (BS 2000, Tomich) graduated from the University of Michigan School of Medicine in Ann Arbor this past June. She is currently at the University of Washington School of Medicine (Seattle) completing her requirements to become a surgeon.

Wensheng Nie (PhD 2001, Denell) is working at Nuvelo, Inc. Jian is working at Cisco and loves his job. Their daughter Rachel is three years old and is in preschool, keeping her parents busy and happy. Wensheng took Rachel to China for two months, a trip that made her grandparents, aunts, uncles, and sisters so happy.

Qing Kang (PhD 2001, Zolkiewska) is working on a statistics PhD at KSU.

Marisol Castaneto (MS 2003, Reeck) is currently serving in the U.S. Army in Texas. She has plans to obtain a PhD and attend the University of Texas-El Paso.

Chunbo (Bonnie) Qin (PhD 2003, Wang) is living in New York. She is a post-doctoral research associate at Cornell Medical School and is presenting and publishing papers in cell biology and molecular biology. Her husband Don is working on the 2nd Ave subway project for NYC as a mechanical engineer.

Weiqi Li (PhD 2004, Wang) has recently returned to China to serve as the Head of the Biology Department at Honghe University. He is excited and has found the development of the city and school to be beyond his imagination. He can be contacted at: *Biology Department, Honghe University, Mengzi, Yunnan 661100, CHINA.*

Richard Suderman (PhD 2004, Kanost) was recently visited by his former advisor, Mike Kanost. Rich is enjoying Florida, despite the hurricanes.

Biochemistry Graduate Students Honored

Four doctoral students in the Department of Biochemistry have recently been named recipients of departmental awards. Weiqi Li and Zhonghua Liu received the 2004 Department of Biochemistry Graduate Research Awards for their research and academic contributions to the department. Jwan Ibbini and Gabriel Cook are recipients of the department's Outstanding Graduate Student Teaching Assistant Award. These honors include a certificate and a cash award from the Hedgcoth Biochemistry Graduate Scholarship Fund.

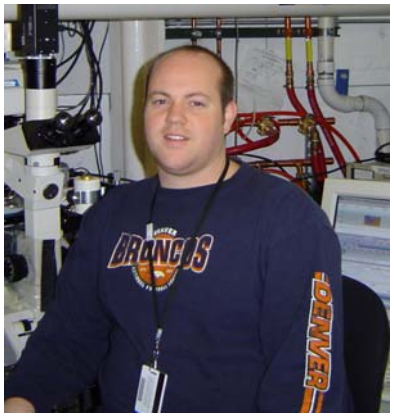
Weiqi Li, who worked with Professor Xuemin Wang, studied the involvement of phospholipase D in tolerance of cold stress in plants. His research showed that plants lacking this enzyme were more sensitive to freezing, whereas those with an over-expression of the enzyme were tolerant to freezing. The results of the research were published in the April 2004 issue of Nature Biotechnology.

Zhonghua Liu, working with Associate Professor Michal Zolkiewski, has studied the human protein Torsin A, related to a neurological disorder known as early-onset torsion dystonia, which affects muscle contraction. Her research has included the characterization of the processing and location of the protein in cells, identifying other cellular proteins it interacts with and understanding how a mutation in the Torsin A gene alters the protein's function and causes disease.

Jwan Ibbini, working with Professor Larry Davis on bioremediation of polluted soil, was honored for her teaching efforts over several semesters as a graduate teaching assistant for General Biochemistry and for the General Biochemistry Laboratory course.

Gabe Cook works with Professor John Tomich, studying the structure of peptides that form channels in cell membranes. He was honored for excellent teaching in courses including Introduction to Organic and Biochemistry Laboratory and a new course, Protein Structure Laboratory.

Biochemistry Graduate Student Wins National Award



Kenneth Dokken at the National Synchrotron Light Source in Upton, NY.

Kansas State University Biochemistry graduate student Kenneth Dokken was recognized for his research by a division of the American Chemical Society. He was awarded the Pfizer Travel Award for Graduate Research from the Analytical Chemistry Division of the American Chemical Society. The award was presented at the society's conference, Aug. 22-26, in Philadelphia. Dokken was one of five winners nationally. His presentation was "Synchrotron Fourier Infrared Microspectroscopy as a Tool to Monitor the Uptake of Organic Contaminants by Plants." Dokken discussed his research, carried out in the laboratory of Professor Larry Davis, on phytoremediation -- a method using plants to remove organic contamination from soil and water.

Dear alumni and friends,

We hope you will keep in touch with us and your former classmates by contributing to our newsletter. Would you please take a minute to send us your news about you, your career, and your family?

The Department of Biochemistry would also like to thank you for your generous support. Your donations allow us to offer scholarships, improving our ability to recruit and retain outstanding and deserving students. General funds supplement the department's operating budget to enhance the quality of education and research experiences we can provide to our students and to attract and support new faculty.

If you wish to donate to any of the Biochemistry Foundation funds (see below) please send your contribution to the Department of Biochemistry and indicate which fund you wish to support. Please call us at 785-532-6121 or email biochem@ksu.edu if you have any questions.

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Biochemistry Foundation Funds

F17870	**Biochemistry General Fund Account**
F66998	**Hageman (Richard/Elizabeth) Distinguished Lectureship** Annual Hageman Lecture Series
F68342	**Havley (David/Tim) Biochemistry Discretionary Account** Undergraduate Scholarships
Q53097	**Hedgcoth Biochemistry Graduate Scholarship Account** Outstanding Graduate Teaching Awards Outstanding Graduate Research Assistant Awards Graduate Student Research Travel
Q71700	**Hughes (JS) Memorial Scholarship Account** Undergraduate Scholarships
F79431	**Merrill (Fred/Virginia) Biochemistry Discretionary Account** Undergraduate Scholarships
Q03227	**Wanda Bates Undergraduate Scholarship Account** Undergraduate scholarships for students with financial need
N85330	**Willard & Ora M. Ruliffson Memorial Scholarship Account** Schoarship for pre-dentistry or pre-veterinary students

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KSU Biochemistry on the World Wide Web

http://www.k-state.edu/bchem/

Our homepage contains information on the Department of Biochemistry, faculty, undergraduate and graduate programs, courses, seminar, and core facilities. Other K-State related pages that might be of interest:

KSU Alumni Foundation http://www.k-state.com

E-Collegian Newspaper http://www.spub.ksu.edu