Dear Alumni and Friends,

It is time for our annual newsletter to update you with news from the Department of Pharmaceutical Chemistry and KU. We hope that everyone is doing well, and that we can welcome as many of you as possible at our reception at the upcoming AAPS Meeting in San Diego.

The first good news to share are that we have recruited three additional faculty to the Department. In 2013, the Department made the strategic decision to expand its research efforts in the biologics area and to establish a new center with focus on vaccine design and development. We submitted a proposal to the Provost for a cluster hire, and obtained permission to recruit a new Distinguished Professor (Foundation Professor), a Full Professor and an Assistant Professor to staff the new center, which has now been named Vaccine Discovery Institute (VDI). We were very fortunate to recruit Professors William (Bill) Picking and Wendy Picking as Foundation and Full Professor, respectively, and Professor Brandon DeKosky as an Assistant Professor. Bill and Wendy Picking have joined the Department in the Summer 2014. Brandon DeKosky will have a joint appointment between the Departments of Chemical and Petroleum Engineering and Pharmaceutical Chemistry, and will start his faculty appointment in January 2017. Brandon will defend his PhD at the end of 2014 and will spend two years as a post-doc at the National Institutes of Health prior to joining KU.

As many of you know, Ron Borchardt has decided to retire after the Spring Semester 2015. Ron will be able to give you more details about his future plans, but I am happy to report that he will continue as an Emeritus Professor. To honor Ron’s many contributions to the Department, the School of Pharmacy, KU and the pharmaceutical sciences, we have started to plan a Ron Borchardt Retirement Symposium, which will take place October 21-23, 2015, in Lawrence, i.e. immediately before the AAPS Meeting. We have built an endowed fund (thanks to the contributions from many of you!) which will allow us to recruit Ron’s replacement as the Ronald T. Borchardt Global Health Education Distinguished Professor, and a search to fill this position is currently ongoing. At this point you should also know, that Val Stella plans to retire in 2016, and that we plan to replace Val with the Valentino J. Stella Distinguished Professor. We will provide more information in the next newsletter.

The 10th Biennial Meeting of the Globalization of Pharmaceutics Education Network (GPEN) took place August 27-30, 2014, and was jointly organized by the University of Helsinki and the University of Eastern Finland. GPEN 2014 was preceded by a...
meeting of the Nordic Chapter of the Controlled Release Society, August 26 and 27, 2014. Both meetings were extremely successful and well attended. The program of GPEN2014 is available on our Departmental website (http://gpen.pharmchem.ku.edu/), as are additional details about GPEN and past and future meetings.

The Department continues to benefit from generous financial support for predoctoral fellowships and awards donated by many individuals and several pharmaceutical companies. In addition, our faculty continue to be well funded through private and federal agencies, and have received a series of awards, which will be detailed below in the individual faculty sections.

In the following, you will find updates on the individual faculty and their laboratories. We hope that you will enjoy this newsletter, and hope to see you at one of the coming meetings. We will continue our format of an evening reception at the upcoming AAPS National Meeting in San Diego. Details about this event have been provided to you by Nancy Helm.

With best personal regards,

Christian Schöneich
Professor and Chair
Several students have completed their degrees since the last newsletter and have moved on from the department to their current positions:

- Mohammed Alsenaidy
- Jessica Creamer
- Elinaz Farokhi (MS)
- Ranajoy Majumdar
- Warangkana (Bo) Pornputtapitak
- Joshua Woods
- Yunqi Zhao

Nine students were recruited for Fall 2014:

- Sanjeev Agarwal, Birla Institute of Technology (India)
- Matthew Christopher, University of Illinois, Urbana
- Laura Drbohlav, Clemson University
- Mei Feng, Illinois Institute of Technology
- Yue Hu, Northeastern University
- Indira Prajapati, Bethune-Cookman University
- Melissa Presnall, Bethany College
- Ninad Varkhede, NIPER (India)
- Yangjie Wei, University of Toledo

Our current students in the Distance Masters Program come from various companies; they are:

- Kristen Forseth (Gilead)
- Ian Hartzel (Pfizer)
- Alisha Kellogg (Amylin)
- Jonathan Kretz (Amgen)
- Zephania Kwong-Glover (Genentech)
- Ming Lei (Genentech)
- Benjamin Mann (Celerion)
- Ester Ndambiri (Nairobi)
- Karina Padilla (Genentech)
- Kirsten Phizackerley
- Whitney Shatz (Genentech)
- Stephanie Staub (Teva)
- Josh Toschi (Gilead)
- Simon Tran (Gilead)
- Yue Wang (Genentech)
- Stephanie Whisenant (Janssen)
- Christopher Woods (Amgen, Seattle)
- Salina Wu (Gilead)
- Evelyn Yanez (Amgen, San Francisco)
- Yi Yang (Genentech)

Students who have completed their degrees in the Distance Masters Program are:

- Kim Gochioco (Amgen, Thousand Oaks)
- Vivian Ku (Amgen, Thousand Oaks)
- Carrie Morgan (Amgen, Cambridge)
- James Ormes (Merck)
- Camille Vergara (Amgen, Thousand Oaks)
- Laura Voth (Hospira)
• **Dr. Cory Berkland**, professor in the Department of Pharmaceutical Chemistry and the Department of Chemical and Petroleum Engineering received the Jim Baxendale Commercialization Award on May 1, 2014 at the second annual KU Innovation Fair. This award recognizes a KU faculty member whose research has resulted in significant advances and commercial opportunities for the university. Dr. Berkland is the co-founder of three companies since coming to KU in 2004: Orbis Biosciences, Savara Pharmaceuticals and Orion BioScience. These companies are focused on therapies for asthma, pain management, autoimmune diseases and other conditions. Dr. Berkland also helped initiate and co-directs a unique collaborative innovation program with ConocoPhillips and Schlumberger related to oil and gas recovery.

• **Dr. Susan Lunte**, Ralph N. Adams Distinguished Professor of Chemistry and Pharmaceutical Chemistry, was named to The Analytical Scientist Power List 2013 by the Analytical Scientist. This is a national listing of the top 100 influential analytical scientists. The Analytical Scientist is a magazine for professionals in the analytical sciences. The list recognized peer-nominated researchers, CEOs, role models and thought leaders in the field. Dr. Lunte was one of only eight women selected for the list.

• **Dr. Christian Schöneich**, Takeru Higuchi Distinguished Professor and chair of the Department of Pharmaceutical Chemistry, was one of twelve University of Kansas faculty members named senior administrative fellows for 2014-2015. This program has been in place for more than 20 years. Fellows will learn more about senior administration in higher education by meeting with senior administrators, visiting administrative units across campus, discussing national trends in academia and developing their leadership skills.

• The American Association of Pharmaceutical Scientists (AAPS) announced Dr. David Volkin as one of its nineteen 2013 AAPS Fellows. AAPS Fellows are granted the honor each year for making sustained remarkable scholarly and research contributions to the pharmaceutical sciences such as original articles, scientific presentations at AAPS Annual Meetings, and/or patents. [http://www.aaps.org/News/Press_Room/Press_Releases/2013/AAPS_Announces_2013_Fellows/](http://www.aaps.org/News/Press_Room/Press_Releases/2013/AAPS_Announces_2013_Fellows/)

Our graduate students have been successful in acquiring awards, fellowships and training grants:

• **Sharadvi Thati** received a PhRMA Fellowship

• **Laura Northrup** received an AFPE Fellowship

• **Chad Pickens** received the Dynamic Aspects of Chemical Biology Training Grant

• **Cavan Kalonia** received a Biotechnology Training Grant Fellowship

• **Lorena Antunez** received Biotechnology Training Grant Fellowship

• **Laura Drbohlav** received the Stella Predoctoral Fellowship

• **Christopher Kuehl** won first place in the Graduate Division at the second annual KU Innovation Fair hosted by KU Innovation and Collaboration, the University’s technology commercialization office, which was held on May 1, 2014. Chris’ poster was entitled “NanoClusters and the Future of Asthma Treatment.” Twenty undergraduate and graduate students presented their discoveries on posters.
The Department of Pharmaceutical Chemistry along with the Department of Medicinal Chemistry held the annual Fall Retreat on October 14, 2013 at the School of Pharmacy building. Major topics were “Antibody Drug Conjugates.” Five experts in this area and four graduate students were invited to give their perspective and current research findings. Forty-two posters were presented by students/postdocs in the poster session. Below is the list of the oral presentations:

**Invited Speakers:**

- **John Lambert**, Ph.D., Executive Vice President and Chief Scientific Officer, ImmunoGen, Inc. **Title:** Antibody-Drug Conjugates (ADCs) Utilizing Maytansinoid Technology: From Bench to Bedside…..and Back!
- **Hans-Peter Gerber**, Ph.D., Executive Director, BioConjugate Discovery and Development, Oncology Research Unit East, Pfizer. **Title:** Target, Drug and Linker Selection Strategies for Antibody-Drug Conjugates.
- **Jason Rouse**, Ph.D., Director, Mass Spectrometry and Biophysical Characterization, Pfizer. **Title:** Building a Characterization Roadmap for Antibody-Drug Conjugates: Integration of New Approaches for Increased Produce Understanding and Speed.
- **Jamie Moore**, Ph.D., Director, Early State Pharmaceutical Development, Genentech. **Title:** Challenges with Formulation Development of ADCs.
- **Peter Senter**, Ph.D., Vice President, Chemistry, Seattle Genetics, Inc. **Title:** Antibody-Based Therapeutics for Cancer Therapy.

**Student Speakers:**

- **Jessica Bane**, Department of Pharmaceutical Chemistry. **Title:** Expanding the scope of antibody degradation: Novel oxidative side chain cleavages in IgG1.
- **Srivalli Telikepalli**, Department of Pharmaceutical Chemistry. **Title:** Protein Aggregation of Biotherapeutics: Sources and Methods of Characterization.
- **David Hymel**, Department of Medicinal Chemistry. **Title:** Towards Synthetic Lethal Targeting of Cell Surface Receptors.
- **Euna Yoo**, Department of Medicinal Chemistry. **Title:** Structure-Activity Relationships in Toll-like Receptor 7 Agonistic 1H-Imidazo[4,5-c]pyridines.

The Department held its 8th Annual Fall Retreat on October 13, 2014, together with the Department of Medicinal Chemistry, and the focus this year was on “Vaccines and Innate Immunity”. Like always we had a mix of presentations by invited speakers and KU graduate students, and this year’s invited speakers were D. Casimiro (Merck), R. Coffman (Dynavax), L. Brito (Novartis), J. Shi (Kansas State University), M. Papania (Center for Disease Control), and L. Kueltzo (National Institutes of Health).
**Undergraduate Research Program (URP)**

The URP was successfully completed with poster presentations by students on July 25, 2014. The program is directed by Dr. Cory Berkland with the help of Ann Heptig. This program is one of the recruiting tools to attract potential graduate students to the department. The 2014 summer URP participants were:

- Alyssa Cobbs, University of Arkansas at Pine Bluff. Lab: Dr. Teruna Siahaan
- Jager Hartman, Western Michigan University. Lab: Dr. Thomas Tolbert
- Andrea Livingston, University of Kansas. Lab: Dr. Cory Berkland
- Kathryn Miltner, Ohio Northern University. Lab: Dr. Valentino Stella
- Xiazi (Iris) Qiu, Wittenberg University. Lab: Dr. David Volkin
- Tarnuma Tabassum, Mount Holyoke College. Lab: Dr. Michael Wang

One hundred students attending 48 colleges and universities from 27 states and abroad participated in the undergraduate research programs, which were offered from 11 different departments and programs on campus this summer.

**Departmental Staff**

Nicole Brooks has been with Department since October, 2002. She still enjoys spending time with family and friends, cooking, gardening and traveling. She and her son traveled to Seattle in June to visit her brother, then went to the Dominican Republic with her sisters. She is still attempting quilting as a new hobby thanks to her co-workers. Her son, Jacob, turned 10 in April and started the fifth grade in August. He played baseball over the summer and is playing football for the first time this fall and he still loves playing video games.

Tammy Dunning has completed her twenty-third year in the Pharm Chem Department, and thirteenth year as Editorial Assistant for the Journal of Pharmaceutical Sciences. Her hobbies include quilting, reading, working in her yard and watching KU football and basketball games.

Karen Hall is in the middle of her 14th year with the department. She keeps busy assisting Becky Whaley in her soap business. There have been several additions to her feline family.

Nancy Helm continues to handle all the apps for the graduate students in our doctoral program as well as the distance masters program. She enjoys keeping in touch with many of the former students (via phone, e-mail and texting…especially during KU basketball games!!). If anyone is ever visiting in the Lawrence area, please let Nan know. We would be happy to see you! From her personal life perspective, her daughter, Amanda, is in her 4th year of teaching in the Auburn-Washburn Rural School District (Topeka) as a middle school journalism teacher and Kyle started a new job in Overland Park at DEG Marketing. Both Amanda and Kyle are working on their Masters degrees (Amanda – School Counseling (Emporia State); Kyle – MBA (Baker)) and are on track to finish the degrees in 2015. In Nan’s spare time, she enjoys working in her yard and is always on the lookout for unique “yard art” objects!

Ann Heptig has been with the Department since August, 2001. Ann and her husband, Dan, have two grandsons in Pennsylvania and a granddaughter in Minnesota. Ann’s interests are quilting, reading, gardening and seeing her grandkids.

Becky Whaley continues to work with J. Pharm. Sci., which she has been doing since September, 2001. She keeps busy with her soap business, SallySueSoaps & Luxuries, “the Pink Goat soap company”, making goat milk soaps and lotions. She and Karen Hall attend several shows around the area each year. Becky’s daughter Emily will be getting married October 4. (last one…WOOT!) She’s also enjoying her granddaughter, Kinley, born November 27.
Name that professor!!!
Professor Ken Audus’ interest continues in drug transport and permeability properties of the placenta and blood-brain barriers. When he has an opportunity, he continues collaborative work on various research projects with several colleagues at KU and KU Medical Center. On the personal side, Ken and Cheryl enjoy their grandchildren Luke, now 10 years old, and Mae, now 7 years old. Ryan lives in Leawood, Kansas (Kansas City metro area), which means we (mainly Cheryl) get to see and watch the grandchildren often. Carly is working and living in Lawrence and spends a lot of time now with her significant other, Ben. Cheryl is “retired” but continues to landscape, decorate or remodel the home, spoil the grandkids, and travel with Ken when she can. KU Pharmacy is now integrated across three KU campuses (i.e., Lawrence, Kansas City, and Wichita) and each has unique resource needs for support of students and faculty. Ken has placed a priority on and is busy planning for new research buildings to eventually locate all of the basic sciences in Pharmacy on the West campus in Lawrence. The School also hopes to participate with the Schools of Medicine, Nursing, and Health Professions on the Medical Center campus in Kansas City to build a modern Medical Education facility. As a consequence, Ken continues to spend a significant amount of time on the road for fund-raising and visiting alumni and friends of the School of Pharmacy at pharmaceutical companies around the country, and at many hospitals and community pharmacies across Kansas and surrounding states. In his “spare” time he mostly likes to find a golf course with friends, see Luke play baseball, see Mae play soccer, or assist Cheryl in home projects and has found these activities help him relax a bit.

Professor Cory Berkland continues to advise graduate students from Pharmaceutical Chemistry and from Engineering departments at KU. A few PhD students are near graduation and an additional 4-5 students are set to graduate next year. Several former students are doing very well. Mark Baily, BioE PhD, was hired by the Army to head a research group in the area of bioterrorism countermeasures. Joshua Sestak, PHCH PhD, has formed a company to develop therapeutics to treat an autoimmune disease, Neuromyelitis Optica. Also, a spin-out from the lab, Savara Pharmaceuticals, completed a successful Phase I clinical trial on an inhaled antibiotic for the treatment of MRSA in Cystic Fibrosis patients and recently initiated a Phase II clinical trial. Cory is spending the second half of 2014 on sabbatical at Sofinnova Ventures in Menlo Park, CA.

Professor Ron Borchardt continued in 2013 and 2014 to successfully execute his GHS (Graceful, Honorable and Systematic) Plan for moving from a very hectic and stressful professional life to a more relaxing, less stressful, family-oriented private life. Ron’s GHS Plan sets out three simple goals: (i) spending more time with Pam and with their children and grandchildren; (ii) spending more time at the family retreat in Northern Wisconsin; and (iii) developing new interests outside of his professional life. According to his family, Ron has made significant progress in the past four years toward achieving these goals. In spite of this new emphasis on a more relaxing, less stressful, family-oriented private life, Ron still tries to keep active professionally. However, he is very careful to only select professional activities that he will enjoy and that he will impact in a meaningful way. During the first 4 years of his 5 year phased retirement at KU, Ron has focused his professional activities primarily on: (i) teaching and coordinating courses for PharmD and PhD students that fill unmet needs in their education at KU; (ii) enhancing the reputation and the impact of the Journal of Pharmaceutical Sciences in his capacity as Editor-in-Chief of this international journal; (iii) advising faculty members and graduate students at the University of Helsinki in Helsinki, Finland that will host GPEN2014 and at The University of Kansas in Lawrence, KS that will host GPEN2016; and (iv) consulting with pharmaceutical and biotechnology companies about scientific issues within his areas of expertise. Finally, Ron is looking forward to his transition in May 2015 to Emeritus Professor status.
Professor Laird Forrest and his group are continuing their work in drug formulation targeting localized tissue and lymphatic disease. There are currently 5 members in his group: Ryan Moulder, Shuang Cai, Qiuhong Yang, Peter Kleindl, and Ti Zhang, and several undergraduate students from engineering and pharmacy.

Dr. Anna Hagen is teaching three classes: “Writing and Communicating Science for Graduate Students” to second-year graduate students in the spring (in time for submitting and presenting their Ph.D. thesis proposals), “Pharmaceutical Calculations” to 3P Pharmacy students in the fall, and a new elective for 5P Pharmacy students called “Scientific Writing for the Health Professional”, which will start in Fall 2014. She continues to explore new ways to teach writing.

Professor Jeff Krise and his group continue to study how small molecular weight drugs localize and distribute within cells and how this impacts therapeutic outcomes. Our recent emphasis has been focused on the extensive accumulation of weakly basic drugs in acidic lysosomes. We are interested in understanding how the lysosomal entrapment of drugs observed in single cells grown in culture impacts whole body pharmacokinetic distribution behavior. In addition, we are interested in understanding how drug accumulation in lysosomes influences their normal structure and function. This research may ultimately lead to a better understanding regarding how drugs exert their desirable therapeutic effects as well as undesirable side effects. Jeff and his wife Joanna are happy to announce the birth of their son Edward who was delivered on April 9th of this year. Abigail is now nine and Steven is seven. We wish everyone the best.

Professor Jennifer Laurence This past year I particularly enjoyed the opportunity I had to visit Iceland, Finland, and Estonia for the first time due to travel to the GPEN conference, where a group of our faculty presented a new short course on Targeted Therapeutics: Protein and Peptide Conjugates. It was great fun getting to know many KU and more distant colleagues better. My KU lab continues research in conjugates involving the metal abstraction peptide technology, and we are very excited that our first paper on the use of this technology as the clAMP Tag inline metal carrier was published in Bioconjugate Chemistry and highlighted on the cover in June. This has created exciting opportunities to collaborate with excellent partners and to expand into new areas of application. I welcomed new PhD student Michaela McNiff to the lab last winter. Michaela is a student organizer of GPEN 2016, and she too enjoyed visiting Helsinki and meeting many KU alumni and colleagues. Brittney Mills completed her PhD in May and is now a postdoc with Russ Middaugh and David Volkin. We are also very proud of Emily Haynes, who has been conducting her undergraduate research with us, for winning first place in the KU 2014 Undergraduate Research Competition. On a more personal note, Otis and Lucky are doing well too.

Professor Susan Lunte Forthcoming.
**Professor Russ Middaugh and Professor David Volkin**

The Macromolecule and Vaccine Stabilization Center (MVSC) continues to focus on (1) physicochemical characterization of macromolecules, (2) stabilization and formulation of vaccines and biopharmaceuticals, and (3) inter-relationships between protein dynamics and stability. Five new postdocs (Drs. Ronald Toth, Brittany Mills, Yu Wang, Ashaben Patel and Jian Xiang) joined the MVSC in 2013 and the first half of 2014. Emily Thomas-Dykes recently joined our group as an Administrative Assistant. Seven lab members (students and postdocs) left the group and moved to positions in industry and academia (Dr. Rajoshi Chaudhuri to the Vaccine Research Center at NIH, Dr. Yuan Cheng to Bristol-Myers Squibb, Dr. Nathan Maddux to the University of Colorado, Boulder, Dr. Sashikanth Banappagari to Novovax, Dr. Nishant Jain to Vaxess, Dr. Mohammad Alsenaidy to King Saud University, Saudi Arabia, and Dr. Justin Thomas to Eli Lilly). Drs. Neha Sahni and Jae Hyun Kim were promoted to Research Associates, and Dr. John Hickey was promoted to Senior Research Associate.

One of Dr. Volkin’s first graduate students, Mohammad Alsenaidy, passed his Ph.D dissertation defense and was hired as Assistant Professor at King Saud University, Saudi Arabia. Two of Dr. Volkin’s other “first batch” of graduate students, Ranajoy Majumdar and Srivalli Telikepalli, are scheduled to defend in August and early Fall 2014, respectively. Both have already accepted staff scientists positions, Ranajoy will be joining the biopharmaceutical industry at Eli Lilly and Srivalli will be joining the National Institute of Standards and Technology (NIST), a federal agency in the US Commerce Department. Dr. Middaugh took a new graduate student, Sivakrishna Angalakurthi and Dr. Volkin took two new graduate students, Samantha Pace and Vishal Toprani. Overall, 2013 was a busy year in the MVSC, with expanding numbers of personnel, projects and publications. We expect 2014 to be a very promising year and wish you the same!

**Professor Christian Schöneich**

The year 2014 has been very eventful and a top highlight was, of course, the performance of the German soccer team at the World Cup in Brazil. The students and staff in the Department knew very well why there were certain mornings in June and July, when I had to take a lunch break already at 11:00 a.m. (live TV of the soccer matches!). Nevertheless, research in the group is progressing very well, with numerous interesting and novel findings on mechanisms of peptide and protein oxidation. For example, we published a collaborative paper with Ted Randolph and John Carpenter at the University of Colorado, in which immunogenic samples of growth hormone, generated through light exposure, contained significant yields of covalent cross-links, including an unusual ether bond in place of original Cys and Ser residues. The underlying mechanisms for cross-link formation likely involve thiyl radical reactions. Thiyl radicals are also key to another interesting result, where light exposure of a monoclonal antibody led to sequence-specific generation of D-amino acids. We are part of a team (including David Volkin, Laird Forrest, Thomas Tolbert, and Russ Middaugh from the Department of Pharmaceutical Chemistry) which was awarded a significant grant by the FDA to correlate chemical stability of macromolecular drugs with biological activity, an exciting project which will likely continue through most of 2017. Additional grants are under review, e.g., a collaborative grant to the NIH on the adverse effects of light on protein formulations in delivery devices, including immunogenicity. We expect that Jessica Bane (former Haywood) and Christopher Asmus will graduate within the next few months. Jessica has completed studies on photo-degradation reactions of monoclonal antibodies and several model peptides. Christopher has completed low-temperature NMR studies on the reaction of pyruvate with hydrogen peroxide, where we were able, for the first time, to demonstrate the formation of an important intermediate by 13C-NMR. Elena Dremina left the group at the beginning of 2014, to join Victor Sharov in Philadelphia. A new postdoctoral student, Lin Zhang, arrived in June, and she has done very nice research on the oxidative degradation of polysorbates. Christian has been traveling to several interesting places this year, including Tokio, Kyoto, Paris, Lisbón, Zürich, Munich, Helsinki, Zermatt (in the Swiss Alps), and several times to New York, Boston, and San Diego. The family is continuing a busy life of college, teaching and traveling. Sonia has started to study Chemistry in the Honors Program at KU. Antonio is in his second year of Aerospace Engineering, also in the Honors Program at KU, and Sebastian has started his senior year in the Honors Program (biochemistry
and philosophy), has taken the MCAT, and has submitted six applications to various medical schools in the US. Elena continues to teach Italian at KU and to be an active member of the Italian community in Lawrence and Kansas City. Our family vacation was in Germany and Italy, and, as usual, the family is looking forward to the next summer.

**Professor Teruna Siahaan’s** group is still working on utilizing cadherin peptides to modulate the blood-brain barrier (BBB) for improving drug delivery to the brain and targeting molecules to antigen-presenting cells for controlling autoimmune diseases. Recently, the group had shown that cadherin peptides can enhance the in vivo brain deposition of Gd-DTPA, an MRI enhancing agent, and near IR dyes. We are currently investigating the mechanisms of action of cadherin peptides and trying to deliver diagnostic and therapeutic agents in animal models of brain diseases. We also continue to work on targeting antigenic peptides to antigen presenting cells (APC) for suppressing autoimmune diseases by altering the commitment of T cells from inflammatory phenotypes (Th1 and Th17) to regulatory/suppressor T cell phenotypes (T-reg and Th2). In 2013-2014, the group published 9 papers and 2 book chapters. Now, the group consists of three graduate students (Ahmed Alaofi, Kayann Tabanor, and Matt Behymer), one Research Associate (Paul Kiptoo), and two undergraduate students (James Noonan and Cheyenne SunEagle).

**Professor Valentino Stella** This has been another interesting year. One change has been my decision to start phased retirement. As of January, this year, I am now 50% time at KU. Beth noted that I have gone from working 200% of the time to 100% of the time. However, my response is that it now takes 100% of the time to do what used to take me to do 50%. In this phase, I no longer teach the PharmD students but I continue to teach in both the Equilibria course as well as the Stability course. On the research front, I have a post-doc and an undergraduate researcher and am enjoying the research into novel ways of stabilizing peroxide sensitive drugs.

On a personal note, our oldest daughter, Cathy, her husband and three grand kids are in Sydney, Australia and it looks like they will be there for another two years. Needless to say, Qantas has enjoyed the company of the senior Stella family over the last 3 years. Anne is in New York trying to make it in the theatre/acting business and has found a niche working with child actors. She is going back to school to get her Masters of Education and teaching certification in theatre and English. Anne was married on Memorial Day weekend to the love of her life, Daniel, at our home in Lawrence, a great time was had by all. However, my wallet is still recovering. Elise completed her MA in Art History at University College London and has been working in NYC but plans to do a Masters of Information at the University of Toronto so that she can do archival work in a museum or for a foundation.

Beth and I enjoyed some great travel experiences again this last year. Last year we traveled to Italy, the Puglia area and Sicily, and did a photo safari to the Masai Mara in Kenyá and the Serengeti in Tanzania. My opinion of southern Italy was biased by my father, a northern Italian. He could not have been more wrong. The food and the people were great. Africa was amazing. If you have a chance to visit, do so. Beth and I will be traveling shortly from Petersberg in SE Alaska to Prince Rupert in British Columbia, by yacht.

I have had another good year at KU. I managed to keep myself busy and out of trouble for the most part. I have helped with a very successful fundraising effort for both a Distinguished Professorship in Ron’s and my name, assuming all who pledged follow through. Currently, I am helping to raise the money necessary to fund an extension to the Simons building to house our global health and vaccine center efforts. Adjusting to 50% was initially a challenge but I am enjoying the freed up time. My garden is looking much better this year.
**Professor J. Stobaugh's** research group now consists of himself, as his last graduate student, Josh Woods, successfully defended his dissertation on August 21, 2014. In life without a graduate student, I am setting up a nanoLC with a ToF MS as the detector, yes the MS is just a detector! I am also, with my son’s help, adding on an extreme pressure chromatographic system (operated at 30,000 psi), the nanoLC and associated auto-injector becomes just that, an expensive injection device. Chromatographic columns of 75 µm id x 1-2 m L containing sub-2µm particles will be packed (requires packing at 40,000 psi). So if anyone ever comes around and I am in the lab, stay clear as flying capillaries are somewhat problematic to dodge.

**Professor Thomas Tolbert** and his group continue to study the role of glycosylation in antibody function and the production of protein drug conjugates, and recently the Tolbert, Volkin and Schönéich labs have collaborating on comparability studies in a joint NIPTe grant to develop methods for analyzing biosimilars. In the Spring of 2014 Kevin Hutchison joined the lab as a graduate student, Khalid Al-Kinani passed his oral comprehensive exam and Prof. Tolbert was awarded tenure. Over the summer, Solomon Okbazghi traveled to Washington State for an internship at Seattle Genetics and Jager Hartman from Michigan participated in the Department of Pharmaceutical Chemistry Undergraduate Research Program by working in the Tolbert lab. This Fall Prof. Tolbert is again involved in organizing the joint Pharmaceutical Chemistry and Medicinal Chemistry Fall Retreat, with the topic this year being Vaccines.

**Professor David Volkin** (see joint update with Professor Middaugh).

**Professor Zhuo (Michael) Wang** joined the department in August 2011. His group currently has four members, Dr. Sihyung Yang, Dr. Zhiving Wang, Yao Chen (graduate student) and Amy Zheng (undergraduate student). His lab also hosted a URP student, Tarnuma Tabassum, this past summer. Yao did a summer internship at the NGM Biopharmaceuticals, Inc. in San Francisco, CA. Michael and his collaborators received a DoD grant in August 2014 to study sterol biosynthesis in leishmania parasites and develop azole-arylimidamide combination to treat leishmaniasis. Another new line of research in the lab is to develop novel oral chemotherapeutic strategy by employing tight-junction modulating peptides as absorption enhancers. In addition, the group is continuing their research on understanding important drug interactions involving statins and developing mass spectrometry-based quantitative proteomic approach to quantify drug-metabolizing enzymes and transporters. The big news this year is that Jenny was born in January 2014 and she has kept Michael and his wife Judy busy at home ever since. Her brother, Jacob, now 6-year old first grader, has been so sweet with Jenny and loves to play with her.
Distinguished Professor Val Stella is fond of saying, “A day in the library is worth a month in the lab.” But with more than a million of our resources available online, KU Libraries can meet scholars where discoveries are taking place. As partners in teaching, research and learning, the libraries catalyze exploration and innovation—whether across campus or around the globe.

You can help researchers like Professor Stella make discoveries that change the world; learn how to become our official sponsor at lib.ku.edu/sponsor.

DISTINGUISHED PROFESSOR OF PHARMACEUTICAL CHEMISTRY VAL STELLA COUNS WITH POSTDOCTORAL RESEARCHER ANTONIO LOPALCO

PHOTO BY STEVE PUPLE