



Making an Impact Through Science, Discovery and Practice

ANNUAL REPORT 2012 - 13



Message from the Dean

The 2012 – 2013 academic year brought changes.



The most notable were the grand opening of our new home, John and Editha Kapoor Hall, and the announcement of Dean Anderson's retirement.

Our faculty, staff, and students began the process of acclimating to living and learning in Kapoor Hall: large, bright lecture halls with the latest educational technologies, a pharmaceutical care learning center specifically designed to educate future pharmacists, laboratories designed to enhance the education of future pharmaceutical scientists, and perhaps the most important feature, a Tim Hortons Café! In the Spring semester 2013, a national search was initiated to find a successor to Dean Anderson. I can attest that the search process was rigorous, resulting in meaningful discussions among all involved. I am very pleased to have been chosen as the school's 11th Dean.

Our faculty and staff do an outstanding job enhancing the reputation of the school via their awards, recognitions, and scholarship. William Jusko was the recipient of the American Society for Clinical Pharmacology and Therapeutics Sheiner-Beal Pharmacometrics Award, Marilyn Morris began her term as President of the American Association of Pharmaceutical Scientists, William Prescott received the 2013 Albert E. Rosica, Jr. Memorial Award from the American College of Apothecaries, and Karl Fiebelkorn was the recipient of the 2013 Pharmacy Society of the State of New York Distinguished Pharmacy Educator Award. At the local level, Nicole Albanese received the 2013 Western New York Residency Preceptor of the Year Award, Gina Prescott received the 2013 SoPPS Preceptor of the Year Award, and Jack Brown was the 2013 SoPPS Teacher of the Year recipient. These and many other faculty members' contributions allow the school to keep advancing.

I am pleased to report the accomplishments of our students have been equally as impressive via local, regional, and national recognitions. Our MEDISCA Student Pharmacist Compounding Competition Team took first place honors at the national student compounding completion, our NCPA Pruitt Schutte Business Plan Team once again placed in the top 15 at the national meeting. PharmD students mentored by Dr. Alice Ceacareanu had their research work on statins reducing ovarian cancer cited in nationally respected e-publications as well as presented at the American Association of Cancer Research annual meeting. For the 13th year a UB student has been elected President of the Student Pharmacists Society of the State of New York working alongside many other officers who are also UB students. Pharmaceutical Sciences students Cecelia (Hoi Kei) Lon and Bridget L. Morse mentored by Dr. Bill Jusko and Dr. Marilyn Morris were recipients of the American Association of Pharmaceutical Scientists (AAPS) 2012 Graduate Student Symposium Awards in Pharmacokinetics, Pharmacodynamics, and Drug Metabolism, and Clinical Pharmacology, and Translational Research. Vaishali L. Chudasama was awarded an American Foundation for Pharmaceutical Education (AFPE) Pre-Doctoral Fellowship.

This past academic year laid a strong path for a robust future for the school: a new building, new ideas, and new opportunities. I thank all members of the school as well as our alumni and partners for sharing their ideas and insights with me, allowing us to work together with this new synergy, moving us forward to create the next chapter in the school's history. I am excited to continue our work on this next exciting phase.

Warm regards,

James M. O'Donnell, PhD
Professor and Dean

SCHOOL OF PHARMACY AND PHARMACEUTICAL SCIENCES

MISSION

The mission of the University at Buffalo School of Pharmacy and Pharmaceutical Sciences is to provide a world-class, high quality education to students in pharmacy practice and the pharmaceutical sciences; create and disseminate knowledge in pharmacy practice and pharmaceutical sciences via our innovative research and development activities; and provide service and improve health and wellness locally, nationally, and worldwide.

VISION

The vision of the University at Buffalo School of Pharmacy and Pharmaceutical Sciences includes:

- To maintain a U.S. ranking as one of the top 20 Schools of Pharmacy and Pharmaceutical Sciences;
- To provide world-class education to pharmacy practice and pharmaceutical sciences students, at all academic levels including the postdoctoral level, using best-practices and evidence-based educational approaches, enabling our graduates to contribute to and advance the profession;
- To be a leader in innovative education, research, practice and service;
- To house a world renowned research enterprise that targets basic and applied research to advance basic, clinical and translational research;
- To be responsive to society's health care needs and improve health, wellness, and health care outcomes;
- To advance pharmacy practice in new and emerging practice and care models, including interprofessional team-based models;
- To provide a collaborative and productive academic environment that promotes effective mentoring, professional growth and development, and life-long learning.

VALUES

We achieve our mission and goals within a values framework that guides our enterprise and our efforts. These include:

- Excellence in teaching, research, practice and service;
- Integrity in and accountability for our teaching, research, practice, and service;
- The highest ethical standards in our education, research, practice, and service activities, imparting these values in our graduates who will be the next generation of leaders in the profession;
- A culture that embraces diversity, inclusiveness, equity, and respect for all persons;
- Innovation and creativity to advance pharmacy practice and pharmaceutical sciences applications to improve health and health care;
- Organizational values that promote and reward critical thinking and continuous quality improvement.



Table of Contents

BENCH TO BEDSIDE, BEDSIDE TO BENCH	2
EDUCATION	6
RESEARCH AND TRAINING	14
SCHOLARSHIP	18
THANKS TO YOU	26
ALUMNI RELATIONS	35
FINANCIAL REPORTS	36

"MY RESEARCH IS FOCUSED ON A SPECIAL FIELD, ANALYTICAL SCIENCE. I call my area the eyes of biomedical science."

At the bench: Associate Professor Qu has defined methodologies and advanced scientific knowledge that will change the way cancer, infection and heart disease are diagnosed and treated.



Bench to Bedside, Bedside to Bench

In Science and Practice, Little Differences are Critical

Nationally and globally, the UB School of Pharmacy and Pharmaceutical Sciences is recognized as the premiere stage for scientific innovation and novel practice. Faculty members Jun Qu, PhD, and Gina Prescott, PharmD, are among its headlining superstars.

For them, the little things are important. They know that the low-abundance proteins hiding behind a crowd of mammoth ones, and a culturally literate word to a patient are critical nuances of science and knowledge that anchor the future of diagnostic medicine and health care delivery.

CLINICAL ASSISTANT PROFESSOR PRESCOTT is exploring ways to optimize pharmacy practice outcomes among underserved populations, both locally and globally.

"Focus on the underserved came to me when I worked at one of the hospitals where we saw patients regardless of their ability to pay," she says.

"Some students would come in and not have a lot of empathy for patients who had complex social issues, or would overlook the social issues to focus just on therapeutic recommendations. They assumed the patients had made these problems for themselves. And it was disheartening to me."

AT THE BENCH, ASSOCIATE PROFESSOR QU (pronounced "Choo") has defined methodologies and advanced scientific knowledge that will change the way cancer, infection and heart disease are diagnosed and treated.

"My research is focused on a special field, analytical science. I call my area the eyes of biomedical science," says Qu, who came to UB from China in 2002 as a post-doc fellow and joined the faculty in 2004.

"Pharmaceutics is actually my family's interest. My father is a pharmaceutical scientist. The refinement process he developed produces most of the Heparin Sodium in the world, and his technique improved the yield of Heparin by 30 percent," he explains. His brother is a Professor of Medicine at Beijing University of Traditional Chinese Medicine.

After earning a PhD in analytical chemistry from China's prestigious Tsinghua University, Qu decided to pursue an academic career in biomedical research.

"My interest was to do something that could be closely related to practical diagnoses and therapy," he says of the decision not to join industry, a traditional track for chemical analysts.

Today, he has carried forward post-doctoral interest in protein and drug analysis using liquid chromatography mass spectrometry (LC/MS) to discover new knowledge and develop novel research techniques that are now applied throughout the field of clinical and pharmaceutical proteomics.

"It's a very new area of research. It's only gained popularity in the last 10 years. When I came to UB, proteomics was in its infancy.

At bedside: Gina Prescott wants to make sure people who may be unable to afford optimal drug therapies will receive appropriate counseling and access to the pharmaceutical treatment they need.



"FOCUS ON THE UNDERSERVED CAME TO ME when I worked at one of the hospitals where we saw patients regardless of their ability to pay."

Right now we are one of the top proteomics labs in the country," says Qu, who is also the Chief Scientist in Bioanalysis at the New York Center of Excellence in Bioinformatics and Life Sciences (NYS-COE).

He defines proteomics simply as "the study of all proteins in a living organism." Its investigative approach in the initial stage, he adds, contains little or no hypothesis, only discovery-based science. "For proteomics we don't have bias. We just say 'I want to see what is different.'"

But it is the differences in proteins that make the difference. And quantifiable analysis of those differences can lead to better diagnosis and optimal therapeutic treatment of cancer and other critical diseases.

"For cancer treatment, the most important thing right now is early detection," Qu explains. "Many people don't want to undergo the invasive early detection tests. But if we have a biomarker or panel of biomarkers that can be determined by drawing several milliliters of blood that can determine that a person has a significant chance of developing cancer, then it justifies an invasive needle biopsy test."

Working with an 11-member team of lab scientists, post-doc fellows, and PhD and graduate students, Qu carries out his research with 70 national and international collaborators. In addition to Gregory Hannon, PhD, renowned for his ground-breaking work with microRNA, and other UB partners, these include scientists and scholars from Australian National University, California Institute of Technology, Cornell University and the University of Rochester, among many others.

Primary among his multiple research tracks is development of the state-of-the-art biomarker for diagnoses and evaluation of therapeutic efforts. "One of the prominent paradigms of the use of proteomics is to compare proteins in clinical proteomes. If we compare the

samples acquired from people who have cancer with the samples acquired from healthy people, if they are otherwise equal, regarding age, sex, weight, then those differentially expressed proteins in the two sets of samples are potential biomarkers for cancer."

Identification and reproducible quantification of specific biomarkers is also highly valuable for therapeutic evaluation. "The protein change maps drug effect in great detail," Qu continues. "When you give a patient a certain drug, a biomarker or panel of biomarkers will tell you whether or not the drug takes effect in a short period of time, such as a week. Right now, it may take several months before you know if the drug is right for that person."

To conduct his novel bench work, Qu uses liquid chromatography/mass spectrometry technology, which is the most powerful analytical tool in the pharmaceutical industry and for biomedical research. Actually a concert of two sophisticated measurement instruments, Qu has designed novel LC/MS proteomic analysis techniques that significantly improve the reproducibility of results, data analysis and protein sequencing accuracy.

"Each protein has a unique sequence of amino acids. If you can tell the sequence of amino acids then you can identify the protein with high confidence," he advises.

His sample preparation method results in a high recovery of the important membrane proteins responsible for transportation and regulation. "Membrane proteins are very hydrophobic, so it's challenging to analyze them. We developed a suite of new procedures to enable high and reproducible recovery."

To improve the number of quantifiable proteins, Qu modified the mass spectrometer orbitrap to enhance the sensitivity, and developed a unique chromatographic strategy using ultra-high pressure and

"COMPARED WITH GENES, PROTEINS ARE THE REAL PLAYERS OF DISEASE. Our methods significantly improve the success of identifying true biomarkers." (Qu)

a long separation column. He also developed a depletion methodology to remove high-abundance plasma proteins like albumin and IgGs, and enable identification and evaluation of low-abundance proteins that are key to many diseases.

"Compared with genes, proteins are the real players of disease," says Qu. "Our methods significantly improve the success of identifying true biomarkers."

His critical work already has begun to translate into the real-life biomedical outcomes he hoped for when he came to UB. For example, when comparing control group samples from patients who later died of a heart attack to those who were still living, he discovered proteomic differences that potentially could lead to prediction of sudden cardiac arrest.

"We hypothesize that there must be some pathological source of sudden cardiac arrest that we didn't find due to previous technical limitation. So those proteins can be used as a biomarker."

Working with two pharmaceutical business partners, Qu and his research team have also helped to advance development of two therapeutics for the treating prostate and brain cancer.

"THEY SUSPECTED THAT THESE TWO DRUGS had new mechanisms of action. We found a huge number of protein changes and that the mechanisms of those two drugs are totally different. Due to this result we published the research and the company attracted \$6 million from investors," he explains.

Qu's bench work is also focused on the characterization of protein drugs in pharmaceutical systems. He collaborates with UB SoPPS colleague Joseph P. Balthasar, PhD, Professor of Pharmaceutical Sciences, to develop new strategies that enable sensitive, accurate and specific identification of protein drugs.

"Protein drugs are the future of the pharmacy industry and pharmaceutical research," Qu says.

At bedside, Gina Prescott wants to make sure people who may be unable to afford optimal drug therapies will receive appropriate counseling and access to the pharmaceutical treatment they need.

In 2009, to prepare students for a pharmacy practice future she believes will be heavily affected by cultural competency, she started teaching her own class on "Introduction to Underserved Populations."

"In class you can learn about the diseases and recommended drug therapies, but that does not always correlate to actual

patient care, particularly in the underserved population.

What are harder to define are the intangible things that go along with teaching and developing a patient regimen, like understanding why they don't take their drugs the way they are supposed to. Is it because they are not health literate? Is it because of the cost? It is because they can't read at the level that all drugs are marketed at?" Prescott says.

"A lot of people assume patients are just non-compliant and don't explore these issues further. In fact, most of the patients I see want to have good health. They want to be compliant and do what the doctor tells them. But they don't understand their disease, or they have multiple diseases and don't know what all their different medications are for."

A native of a suburban Hershey, PA, Prescott earned her PharmD from the University of Pittsburgh in 2002, and completed a pharmacy practice residency at Thomas Jefferson University Hospital in Philadelphia before joining the UB faculty in 2004.

Her unwavering commitment to a career in pharmacy practice began in junior high school: She lived with a sick grandparent who kept pills that fascinated Prescott on the kitchen table – and several friends of the family were pharmacists.

"I knew early on I wanted to go into healthcare. I was a typical science and math student, very good in science and math. So I looked at either going to pharmacy school or medical school," she says, crediting an early mentor for vocational guidance.

A high energy mother of two preschoolers, her extensive community service experience contributes to her keen focus on developing clinical best practice for underserved populations. By 2060, says Prescott, Hispanics and Asian populations are expected to double. By 2043, the U.S. is projected to become a "majority-minority" nation and by 2060 "minorities" will comprise 57 percent of the population.

"We know that people with lower English language proficiency are not as readily integrated into the health care system. Over half of our population will be people who probably weren't included in research studies, so we won't really know how to model our healthcare system."

While other pharmacy schools address generalized clinical practice among underserved communities, there currently is no definitive research or



outcomes measurement on effective models for serving the underserved, particularly when it comes to pharmacy.

At UB, Prescott has begun to address this future challenge in part by collaborating with the School of Medicine to send students to free clinics on the East Side of Buffalo and in rural South Wales, NY. Working as a team with other faculty members, students counsel uninsured patients and help providers with alternative medication selection.

"We help patients get their medications, educate them on their medications, and come up with alternatives to expensive medications that doctors may or may not be aware of," she explains, adding that she also helps students identify resources such as free medication programs run by drug companies.

For the last two years, Prescott has also organized an annual student medical mission to the Dominican Republic. "As we start to develop better disease management protocols in the United States, it is important to see how we can apply them in other places. It's a way to get students thinking more globally," she says.

Improving cultural competency within the pharmacy profession to address low health literacy among the underserved is critical.

"AS THE HEALTHCARE LANDSCAPE CHANGES, there's going to be a huge opportunity for pharmacists over the next five or ten years because we are the most accessible health care professionals. Patients want someone to take time with them and to be listened to, to feel like a person. I think so many patients don't feel that way right now," says Prescott.

"It's important to take time to understand why patients do what they do and support those measures that are actually good medically, or at least not harmful, then work with the patient to try and lessen the more harmful cultural issues."

She brings this enthusiastic perspective to the classroom. With a heavy course load of 19 classes, Prescott captured the 2011-2012 UB SoPPS Teacher of the Year Award for teaching innovation.

When asked to define her teaching technique, she says that

one strategy is the use of realistic, practical patient cases or modified real life examples.

"I think that's important because textbook cases don't always accurately represent what they'll see when they get out of school. I also try to get students involved with their own learning, whether it's having them come up and present or lead a discussion in class," she says, adding that every class she teaches includes a participatory element.

"When there's more participation on their end and more accountability, they retain more. I think they apply what they've learned, and use their critical thinking skills."

Prescott also requires her P4 students to research, interpret and defend every recommendation they make for medication modification and patient treatment.

"Every day they have to bring in something they have found in a journal or other article that supports how they are going to take care of a patient. They struggle with that in the beginning, because it takes a lot of time on their end and they're not sure where to look," she says.

"Almost always at the end they tell me that it's something they really appreciated, because they learn how to use the critical research to impact someone who is really sick in the hospital or in a clinic setting. And when they go to talk to a physician they have already looked up the information so they are confident when they are asked questions."

Although her pharmacy practice right now is primarily focused on service and counseling, Prescott is looking ahead. "I would like to move toward more of a research capacity so that we could outline best practices for helping underserved patients and defining quality measurement tools," she says.

"My scholarly work will identify gaps in underserved areas where there needs to be more research, and highlight important components for teaching this generation of students about caring for a more global population."

With an extensive list of scholarly publications and profound scientific collaborations, Qu continues to uncover phenomenal new ground in proteomics and bioanalysis. Among other pursuits, he and his team are investigating the pharmacodynamics and pharmacokinetics of protein drugs, a nascent area of biomedical research called pharmaco proteomics.

"I thank the hard and creative works of our lab members, and the generous support from the department, the school and the University for making our tremendous progresses possible," Qu says.

"We hope to develop accurate and sensitive methods to characterize protein drugs and their effects," he adds. "I hope to significantly improve diagnostic treatment."

— Jessica Thorpe, *Outside the Box*



Education

The SoPPS educates students in pharmacy and the pharmaceutical sciences, providing them with the critical thinking skills to allow them to achieve the desired outcomes of drug-related therapy and disease management through research and clinical intervention.

Admissions

The Office of Admissions and Advisement strives to continually improve and enhance our processes through creative innovation and strategic policies.

Our first year in John & Editha Kapoor Hall, located on UB's historic and beautiful South Campus, allowed an exciting opportunity to showcase our stellar programs, renowned faculty, engaging students, and unique Academic Health Center comprising the five professional health sciences schools.

Our Dean's Alumni Ambassadors, now in its seventh year, is an integral component of our recruitment efforts. Our ambassadors to engage in a variety of admissions activities by attending graduate school recruitment fairs across the country, electronically reviewing admission applications, assisting with onsite interviewing, and as valued speakers for our annual Orientation and White Coat Ceremony. This year our Dean's Student Ambassadors began a new role as Peer Mentors to provide prospective and current UB students information about getting involved, special programs, course selection, and other professional advice and tips.

Our active social media presence continues with our school based Facebook Fan Page, Twitter, and UB Pharmacy YouTube Channel. These social media tools help us interact with new and existing markets in dynamic ways and better connect with our highly competitive applicants. These initiatives, together with our strong outreach programs and other electronic and paper media, continue to have a positive impact on the quality of our talented and diverse applicant pool, ultimately allowing us to attract and enroll the best students in our P1 PharmD class. Our newest effort, a SoPPS LinkedIn Mentor Network, provides an opportunity for current PharmD students to network with our alumni for personal, professional, and career advice.

The University and the School continued our strong tradition and welcomed another highly talented freshman class, with over 250 students indicating pre-pharmacy as their intended major, representing 7 percent of the undergraduate incoming class. UB's Early Assurance Program (EA) continues to offer outstanding pre-pharmacy students the opportunity to enter our PharmD professional program with a minimum GPA of 3.5. The median GPA for EA students accepted into the program for this year was 3.7.

Meet the Class of 2016

Interviewed	240
Accepted	126
Middle 50th Percentile Science & Math	
GPA (Biology, Chemistry, Physics, Math)	3.1 – 3.7*
Middle 50th Percentile of Sum PCAT	
Percentile Score (excluding composite)	318 – 391*
In-State	77%
Out-of-State	21%
Foreign Citizen	2%
Females	58%
Males	42%
2 years or less of college	35%
Bachelor's degree or higher	55%
Average Age	22
Number of States/Provinces Represented:	14

*The middle 50th percentile reflects those between the 25th and 75th percentiles.

Degrees Granted (2012-13)

PharmD	111
BS in Pharmaceutical Sciences	12
BS/MS in Pharmaceutical Sciences	8
PhD in Pharmaceutical Sciences	8
Total	139

Degree Program Enrollment (2012-13)

P1 Year	132
P2 Year	122
P3 Year	130
P4 Year	113
PharmD Subtotal	497
BS in Pharmaceutical Sciences	33
BS/MS and MS in Pharmaceutical Sciences	24
PhD in Pharmaceutical Sciences	42
Pharmaceutical Sciences Subtotal	99
Total Enrollment	596



Office of Continuing Pharmacy Education

During the past year the Office of Continuing Pharmacy Education (OCPE) has expanded the number of continuing professional development activities offered as webinars.

Fiscal Year 2012-2013

UB Programs	21
Home Study Programs	3
Cosponsored	20
Total	44

These webinars are creating additional programming opportunities for our alumni, out-of-area preceptors and pharmacists across the nation to participate in live offerings remotely. The inclusion of remote response ware has given the webinar audience the ability to participate in active learning in real time.

Newly developed and added to the CE online registration page, www.pharmacy.buffalo.edu/ce, is the online homestudy library of continuing educational activities. These will continue to be expanded over the coming year, providing opportunities for the pharmacist who was unable to attend the live offering to participate in this as an enduring activity.

Lunch time webinars, working into the busy health care

professional's day, have been incorporated and the school's outstanding group of pharmacy residents have been among the first group of presenters.

The Office of Continuing Pharmacy Education held its inaugural meeting of the newly developed steering committee. The role of the committee is to provide expertise and offer forward planning, identifying needed educational areas such as changes in therapy guidelines and treatments, new legislation, and educational gaps. The committee will also play a key role in developing programming for inter-professional audiences.

The steering committee identified the following key areas:

- Affordable Care Act/Accountable Care Organizations
- Transition of Care
- Opioids/I-Stop/Drug Overdose
- Adherence

Many health care employers work with the CPE Office creating specialized offerings for their employees. The CPE office is pleased to provide accreditation for programming offered by our health care partners.

Continuing Education Programs and Symposia

University at Buffalo

- 9/26/12 What to do about Opioids?
- 11/14/12 Weight Loss: Have we Finally Developed a Solution?
- 11/28/12 No Longer a Last-line Therapy: Why we can't Replicate Bariatric Surgery with Diet, Exercise or Medication
- 1/9/13 Smoking Cessation
- 1/23/13 A Painful Transition: Pain Management During Transition of Care
- 1/27/13 Pharmacy Law Update 2013/Buffalo
- 1/31/13 Providing Effective Student Feedback: Challenges and Strategies in the Experiential Setting
- 2/10/13 Pharmacy Law Update 2013/Rochester
- 2/17/13 Head Pain/Head Trauma
- 2/27/13 Pharmacotherapy Update: Cardiovascular and Renal Risk Reduction in Diabetes Mellitus
- 3/10/13 Medication Errors 2013 Buffalo
- 3/14/13 Providing Effective Student Feedback
- 3/17/13 Medication Errors 2013 Rochester
- 3/20/13 I-Stopping Prescription Drug Abuse: How the Law Update will affect Pharmacy Practice
- 3/27/13 Management of Hyperglycemia in Type 2 Diabetes Mellitus
- 4/3/13 Use of Atypical Antipsychotics in Vulnerable Populations
- 4/17/13 Pain Cream Recipe and Counseling: Tailoring to Nociceptive and/or Neuropathic Pain
- 5/16/13 Medication Errors in the In-Patient Setting
- 5/16/13 Medication Errors in the Out-Patient Setting
- 5/23/13 18th Annual Comprehensive Pharmacy Law Review for Pharmacists and Technicians 2013/Day 1
- 5/24/13 18th Annual Comprehensive Pharmacy Law Review for Pharmacists and Technicians 2013/Day 2

Co-Sponsored

- 9/15/12 Gestational Diabetes, Diabetes in Children, Diabetes in the Elderly
- 10/20/12 Pharmacology Oncology Symposium 2012 (six sections)
- 11/1/12 Smoking Cessation
- 11/20/12 Controlled Substances 2012
- 12/1/12 Pain Medication for Non-Pain Specialists: Focus on Appropriate Opioid Use for Chronic, Non-Cancer Pain
- 3/23/13 Practice and Performance in Hematologic Oncology 2013
- 4/17/13 Chronic Obstructive Pulmonary Disease: A Clinical Review and Update for Pharmacists
- 4/28/13 Updates to the HIV Treatment Guidelines
- 6/5/13 APHA's Pharmacy-Based Immunization Delivery
- 6/7/13 Update on Castrate Resistant Prostate Cancer
- 6/10/13 Don't Break a Leg: Managing Bone Health in the Oncology Population
- 6/29/13 Multidisciplinary Management of Net Cancers: Pt. 1
- 6/29/13 Multidisciplinary Management of Net Cancers: Pt. 2

Ongoing Online Programs

- HIV Annual Update 2013
- HIV Pharmacotherapy Community Pharmacy CE Program
- HIV Pharmacotherapy Practice-Based Program



Residency Training Program Summary 2012-13

The Department of Pharmacy Practice maintained its commitment to providing post-graduate education via general (PGY-1) and specialty (PGY-2) residency training. During the 2012-13 academic year, the residency program continued to demonstrate growth. The program consisted of eight PGY-1 residents training in four unique practice sites across Western New York; one in the inpatient setting, two in the primary care/patient-centered medical home setting, one in the hospice/palliative care setting, and four in the community pharmacy setting. Our program also offered two PGY-2 training programs; one in HIV and one in Drug Information, which was a new addition to our program this year.

Our mission, to educate pharmacy residents in pharmacy practice, clinical precepting, didactic teaching, clinical research and manuscript writing; to provide patient care; and to provide services to the community at large based upon this knowledge, with the goal of training pharmacy residents to practice autonomously in a variety of settings, sets the framework for our program.

The goals of our program continue to be achieved by involving our residents in a variety of clinical activities at their training sites as well as other sites in the community, including local health maintenance organizations and community health centers for the underserved. Research projects and opportunities to engage in a variety of teaching experiences also help in attainment of our goals. To enhance and hone skills, our residents attend a teaching certificate program, participate in small and large group didactic teaching and clinical precepting, present an ACPE-accredited CE program, participate in a didactic research course, and complete at least one research project within their area of pharmacy practice. The University at Buffalo School of Pharmacy and Pharmaceutical Sciences continues to sponsor Residency Project Presentation Day. In April 2013, we hosted a record 39 residents from Buffalo, Rochester and Syracuse and moved the program from an offsite venue to our new home in Kapoor Hall. This program gives the residents an opportunity to showcase their research in a platform-style presentation and receive feedback from residency program directors, preceptors and fellow residents.



PHARMACY PRACTICE RESIDENTS/FELLOWS

Christopher Diehl, PharmD
Resident
PGY1- Community Pharmacy/
Middleport Family Health

Amanda Hodges, PharmD
Resident
PGY1- Pharmacy Practice/ECMC

Yen-Yien (Jason) Hou, PharmD
Resident
PGY1- Community Pharmacy/
Vascuscript

Rachel Jarbe, PharmD
Resident
PGY1- Homecare/Hospice-Niagara
Hospice

Drew Lambert, PharmD
Resident
PGY2- Pharmacoinformatics

Amy Moss, PharmD
Resident
PGY2 HIV/AIDS/ECMC

Kerri O'Connor, PharmD
Resident
PGY1- Community Pharmacy/
Vascuscript

Michael Parker, PharmD
Resident
PGY1-Ambulatory Care/Lifetime
Health

Katherine Spence, PharmD
Resident
PGY1- Primary Care/Buffalo Medical
Group

Anthony Weiland, PharmD
Resident
PGY1- Community Pharmacy/
Middleport Family Health

Mohamed Elmeliegy, PhD
Fellow
Drug Development/Novartis

Benjamin Guiastrrenec, PharmD
Fellow
Drug Development/Novartis

Calvin Meaney, PharmD
Fellow
Immunosuppressive Pharmacology

Vidya Perera, PhD
Fellow
Drug Development/Novartis

Yan Qin, PharmD
Fellow
Drug Development/Novartis

Gauri Rao, PharmD
Fellow
Roche

Rachel Soon, PhD
Fellow
Drug Development/Novartis

Lance Wollenberg, PhD
Fellow
Drug Development/Novartis

PHARMACEUTICAL SCIENCES POSTDOCTORAL ASSOCIATES/FELLOWS

Sihem Ait-Oudhia
Mechanistic PK/PD Modeling of Anti-cancer Drugs; Modeling of Noninvasive Images of Tumor Vasculature; Mechanism-based Disease Progression Modeling of Rheumatoid Arthritis

Yanguang Cao
Mechanistic PK/PD Modeling of Anti-diabetes Drugs

Melanie Felmlee
In Vitro-In Vivo Extrapolation of Renal Clearance: Determination of Scalars of Renal Transporters

Tao Ji
Use of Accelerator Mass Spectrometry for Investigating Target Ligand Turnover kinetics

Gilbert Koch
Mechanistic PK/PD Modeling of Anti-cancer Drugs; Modeling of Lifespans and Delays

Jun Li
Proteomic Investigation of Drug Therapy Responsive Proteins and their Post-translational Modifications (PTMs)

Dongyang Liu
PK/PD/PG/DIS Models for Exploration of Cytokines Role in RA Progression of Rats

Eslam Nouri Nigjeh
Label-free and Biomarker-discovery-based Quantitative Proteomics

Zhi Lin (Gary) Mo
Lifespan PKPD modeling of tumor growth inhibition by anti-cancer drugs, and mechanistic PKPD modeling of chemotherapy-induced thrombocytopenia

Ayse Meric Ovacik
Algorithmic Study Design for Identification of Target Expression from Disposition Data Systems Pharmacology Modeling of Therapeutic Proteins in Signaling Networks

Nathaniel Page
The disposition of monoclonal antibodies in the brain (of rats) and to evaluate a new target classification scheme, through mathematical modeling and simulation, to facilitate efforts to engineer monoclonal antibodies for improved dose-potency

Yuzhuo Pan
miRNA Regulation on Drug Metabolism and Disposition

Adolfo Quinones-Lombrana
Molecular and Functional Characterization of Human Anthracycline-metabolizing Enzymes

Siddharth Sukumaran
Pharmacokinetics & Pharmacodynamics of Corticosteroids Drugs used for Immunosuppression and as Anti-inflammatory Agents

Weiyan Zhang
General Platform for Understanding the Subcutaneous Absorption of mAbs

Ying Zhang
Systems Biology of Erythropoietin Production Under Hypoxic Conditions in Rats. Application of Transit Compartments Model in Describing Signal Transduction and Delays in PK/PD Systems



Commencement Awards

Lilly Achievement Award

Abigail Gregg

Michael E. Crawford Award

Angela Borton

Eino Nelson Award

Christine Trezza

UB Pharmacy and Pharmaceutical Sciences Alumni Association Award

Sarah Handley
Vikram Sundararaman

David E. Guttman Award

Scott Ferguson

Renee A. Dederich Award

Will Bossard

Francis P. Taylor Award

Abigail Gregg

UB School of Pharmacy & Pharmaceutical Sciences Professionalism Award

Sarah Morse

Robert H. Ritz Award

Christine Trezza

National Community Pharmacists Association Outstanding Student Member Award

Vikram Sundararaman

Roger Mantsavinos Award

Abigail Gregg

Lori Esch Memorial Award

Emily Chan

Merck Award

1st Michelle Davis,
2nd Christine Trezza,
3rd Abigail Gregg

Robert M. Cooper Memorial Award

Sarah Morse

Mylan Pharmaceutical Excellence in Pharmacy Award

Maria DiGuglielmo

Facts and Comparisons Award of Excellence in Clinical Communication

Michelle Mancuso

Roy M. Barr Award

1st Stephen Wolff,
2nd Srijana Jonchhe

Western New York Society of Health-system Pharmacists Award

Nikolas Onufrak

Samuel J. Bauda Award

Cierra Treu

Pharmacists' Society of the State of New York

Maria DiGuglielmo

Natural Medicines Comprehensive Database Recognition Award

Scott Coon

McKesson Leadership Award

Jamie Chin

TEVA Pharmaceuticals USA Outstanding Student Award

Sarah Passafiume

A.B. Lemon Memorial Award

Brigette Nezami

The Inpatient Advanced Pharmacy Practice Experience Award

Natalie Edbauer

The Outpatient Advanced Pharmacy Practice Experience Award

Crystal Na

Pharmacists' Association of Western New York Student Leadership Award

Christine Trezza

Excellence in Pharmacogenomics Award

Carlos Collazo

Katherine Doyle Memorial Award

Michelle Ingalsbe

Kelli Jordan Memorial Award

Nikolas Onufrak

Phi Lambda Sigma Certificate of Achievement Chapter Member of the Year Award

Jamie Chin

The Outstanding Graduating Senior Award in Pharmaceutical Sciences

Scott Ferguson

Margaret C. Swisher Memorial Award

Stephen Wolff

ASP Certificate of Recognition

1st Scott Coon,
2nd Ali Mohamedali

The Robert H. Gumtow Undergraduate Research Award in Pharmaceutical Sciences

Brittany Walker

Excellence in Teaching Award

Jack Brown, PharmD
Clinical Assistant Professor



Student Supporters

The following supporters have provided generous funding for the educational training of pharmacy postgraduate residents and fellows, as well as trainees in all levels for pharmaceutical sciences programming.

Pharmaceutical Sciences

PHD STUDENTS

Genentech

Jun Wang

Pfizer, Inc.

Carrie Sanborn

Xu Zhu

John & Editha Kapoor Fund

Rutwij Dave

Center For Protein

Therapeutics

Gurkishan Chadha

Frank Engler

Tommy Li

Xin Miao

POSTDOCTORAL FELLOWS:

Pfizer, Inc.

Sihem (Ait-Oudhia) Bihorel

Yanguang Cao

Center For Protein

Therapeutics

Tao Ji

Eslam Nouri-Nigieh

Nathaniel Page

Weiyan Zhang

Pharmacy Practice

POST GRADUATE RESIDENTS AND FELLOWS

Lifetime Health Medical Group

Michael Parker

Buffalo Medical Group

Katherine Spence

Novartis Pharmaceuticals

Corporation

Mohamed Elmeliegy

Vidya Perera

Yan Qin

Rachel Soon

Roche Pharmaceuticals

Gauri Rao

Who's Who Among Students in American Universities and Colleges

Mohamed Ahmedin

Will Bossard

Thang Bui

Christina Carbone

Emily Chan

Jamie Chin

Alexander Cho

Scott Coon

Michelle Creasy

Michelle Davis

Emily Diaz

Allison Dietrick

Maria DiGuglielmo

Kimberly Dorobiala

Deanna Driscoll

Natalie Edbauer

Frank Engler

Abigail Gregg

Sarah Handley

Michele Handzel

Devin Holden

Srijana Jonchhe

Jay Kang

Jonathan Knight

Emily Krecko

Jason Lee

You Jin Leem

Ky Ma

Michelle Mancuso

Ali Mohamedali

Bridget Morse

Sarah Morse

Nikolas Onufrak

James Grant Pannell

Johnathan Rabey

Heather Rodman

Karen Shin

Caitlin Snyder

Stephanie Thomas

Cierra Treu

Christine Trezza

Nisha Vijay

Carl Woelfel

Stephen Wolff

Kara Ziegler



Student Achievements

2013 School Awards Ceremony

Christine Trezza '13: Daniel H. Murray Memorial Professional Development Award; Jamie Chin '13: US Public Health Service Excellence in Public Health Pharmacy Practice Award; Zubair Afzal '14: American Pharmacists Association Academy of Student Pharmacists National Patient Counseling Competition Award; Michelle Mancuso '13 & Jamie Chin '13: American Society for Health System Pharmacists Clinical Skills Competition Award.

MEDISCA Student Pharmacist Compounding Competition 1st Place Team Member

Georgia Di Fiore '14, Kristin Martinez '14, Samantha Mattison '14, Stefanie Wiegand '14

National Community Pharmacists Association Pruitt-Schutte Student Business Plan Competition Award

Ian Bader '15, Georgia Di Fiore '14, Lindsey Feuz '14, Kristen Mazurkiewicz '14

Association of Managed Care Student Officers Recognized

Michael Bear '14, Kristen Mazurkiewicz, Mahsa Salsabili '14 and Alexander Schepart '14 won the local student chapter Academy of Manager Care Pharmacy P&T Competition, which focuses on effective formulary management skills. Mahsa and Cody were also recognized as AMCP Members of the Year for their leadership of student chapters.

AAPS Graduate Student Awards

Cecelia (Hoi Kei) Lon and Bridget L. Morse were recipients of American Association of Pharmaceutical Scientists (AAPS) 2012 Graduate Student Symposium Awards in Pharmacokinetics, Pharmacodynamics, and Drug Metabolism, and Clinical Pharmacology, and Translational Research. Lon's thesis

is: "Pharmacokinetic / Pharmacodynamic / Disease Progression Model of Drug Effects in a Rat Model of Collagen-Induced Arthritis." Morse's work focuses on treatments for the overdose of the drug of abuse, GHB: "Effect of Monocarboxylate Transporter Inhibition on the Oral Toxicokinetics/Toxicodynamics of GHB and GBL."

2013 UB SoPPS Student Poster Day

Winners of the Pharmaceutical Sciences Undergraduate Poster Presentations:

1st Place: Sophia Elie, 2nd Place: Brittany Walker, 3rd Place: Sangwon Min

Winners of the PharmD PHC Research Track Poster Presentations:

1st Place: Erik Hefti, 2nd Place: Jeff Hui, 3rd Place (tie): Jamie Chin '13, Kayla Maxwell '13

135th Annual Convention Pharmacists Society of the State of New York Elects Student Officers

For the 13th consecutive year, a UB student has been elected president of the Student Pharmacists Society of the State of New York. UB SPSSNY Officers are: President - Wesley Kufel '14, Vice President - Rebecca Campbell '14, Treasurer - Katie Meany '14, Secretary - Mia Magliazzo '15, President-Elect - Ryan St James '15

Student Research on Ovarian Cancer Gains National Attention

PharmD students: Michelle Amsler '14, Kristina Chmiel '15, Olesya Yaremko '14, and Clare Carroll '14 (with Dr. Alice Ceacareanu, faculty advisor) research work on statins reducing ovarian cancer was cited in the e-publication, *The Gupta Guide*, April 12, 2013. Their research was also presented at the 2013 American Association for Cancer Research Annual meeting.

Individual Achievements

Hee Young Byun '15 Recipient of Competitive GSK Summer Internship

Hee Young was chosen for a competitive summer internship with Glaxo Smith Kline in South Korea where only top candidates are chosen for their high quality and challenging internship rotations.

Vaishali L. Chudasama Recipient of 2013 Pre-Doctoral Fellowship

Vaishali L. Chudasama was the recipient of an American Foundation for Pharmaceutical Education (AFPE) 2013 Pre-Doctoral Fellowship for her research work: "Mechanism-Based Cellular Pharmacodynamic Modeling of Combination Chemotherapy in Multiple Myeloma."

Scott Coon '13, and faculty member Dr. Mark Wrobel presented:

Comparison of Product Knowledge and Confidence Between Pharmacists and Health Food Store Employees, at the 2012 American System of Health Systems Pharmacists Mid-Year Meeting.

Lindsey Feuz '14 Receives Multiple Recognitions

Lindsey received two scholarships: The 2013 Donald Arthur, Sr. Entrepreneurial Scholarship in Pharmacy given to a student interested in independent pharmacy ownership, and the University at Buffalo Alumni Association Alumnae Scholarship recognizing female students for academic and extracurricular accomplishments; Lindsey was nominated by SoPPS alumna, Carol Gloff, '75. Lindsey was also chosen for a 2013 Veterans Affairs Learning Opportunities Residency (VALOR) at the Buffalo Veterans Affair Medical Center.



Kristin Hart '15 Rite Aid Summer Intern

Kristin Hart was chosen for the Rite Aid Corporate Internship program where students learn more about the pharmacy business by working on teams and with department executives. Only ten students nationally are chosen for this program.

Elizabeth Lakota '15 Attends Cardinal Health Student Leadership Conference

Elizabeth attended the 14th Annual Cardinal Health Student Leadership Conference which provides a forum for the future leaders of pharmacy to develop leadership skills while interacting with their peers from over 25 colleges of pharmacy.

Alexandra Markus '16 recipient of Novartis Internship

Alexandra Markus was the recipient of a summer internship at Novartis Pharmaceuticals working in the Global Clinical Operations Management Department.

Jinhee Park '15 recipient of prestigious Johns Hopkins Internship

Jinhee was selected for the highly competitive pharmacy internship program at The Johns Hopkins Health System. Only 15 students are chosen nationally for this eight-week program. Interns shadow pharmacists in a variety of clinical and non-clinical settings throughout the health care system and participate in pharmacy systems quality control and safety checks.

Mahsa Salsabili '14 recipient of an Association of Managed Care Pharmacy Internship

Mahsa Salsabili participated in the Association of Managed Care Pharmacy nine week summer internship where she worked with pharmacy management consultants and pharmacists in various managed care pharmacies and engaged in leadership training and presentations on health care reform.

Stephanie Thomas '13, and faculty members Dr. Mark Wrobel and Dr. Jack Brown published:

Bedbugs: A primer for the health-system pharmacist. Am J Health System Pharm. 2013;70(2):126-30.

2012-2013 Degree Recipients

Bachelor of Science in Pharmaceutical Sciences

February 2013

Sarah Butler
Neel Patel
Haena Yoon

June 2013

Linda Boampong
Depika Dev
Scott Ferguson
Neal Johnson
Edwin Lam
Yi Ting Lien
Carl Mathelier
Sangwon Min

Bachelor of Science/Master of Science in Pharmaceutical Sciences

September 2012

Xiaowen Guan
Abbey Kardys
Shunxin Lin
Obinna Obianom
Xing Xing

June 2013

Almedina Djesevic

Master of Science in Pharmaceutical Sciences

September 2012

Naveen Mangal

February 2013

Bayan Eshmawi
Jie Zhao

June 2013

Jamie Chin
Anshul Mishra
Jie Shao
Veena Thomas
Zachary Wintrop

Doctor of Pharmacy

June 2013

Andrea Acker
Jennifer Adams
Mohamed Ahmedin
Rafiq Ashkar
Brianna Baron
Angela Borton
Will Bossard
Thang Bui
Christina Bumbalo
Christina Carbone
Timothy Carroll
Emily Chan
Jamie Chin
Alexander Cho
Huan-Ching Chuang
Carlos Collazo

Scott Coon
Michelle Creasy
Benjamin Daigler
Michelle Davis
Emily Dias
Maria DiGuglielmo
Allison Dietrick
Kimberly Dorobiala
Deanna Driscoll
Kelley Dunnigan
Natalie Edbauer
Tiffany Eng
Kaila Evertts
Aleksandr Fesyuk
Michael Giaccotto
Shawn Gray
Abigail Gregg
Hoda Hamza
Sarah Handley
Michele Handzel
Alicia Hanes
Devin Holden
Christine Hou
Jeffrey Hui
Meer Husain
Michelle Ingalsbe
Srijana Jonchhe
Jay Kang
Kaitlin Kochanek
Samantha Krantz
Emily Krecko
Leah Ku
Jae Un Kwon
Courtney LaDuca
Eleanor Lai
Audrey Lambert
Brian Lee
Jason Lee
You Jin Leem
Adyline Li
JianHui Liu
Nicole Lozzi
Ky Ma
Steven Mace
Golnaz Madadi
Katie Kit Yi Mak
Michelle Mancuso
Sarah Mastrolia
Aleem Merani
Mei Mei Miao
Dustyn Miller
Ali Mohamedali
Andrea Monaco
Melissa Morano
Sarah Morse
Crystal Na
Agnes Nduka
Brigitte Nezami

Nikolas Onufrak
Sean Ordway
Natalie Palmer
Jessica Pangborn
James Pannell
Hannah Park
Sarah Passafiume
Amanda Paxton
Madison Pipitone
Sandy Poon
Jonathan Rabey
Samantha Reiss
Heather Rodman
Andrew Rumpf
Sennarith Saing
Amy Schneider
Mariam Shahabi
Alex Shen
Chen Shen
Karen Shin
Keshri Singh
Caitlin Snyder
Christopher Solinger
Vikram Sundararaman
Stephanie Thomas
Ka Tak To
Laura Tompkins
Michael Trang
Cierra Treu
Christine Trezza
Kim Van
An Vuong
Ruchuan Wang
Carl Woelfel
Stephen Wolff
Amy Zhou
Ran Zhou
Kara Ziegler

Doctor of Philosophy in Pharmaceutical Sciences

September 2012

Yang He
Xiaoyu Yan

June 2013

Matthew Kosloski
Bridget Morse



Research and Training

Create cutting edge research that enhances the body of knowledge needed for professional education, healthcare delivery, and advancement of sciences that will improve the health and wellness of the global community.

Department of Pharmaceutical Sciences

Our department has a well established, international reputation for a tradition of excellence in teaching and research, is well positioned to expand its leadership in Pharmacokinetics, Pharmacodynamics, and Protein Therapeutics, and is a leading academic institute for cutting edge research and teaching in Pharmacogenomics.

The department strengths lie in biological applications of pharmaceutical sciences to traditional small molecules as well as biotechnology products, particularly areas of systems pharmacology (pharmacokinetics, pharmacodynamics, pharmacogenomics), drug delivery, and development of new therapeutic approaches utilizing mechanistic studies with tools of genomics, proteomics, computation, and bioinformatics.

We have an excellent group of 14 tenure-track and 2 research faculty members over a range of academic levels with highly productive, largely NIH-funded research programs and some corporate support. Our total outside funding was nearly \$7 million. Our BSc undergraduate program, directed by Vice-Chair, Dr. Kathleen Boje, included 33 junior and senior students, while our graduate program, headed by Dr. Murali Ramanathan, had 21 BS/MS and MS and 34 PhD students. We also hosted 19 post-doctoral fellows and visiting scientists. We were especially busy in conducting searches for several new faculty members.

Our *Center for Protein Therapeutics*, directed by Dr. Joseph Balthasar, Associate Dean for Research, was established by the department in 2008 to promote the application of pharmaceutical sciences to the development of protein drugs. Emphasis is on numerous PK/PD issues, protein engineering, and bioanalysis/proteomics. Sponsors of the Center in 2012-13 included: Abbvie, Amgen, Eli Lilly, Genentech, Janssen, Roche, and Sanofi-Aventis. To date, the Center has provided funding (~\$100,000/project) for 62 research projects, with 9 projects funded in 2012-13. Our industry sponsors gather with our faculty and trainees each summer for our Annual CPT Symposium to review project results and select new projects for the next year. In many cases, study results (e.g., mathematical models, new methodologies) have been quickly implemented by the industry sponsors.

The department underwent an extensive Comprehensive Program Review during Spring 2013 as required by UB's Graduate School. A lengthy document was produced and three prominent pharmaceutical scientists from other Schools of Pharmacy visited for a two day review. Our departmental programs rated very highly in the 2010 NRC ranking of

Academic Programs in Pharmacology, Toxicology, and Environmental Health; and our visitors confirmed this appraisal and offered complementary insights in reporting on the excellence of our research and training efforts.

A highly active Seminar Program was offered with 58 presentations by local and visiting scientists. Dr. William E. Evans, Director & CEO of the St. Jude Children's Research Hospital, was selected for the 2012 *Gerhard Levy Distinguished Lectureship in Pharmaceutical Sciences*. His presentation was entitled, "Pharmacogenomics of Acute Leukemia Treatment". Dr. James M. Gallo from the Mt. Sinai School of Medicine gave the *Bristol-Myers Lecture*. Carol Gloff, PhD, of Carol Gloff & Associates (and also President of the UB Alumni Association), gave the *Pharmaceutics GSA Alumnus Lecture*. Other notable speakers during the academic year were: John Gibbs, PhD, Amgen; Ulrich M. Zanger, PhD, Dr. Margarete Fischer-Bosch Institute of Clinical Pharmacology; Jacob Aranda, MD, SUNY Downstate Medical Center; Tom Brenna, PhD, Cornell University; Serge Guzy, PhD, PopPharm Inc; Baiteng Zhao, PhD, Seagen Inc; Robert W. Johnson, PhD, Abbott Laboratories; Daniella Bumbaca, PhD, Genentech; Justin Earp, PhD, FDA; and Honghui Zhou, PhD, Janssen Research.

Our department faculty members were strongly productive in dissemination of our scientific accomplishments and knowledge. We had over 82 research articles and book chapters published and gave over 109 seminars, lectures, and research posters at various scientific meetings, university, and industrial venues. Many faculty and students attend and make presentations at the American Association of Pharmaceutical Scientists (AAPS) meeting where we host an annual Buffalo Alumni Reception. Our students, Bridget Morse and Cecilia Lon, received the 2012 AAPS Graduate Student Awards in PPDM.

The department offered annual courses in Pharmacokinetic-Pharmacodynamic (PK/PD) Modeling, Antibody PK/PD, and Population Pharmacokinetic Modeling for visiting scientists from industry, academia, and the FDA in June, which included our 21st session of the PK/PD Modeling course. Three of our faculty (Drs. Mager, Balthasar, and Jusko) also presented the PK/PD courses at the University of Paris Descartes in January.



We were hosted by alumnus Jean-Michel Scherrman, PhD, Dean of the School of Pharmacy. Dr. Wojciech Krzyzanski coordinated the presentation of ten 2-3-day workshops in use of pharmacometric software, most kindly donated by companies such as PharSight and Simcyp.

Dr. Jun Qu was promoted to Associate Professor with tenure. Dr. Ho-Leung Fung was designated as UB Distinguished Professor. Dr. William J. Jusko, department Chair, received the Distinguished Investigator Award from the American College of Clinical Pharmacology and the Sheiner-Beal Pharmacometrics Award from the American Society for Clinical Pharmacology and Therapeutics. Dr. Murali Ramanathan received the Stephen H. Kelly Award from the Western New York Chapter of the National Multiple Sclerosis Society. Dr. Marilyn E. Morris was named a Fellow of the American Association for the Advancement of Science, served as President-Elect of AAPS, and

was appointed to the FDA Clinical Pharmacology Advisory Committee. Dr. Sathy Balu-Iyer received the Innovation in Biotechnology Award from AAPS. Dr. Donald E. Mager was elevated to President of the International Society for Pharmacometrics. Dr. Robert M. Straubinger received the E.T.S. Walton Visiting Professor Award from the Science Foundation Ireland to assist his sabbatical year in pursuing chemotherapy research at the Dublin City University. Bridget Morse was selected for the Buffalo Pharmaceuticals Graduate Scholar Award at our Annual Holiday Party.

The department is poised for invigoration of its research and training programs. We maintain strong capabilities in the areas of Protein Therapeutics and Cancer Therapeutics and continuing our prominence in Pharmacokinetics, Pharmacodynamics, and Pharmacometrics.

Department of Pharmacy Practice

The 2012-2013 year brought many and exciting opportunities and acknowledgements to the the department of Pharmacy Practice and to our faculty.

In concert with UB 2020 initiatives, the department has been in the midst of an intensive faculty recruitment screening process for academic year 2012-13 and 2013-14. We are pleased to have Barbara Rogler, clinical assistant professor, join as our first new faculty hire and look forward to the hire of many new faculty in the upcoming year.

Our faculty members began to implement the new PharmD curriculum in our state-of-the-art home, Kapoor Hall. The new curriculum highly compliments the cutting edge educational technology in many of our classrooms, lecture halls and labs. Enhanced meeting and office space has also made it easier for our faculty to meet with students as well as assist with student organizational and professional meetings.

Our faculty were recognized for many outstanding achievements: Nicole Albanese received the 2013 Western New York Residency Preceptor of the Year Award, Jack Brown received the 2013 SoPPS Teacher of the Year Award, Karl Fiebelkorn received the 2013 Pharmacy Society of the State of New York Distinguished Pharmacy Educator Award, Gina Prescott received the 2013 SoPPS Pharmacy Practice Preceptor of the Year Award, and Bill Prescott received the 2013 Albert E. Rosica, Jr. Memorial Award from the American College of Apothecaries. The department also recognizes the efforts of our faculty who

were awarded grants for their outstanding research efforts and their continued excellence in scholarly and service activities.

The Office of Continuing Pharmacy Education increased the number of programs offered and educational topics available to local, regional and national pharmacists via enhanced content and WebEx video conferencing. The OCPPE office continues to serve as an accrediting entity for programs offered by our health care partners and pharmacy corporations.

The department is proud of its continued collaboration with the New York State Department of Health where faculty continue to provide support for medication therapy management oversight and outreach for the Prescriber Education Program. The department provides the highest quality residency and fellowship programs and is proud to have completed another successful season with local, regional and national candidates joining our programs.

The Office of Experiential Education has further enhanced its use of the E*Value System by continually improving scheduling functions to enhance reporting, making the scheduling of IPPE and APPE rotations more efficient. The Office has added a variety of community, hospital, research and regulatory training sites giving students many unique training sites.

Faculty Grants Awarded

July 1, 2012 - June 30, 2013

Pharmaceutical Sciences

Joseph Balthasar

Multiple Sponsors

Protein Therapeutics Consortium

Regents of the University of Michigan

PTD-Mediated Protein or Drug Delivery for Cancer Therapy

Sathy Balu-Iyer

National Heart Lung and Blood Institute

Development and pharmacology of novel lipidic rAHF

Javier Blanco

National Institute of General Medical Sciences (RO1)

Pharmacogenetics of Human Carbonyl Reductases

American Kennel Club - Canine Health Foundation

Functional Characterization of Canine Carbonyl Reductase

1 (CPR1): A Key Enzyme for the Metabolism of Anticancer

Anthracyclines in Dogs with Cancer

William Jusko

National Institute of General Medical Sciences

Corticosteroid Pharmacokinetics and Pharmacodynamics

National Institute of General Medical Sciences (Mager and Krzyanski Co-PI's)

Mathematical Models in Pharmacodynamics

Eunice Kennedy Shriver National Institute of Child

Molecular and Clinical Pharmacology of Retinopathy of Prematurity

Duke University

Pharmacokinetics and Relative Bioavailability of a Liquid

Formulation of Hydroxyurea in Pediatric Patients with Sickle Cell Anemia

Fonds National De La Recherche

Mathematical Models for Drug Response in Pharmacodynamics

Bristol Myers Squibb Company

Mechanistic PK/IPD Analysis of CCR1 Antagonist

Pfizer

Pfizer PK/IPD Fellowships

Wojciech Krzyzanski

AstraZeneca Pharmaceuticals LP

Integration of Lifespan Modeling for Predicting Chemother-

apeutically-Mediated Cytotoxic Outcomes in Tumor Growth

Inhibition Models and Hematopoietic Systems

Donald Mager

Eunice Kennedy Shriver National Institute of Child

Molecular and Clinical Pharmacology of Retinopathy of Prematurity

American Foundation Pharmaceutical Education

AFPE Pre-Doctoral Fellowship for Vaishail Chudasama

Daiichi Sankyo Pharma Development

PK/IPD Modeling and Systems Analysis

University of Iowa

Neonatal Anemia and Thrombocytopenia Pathophysiology and Treatment

Marilyn Morris

National Institute on Drug Abuse

Gamma-Hydroxybutyrate: Toxicokinetics, Toxicodynamics and Treatment Strategies

Jun Qu

NHLBI

Systems Biology of Glycosylation

NICHHD

Subcellular Domains of Myelinating-Glia: Capturing Axonal Contact

National Institute of Neurological Disorders & Stroke (Co-PI)

Laminin receptors and signals in Schwann cells

US Army Medical Research Acquisition Activity

Gene-Environmental Interactions in Progression of Multiple Sclerosis

American Heart Association Founders Affiliate

Biomarker Release after Reversible Ischemia

Eunice Kennedy Shriver National Institute of Child

Molecular and Clinical Pharmacology of Retinopathy of Prematurity



Murali Ramanathan

National Multiple Sclerosis Society

Lipoprotein and Lipid Metabolism in Multiple Sclerosis Disease Progression

National Multiple Sclerosis Society

Clinical, MRI, Neuropsychological and Gene-environmental Risk Factors for Progression in Multiple Sclerosis

Robert Straubinger

National Cancer Institute

Pancreas Cancer Combination Therapy Based on Stromal Modulators and Nano-Carriers

Trustees of Columbia University

Optical Imaging of Chemotherapy for Brain Tumors

Aiming Yu

Board of Trustees of the University of Illinois

Altered Drug Metabolism in Pregnancy

Pharmacy Practice

Edward Bednarczyk

State University of New York
Evidence Based Clinical Research Collaborative Program with
the DOH yr 2

Alice Ceacareanu

Health Research, Inc./NCI
Epidemiology of Breast Cancer Subtypes in African American
Women: A Consortium - Project 4

Alan Forrest

Hoffmann Laroche Incorporated
Pharmacy Roche Fellowship

Qing Ma

New York University School of Medicine
The Effect of Efavirenz and Ritonavir-Boosted Darunavir on
the Pharmacokinetics of the HMG CoA Reductase Inhibitor
Pitavastatin

NIMH

Antiretroviral pharmacogenomics, pharmacokinetics and
toxicity in neuroAIDS

Scott Monte

VascuScript Pharmacy Incorporated
UBSOPPS & VascuScript CommunityPharmacy Residency
Expansion Project

National Association of Chain Drug Stores Foundation
UBSOPPS & VascuScript CommunityPharmacy Residency
Expansion Project

Gene Morse

Erie County Medical Center
HIV Treatment Education

Erie County Medical Center
Women, Infants, Children and Youth Healthcare

Fogarty International Center (Drs. Ma and Maponga Co-PI's)
Antiretroviral Pharmacology Training in Resource Poor Countries

Brigham and Womens Hospital (Co-PI)
ACTG Pharmacology Specialty Laboratory

National Institute of Allergy & Infectious Disease (Options 1-5)
Clinical Pharmacology Quality Assurance and Quality Control

LFA Incorporated
Standard Administration Protocol (SAP) Phase 1

Brigham and Womens Hospital (Co-PI)
ACTG Precautionary & Prohibited Medication Table

Social and Scientific Systems Incorporated
A Prospective, Phase III, Open-Label Study of Boceprevir,
Pegylated-Interferon Alfa 2b and Ribavirin in HCV/HIV
Coinfected Subjects: Boceprevir, Interferon, Ribavirin to Treat
HCV/HIV Coinfected Subjects (BIRTH)

Social and Scientific Systems Incorporated (Co-PI)
Pharmacokinetics and Drug Intervention Potential of Boceprevir
in HIV/HCV Coinfected Subjects: A Substudy of A5294

University of Rochester (Co-PI)
Upstate New York Translational Research Network (UNYTRN)

University of Rochester (Co-PI)
Units for HIV/AIDS Clinical Trials Network

University of Rochester (Co-PI)
Center for Human Experimental Therapeutics

University of Rochester
ARRA: Researcher Resilience through Multidimensional
Mentoring: The Rochester Research Workforce Diversity Program

Brigham and Womens Hospital (Co-PI)
AIDS Clinical Trials Group Executive Committee

University of California, San Francisco (Co-PI)
Disulfiram Interactions with HIV Medications: Clinical Implications

Kathleen Tornatore

Novartis Pharmaceuticals Corporation
The Influence of Diabetes on Myfortic (enteric coated
mycophenolic acid sodium) Pharmacokinetics and Adverse
Drug Effects in Stable African American and Caucasian Renal
Transplant Recipients

Brian Tsuji

Cubist Pharmaceuticals, Inc
Pharmacokinetic-Pharmacodynamic Evaluation of CXA-102
Against Multi-Drug Resistant Gram Negative Organisms in a
Invito Hollow Fiber Model

Forest Research Institute, Inc.
Pharmacokinetic Pharmacodynamic Evaluation of Ceftaroline



New Technology

Invention Disclosure	Faculty Member
Composition and method of treating autoimmune conditions via tolerance induction	Balu-Iyer, Sathy
Method and composition of less immunogenic and tolerance inducing protein formulation	Balu-Iyer, Sathy
Compositions, Methods of Treatment and Diagnostics for Treatment of Hepatic Steatosis, alone or in Combination with a Hepatitis C Virus Infection	Schentag, Jerome J.
Comprehensive Health Risk Assessment Application for Identification of Population Predisposed to Cancer Development and Progression	Ceacareanu, Alice



Scholarship

Pursue innovation, identify solutions and present results to enhance the local, national and international leadership of SUNY, UB and the SoPPS.

Intellectual Contributions
July 1, 2012 - June 30, 2013

Pharmaceutical Sciences

Balthasar, Joseph P.

Abuqayyas, L., & Balthasar, J. P. (2012). Pharmacokinetic mAb-mAb interaction: anti-VEGF mAb decreases the distribution of anti-CEA mAb into colorectal tumor xenografts. *Aaps j*, 14(3), 445-455. doi: 10.1208/s12248-012-9357-2

Balu-lyer, Sathy V.

Kosloski, M. P., Pisal, D. S., Mager, D. E., & Balu-lyer, S. V. (2013). Allometry of factor VIII and informed scaling of next-generation therapeutic proteins. *J Pharm Sci*, 102(7), 2380-2394. doi: 10.1002/jps.23566

Trummer, B. J., Iyer, V., Balu-lyer, S. V., O'Connor, R., & Straubinger, R. M. (2012). Physicochemical properties of epidermal growth factor receptor inhibitors and development of a nanoliposomal formulation of gefitinib. *J Pharm Sci*, 101(8), 2763-2776. doi: 10.1002/jps.23180

Gaitonde, P., Ramakrishnan, R., Chin, J., Kelleher, R. J., Jr., Bankert, R. B., & Balu-lyer, S. V. (2013). Exposure to factor VIII protein in the presence of phosphatidylserine induces hyporesponsiveness toward factor VIII challenge in hemophilia A mice. *J Biol Chem*, 288(24), 17051-17056. doi: 10.1074/jbc.C112.396325

Blanco, Javier G.

Kalabus, J. L., Cheng, Q., & Blanco, J. G. (2012). MicroRNAs differentially regulate carbonyl reductase 1 (CBR1) gene expression dependent on the allele status of the common polymorphic variant rs9024. *PLoS One*, 7(11), e48622. doi: 10.1371/journal.pone.0048622

Kalabus, J. L., Cheng, Q., Jamil, R. G., Schuetz, E. G., & Blanco, J. G. (2012). Induction of carbonyl reductase 1 (CBR1) expression in human lung tissues and lung cancer cells by the cigarette smoke constituent benzo[a]pyrene. *Toxicol Lett*, 211(3), 266-273. doi: 10.1016/j.toxlet.2012.04.006

Brazeau, Daniel A.

Tornatore, K. M., Brazeau, D., Dole, K., Danison, R., Wilding, G., Leca, N., Venuto, R. C. (2013). Sex differences in cyclosporine pharmacokinetics and ABCB1 gene expression in mononuclear blood cells in African American and Caucasian renal transplant recipients. *J Clin Pharmacol*, 53(10), 1039-1047. doi: 10.1002/jcph.123

Fung, Ho Leung

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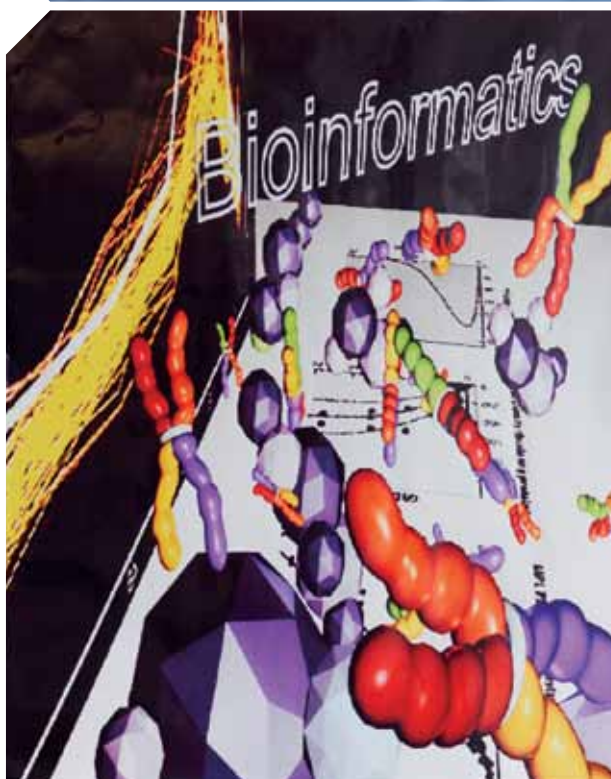
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Special Honors for Faculty and Staff

Nicole Albanese, clinical assistant professor, pharmacy practice, recipient of the 2013 Western New York Residency Preceptor of the Year Award.

Michele Bewley, recipient, 2013 SoPPS Staff Member of the Year.

Peter Brody, clinical assistant professor, and his student, Margaret Miklich, '14, received a National Association of Chain Drug Stores 2013 Million Hearts Award.

Jack Brown, clinical assistant professor, recipient, 2013 SoPPS Teacher of the Year award.

Alice Ceacareanu, assistant professor, pharmacy practice, recipient, 2013 Faculty Research Award from the UB Institute for Research and Education on Women and Gender.

Karl Fiebelkorn, associate dean, student affairs and professional relations elected to a 2nd term as the Region I Northeast Councilor for the Rho Chi National Honor Society Executive Committee. Karl was also the recipient of the 2013 Pharmacy Society of the State of New York Distinguished Pharmacy Educator Award.

William Jusko, SUNY Distinguished Professor, pharmaceutical sciences, recipient, American Society for Clinical Pharmacology and Therapeutics Sheiner-Beal Pharmacometrics Award.

Cindy Konovitz, assistant dean, informatics, named a Woman of Distinction by the Jewish Federation of Buffalo.

Marilyn Morris, professor, pharmaceutical sciences, chosen as president-elect of American Association of Pharmaceutical Scientists.

Gina Prescott, clinical assistant professor, pharmacy practice recipient, 2013 SoPPS Pharmacy Practice Preceptor of the Year Award.

William Prescott, clinical associate professor recipient, 2013 Albert E. Rosica, Jr. Memorial Award from the American College of Apothecaries.

Alfred Reiman, clinical assistant professor, pharmacy practice, recipient, MEDISCA Student Pharmacists Compounding Competition Faculty Participation Award.

Sara Robinson, academic advisor, admissions office, appointed co-chair New York State Association for College Admission Counseling admissions practices committee and completed tenure as co-chair of NYSACAC Development Committee.

Erin Slazak, clinical assistant professor, professor pharmacy practice, recipient, 2013 SoPPS, Department of Pharmacy Practice, Faculty Service Award.

Robert Wahler, clinical assistant professor, pharmacy practice, recipient, 2013 Faculty Member of the Year, Phi Delta Chi, Pharmacy Leadership Society.



Kathleen Tornatore and Karl Fiebelkorn



Marilyn Morris and AAPS representatives



Kristin Gniazdowski presents award to Michele Bewley

Thanks to You

It takes generosity and commitment to build a community of discovery and care. We are grateful to our alumni, friends, faculty and staff whose support is critical to our school's continued success.



Dean James O'Donnell, PhD, sees strength in the partnerships the school has built and looks forward to engaging with you—our donors, alumni and friends—to continue elevating the school's outstanding reputation for excellence. Already a nationally ranked leader in academic health care, the school is growing into a global destination for the best in transdisciplinary research and progressive education.

Dean James O'Donnell, PhD

During 2013, the school marked its first full year in John and Editha Kapoor Hall, a home that offers students, faculty and staff the best facilities for learning and discovery.

Students have attended classes and studied in areas named for generous donors, including the Panasci Atrium, the Ronald J. Isaacs Lecture Hall, the Pine Pharmacy Pharmaceutical Care Learning Center Classroom and the CVS Caremark Student Organizational Suite.

Students and faculty also enjoyed using the patient assessment and counseling rooms, funded by Ralph Behling '40; Stephen '81 and Carolyn Giroux; Jean '01 and Anies Jacob; Margaret Hempling McGlynn '82; Robert '59 and Sharon Miller; Bruce '57 and Barbara Moden; Salvi Parpia '88; Tom '84 and Rachel Spire Smith '84; and Ken Yee '75.

YOUR GENEROSITY

To learn more about giving to UB Pharmacy through the Gregory Society or other opportunities, please visit www.giving.buffalo.edu/gregory-society

Your generosity has helped us make a difference again this year, with your gifts supporting student scholarships, awards and travel funds that provide positive academic experiences for our students. Many of the funds received ongoing support this year, including:

Aversano Strozzi Scholarship
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John Kapoor Fellowship in Pharmaceutical Sciences
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We also thank you for helping us provide the latest technologies to ensure innovative teaching and discovery in our classrooms and laboratories.

Whether as contributors to our annual fund or as members of the Willis G. Gregory Society, the school's most prestigious group of donors, your gifts help us continue to best prepare the pharmacy professionals, clinicians and researchers of tomorrow.

To learn more about giving to UB Pharmacy through the Gregory Society or other opportunities, please visit www.giving.buffalo.edu/gregory-society.

RDC gift salutes Fiebelkorn, provides student awards

After she graduates this spring, Lindsey Feuz looks forward to a career in community pharmacy. It's a dream she's had since she began as a UB pharmacy student and one that she credits Rochester Drug Cooperative (RDC) for helping come true.

Feuz and fellow pharmacy student Samantha Mattison are the first recipients of the Professor Karl D. Fiebelkorn Award in Independent Pharmacy, which annually supports two UB PharmD students drawn to independent community practice. Candidates also demonstrate financial need and are active in the National Community Pharmacists Association (NCPA) student chapter at the university.

RDC committed \$25,000 to support the awards for the next five years, named to honor Fiebelkorn, associate dean for student affairs and professional relations, for his indefatigable advocacy and support of community pharmacists.

"We made this gift to recognize Karl's passionate commitment to independent pharmacies and his longtime success as an outstanding professor," said Larry Doud, president and CEO of RDC.

Fiebelkorn said UB Pharmacy is grateful for RDC, which is a long-time annual supporter of the school's golf tournament and has been "overwhelmingly supportive of our students, especially in regard to the National Community Pharmacists Association Pruitt Schutte Good Neighbor Student Business Plan Competition, which UB has entered for 10 years."

Feuz has been involved in the business plan competition for the past two years, and hopes to find a PGY-1 pharmacy residency with experiences in ambulatory or community pharmacy.

"Long-term, I would like to specialize in transitional care in areas surrounding geriatrics and psychiatry," said Feuz, who learned about her field during summers spent working for her uncle, Peter

Illig, who co-owns two independent pharmacies in Cattaraugus County with his fellow UB pharmacy graduates Steve Ward and Woody Klein.

Feuz said RDC "played a key role" in encouraging her and other UB pharmacy students to become involved with the NCPA. RDC also has given to the school to help pay travel costs for students attending the organization's national conferences. Feuz became vice president of UB's NCPA student chapter before being selected to serve on the NCPA student leadership council.

"I am grateful to be one of the first recipients of this award. RDC is a great company with many wonderful employees and I can't thank them enough for all their support over the past four years and now through this scholarship," Feuz said.

She also applauded RDC's naming the scholarship in honor of Fiebelkorn because "he has always been very encouraging of students who want to be entrepreneurs."

Samantha Mattison, the second award recipient, also will graduate this spring, and said she is "so thankful to RDC for their continuous support." During spring semester, Mattison worked out of state, completing her rotations.

"RDC has helped me many times attend conferences and independent ownership courses. Because of these experiences, I was able to build my resume and network with independents and compounders," said Mattison, who has just accepted 'a dream job' in a new independent compounding facility.

"I would not have been as prepared for my interview or had the resume I do without the help of RDC. They are an incredible company, I wish them much continued success and I hope to work with them again in my future career," she said.



Lindsey Feuz, center, receives the Professor Karl D. Fiebelkorn Award in Independent Pharmacy, joined by, from left, RDC's Joe Brennan, Dean Jim O'Donnell, Larry Doud of RDC, Fiebelkorn and Lanny Doud of RDC. Samantha Mattison, not pictured, also received the award.

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In Memory of Alexander Aversano '36

Anthony and Camille Passarella

In Memory of Thomas Bardos

Robert Vince '62, '66 and Maureen Vince

In Memory of Lori Esch '97

Bernhard '61 and Coraline Esch

In Memory of Peter Schultz '57

Larwood Pharmacy

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Willis G. Gregory Society:

\$1,000 and above

1886 Club:

\$500 - \$999

Mortar and Pestle Club:

\$250 - \$499

Century Club:

\$100 - \$249

This report includes donors who made gifts and planned gift commitments between July 1, 2012, and June 30, 2013. Every effort has been made to ensure the accuracy of the information. In the event of an error or omission, please contact the development office at (716) 645-3432 so that we may update our records.

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Jacqueline Meaney

School matches Class of 1953 gift to purchase bone density scanner

The Class of 1953 has stood out over the years as one of the most actively involved groups of alumni at the UB pharmacy school. Many of its members have given generously of their time and their money to the school over the past six decades.

Last year, the class pulled together to make its best showing yet, united in its desire to mark the 60th anniversary of graduation.

Led by Harold (Hedy) Ertman '53, the class raised money to help purchase a contact ultrasound bone analyzer (CUBA) – a portable bone density scanner to be used at student wellness clinics. The machine will allow students to screen patients for osteopenia and osteoporosis. The pharmacy school matched a portion of the Class of 1953 gift to complete payment for the equipment, which costs more than \$10,000.

"I felt that it was certainly fitting at this major milestone to rally, as a class, for a meaningful gift to the school," said Ertman, who credited the school's development team for linking the class to the need for the CUBA equipment. "We have a project with which the school and class can be proud. It should benefit students and patients alike."

Ertman, who worked in marketing and later in development, wrote a letter to his classmates to encourage their participation in the reunion and their 60th reunion class gift to the pharmacy school.

"For me, personally, I realize daily just how valuable and important were my four years at UB Pharmacy," Ertman said. "It was a time for learning, maturing and establishing some personal life goals, so that someday, looking back, say after 60 years, one could be very pleased



A recent UB Pharmacy wellness fair

with a difference one could make in the world. That is why UB Pharmacy has been a key priority of giving for me through the years."

Peter M. Brody Jr., director of experiential education at the school, said training has recently begun for student and faculty users.

"Having this piece of equipment readily available and accessible for various events will help encourage patients to become more involved, while providing our students with an advanced clinical experience. It will also provide our faculty a consistent method to screen, assess and refer patients while collecting data for research and overall analysis." Brody expects to put the machine to use at wellness clinics throughout Western New York later this spring.



Murray award winner looks forward to drug development career

Liz Lakota has been busy this year, working in an area of research called pharmacometrics.

She and her advisor, Alan Forrest, are building a model for an investigational drug to treat Pompe disease, a rare—estimated at one in every 40,000 births—inherited and often fatal disorder that disables the heart and skeletal muscles.

This summer, Lakota is hoping to be accepted to the highly regarded pharmacometrics training program at Uppsala University in Sweden. Thanks to receiving this year's Daniel H. Murray Professional Development Award, she'll be able to afford the travel expenses.

"I am extremely honored and grateful to be this year's recipient," said Lakota, a native of Port Byron, NY.

"I will graduate in May 2015 and after that, I plan to continue my training through a doctoral or fellowship program. Ultimately, I would like a career in oncology drug development."

In 2001, Thomas J. Bardos, emeritus professor of medicinal chemistry, established the annual award in memory of Daniel H. Murray, who served as pharmacy school dean twice—1954-69 and 1976-84—as well as a vice chancellor of the State University of New York system. Murray helped build the pharmacy school's strong research reputation, fostering an environment of rigorous scholarship and hiring many outstanding scientists as faculty members who made lifelong contributions to the school.

Bardos, a cancer chemotherapy researcher for more than 50 years, endowed the award through a bequest in order to encourage more students to pursue research careers. Each year, the award recognizes a PharmD student engaged in an innovative research project who has demonstrated extraordinary scholarly work and maintained a high level of academic success. Murray Award recipients receive stipends to help them afford to participate in research initiatives.

Bardos, who continued some aspects of his research after officially retiring in 1993, died in 2012. A committed scientist, and a pioneer and innovator in his field, he made it his work to educate upcoming scientists to insure the continued progress of cancer research.



Elizabeth (Liz) Lakota '15,
2014 Murray Award recipient
Inset: Thomas J. Bardos



**"I AM EXTREMELY HONORED AND
GRATEFUL TO BE THIS YEAR'S RECIPIENT.**

I will graduate in May 2015 and after that, I plan to continue my training through a doctoral or fellowship program. Ultimately, I would like a career in oncology drug development."

Alumni Relations

The support of our alumni is invaluable. Their efforts and assistance in student programming, community advocacy and advancement of research and practice carry on a proud tradition in the SoPPS

Academic year 2012-13 was an exciting one for the School and the Alumni Association. This was a year of saying hello and goodbye.

We said Hello Again to pharmacy at UB's south campus with the school's move to Kapoor Hall as we said Goodbye to north campus and Cooke & Hochstetter Halls. Many of our alumni have very fond memories of years spent on south campus, and we hope to carry forward many of the great memories created on north campus to our new home in Kapoor Hall.

Each year the Alumni Association bestows two awards, the Willis G. Gregory Memorial Award and the Orville C. Baxter Memorial Professional Practice Award. The Gregory Award, the association's premier award, bears the name of our 4th dean and is given to an outstanding alumni pharmacist who personifies the ideals of service, integrity, and is a consummate pharmacy professional. The Baxter Award bears the name of a long standing faculty member, and is given to an outstanding alumni pharmacist who demonstrates high ideals of professionalism and genuine care for patients. We were proud to recognize **Carol Gloff '75** as our *2013 Willis G. Gregory Memorial Award* recipient and

Curtis Haas '89 as our *2013 Orville C. Baxter Memorial Professional Practice Award* recipient. Carol and Curt were recognized for their meritorious contributions to the field of pharmacy at the school's 2013 Awards Ceremony.

Our 2012 Reunion was an exciting time as it was held in conjunction with the grand opening of John and Editha Kapoor Hall. Grand Opening activities included a dedication ceremony with New York State and local legislative representative as well as UB and School senior leadership officiating. Hundreds of alumni and friends visited for the grand opening, as well as reunion, and engaged in multiple days of programming that included: continuing education programs, Gerhard Levy Distinguished Lectureship, tours of Kapoor Hall, class meetings, and our gala dinner at the historic Statler Hotel. Our special recognition classes included the Classes of 1957, 1962, 1987 and 2002. We thank all our alumni for their contributions, support and attendance of our programs. Your presence enriched all our events and made the grand opening of Kapoor Hall even more memorable.

We were back to Las Vegas for our 2012 annual alumni and friend reception at the American Society of Health Systems Pharmacists mid-year meeting, with over 100 alumni and guests in attendance. We remind all alumni who attend the ASHP mid-year meeting to look for the association's annual reception – this coming year it is in Anaheim. It is a great way to reconnect with your alumni colleagues, faculty and students from the school!

One of the primary missions of the association is support of students. The association organized a Farewell Celebration reception for the PharmD Graduates of the Class of 2013 at Banchetti's Restaurant, where Professor Fiebelkorn gave comments as well as Class Officers: **Heather Rodman** and **Michelle Creasy**. Students were recognized for academic and philanthropic contributions to the school. The reception was well attended and a great success! Also in 2013, the association gave six \$500 'grants-in-aid' awards to needy PharmD students, as well as recognized **Sarah Handley & Vikram Sundararaman** during commencement for their valuable contributions to the alumni association.

The alumni association values the support it gives to the school and students, as well as the important role it plays in keeping our alumni informed and connected to each other and activities here at the school.

2013 AWARDS CEREMONY



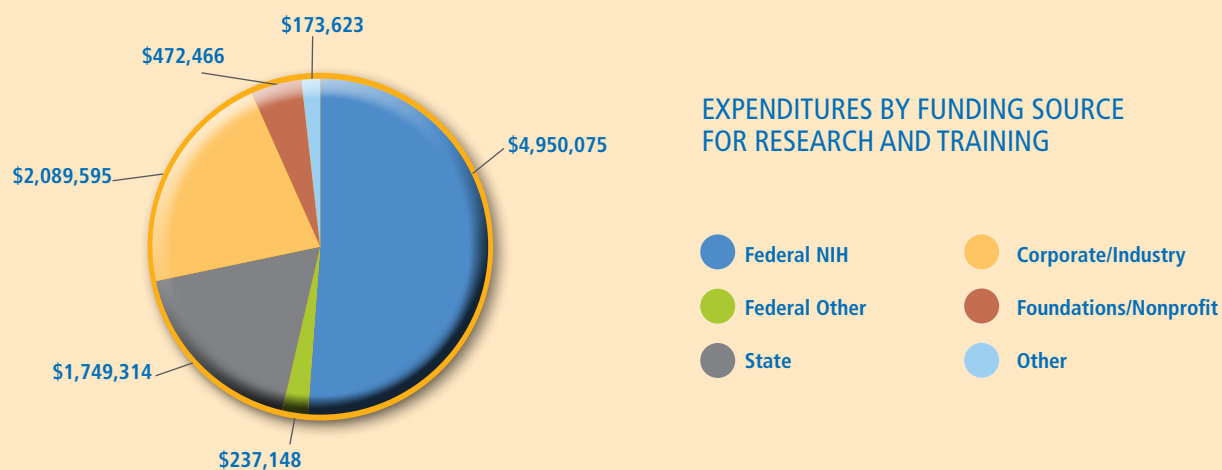
CLASS OF 1952



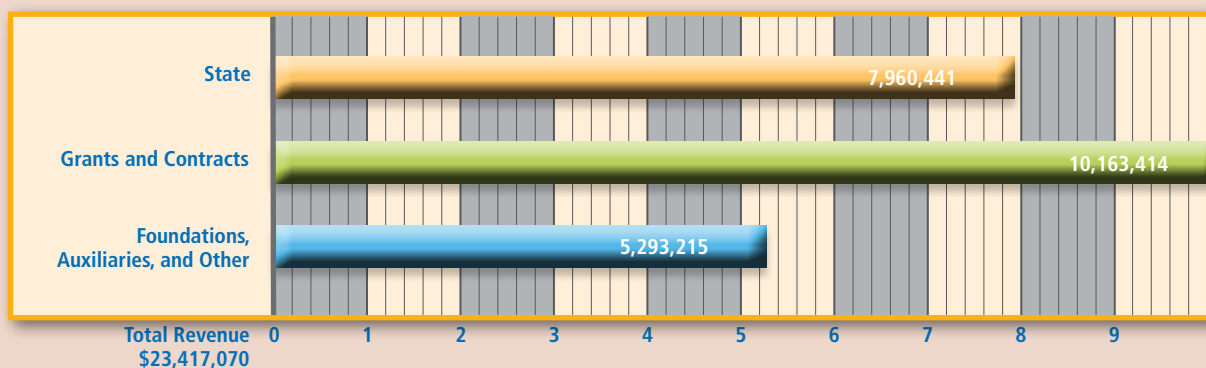
CLASS OF 1987

Financial Reports

The support to achieve our goals, the security to reach for the future, and the impetus for creativity are allowed through our well-positioned financial portfolio.



AMOUNT OF TOTAL SCHOOL REVENUE BY FUNDING SOURCE



ENDOWMENT MARKET VALUE JUNE 30, 2013 (\$17.5M TOTAL MARKET VALUE FY 12/13)



School-Wide Committees

Our school-wide committees give governance and oversight to our school. The structure, composition and charges of the school's standing committees are prescribed in the bylaws of the School of Pharmacy and Pharmaceutical Sciences.

Admissions Committee

Jennifer Hess (Chair), Javier Blanco, Fred Doloresco, Karl Fiebelkorn, Josh Sawyer

Support: Cynthia Acara, Christine Stumm, Mark Sauberan and Sara Robinson

Assessment Committee

Fred Doloresco (Chair), Kathy Boje, Pete Brody (non-voting) Jack Brown, Karl Fiebelkorn, Patty Havard (nonvoting), Jennifer Hess, Wojciech Krzyzanski, Mohamed Mohamoud, Marsha Nelson, Mark Sauberan, Mark Wrobel, Mary Wurm-Schaar, Aiming Yu
Jennifer Rafferty (P1), Nicholas Ladziak (P2), Cara McGurry (P3), Heather Rodman (P4)

Curriculum Committee

Patty Havard (Chair), Karl Fiebelkorn (ex officio), Cindy Konovitz (ex officio), Nicole Albanese, Peter Brody, Patricia Burch (nonvoting), Deborah Chiarella, Fred Doloresco (nonvoting), Ho Leung Fung, Donald Mager, Jun Qu, Erin Slazak, Christine Stumm, Robert Wahler, Mark Wrobel (nonvoting), Mary Wurm-Schaar (nonvoting), Jennifer Rafferty (P1), Nicholas Ladziak (P2), Cara McGurry (P3), Heather Rodman (P4)

Executive Committee

Wayne Anderson (Chair), Joseph Balthasar, Edward Bednarczyk, Kathleen Boje, Rebecca Brierley, Peter Brody, Karl Fiebelkorn, Diane Fisher, Patty Havard, Jennifer Hess, William Jusko, Cindy Konovitz, Candise Morris, Gene Morse, William Prescott, Mary Wurm-Schaar, Mark Wrobel, Leigh Yates
Jennifer Berryman (recording secretary)

Safety Committee

Alfred Reiman (Chair), Vicki Rink, David Soda, Leona Zak

Student Academic Affairs Committee

Karl Fiebelkorn (Chair), Joseph Balthasar, Kathleen Boje, Nicole Albanese, William Prescott

Tenure and Promotion

Wayne Anderson (ex officio), William Jusko (Co-Chair), Gene Morse (Co-Chair), Marilyn Morris, Robert Straubinger, Kathleen Tornatore

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President Emeritus

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Senior Vice President, Development

Boehringer Ingelheim
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Metabolism and Pharmacokinetics*
Hoffman-LaRoche, Inc.

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Commercial Officer*
Incyte Corporation

Karl Donn, '79

Vice President, Drug Development
Parion Sciences

James Ermer, '83

*Senior Director, Clinical Pharma-
cology & Pharmacokinetics*
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Ronald Evans, '69

President

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Steven Hansel, '93

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Corporate Development*
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President and CEO

International AIDS Vaccine Initiative

Edward McNiff, '75, '76, '83

President

EFM Consulting, LLC

Richard Morrison, '77, '83

Executive Director

Merck Research Laboratories

David Panasci

President

DHP Consulting, LLC

John Rodgers, '83

Executive Vice President and COO
Independent Health Association, Inc.

Daniel Salazar, '89

Senior Vice President

Otsuka Pharmaceutical
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Michael Taylor, '81

President and CEO

Ensemble Discovery Corporation

Avi Yacobi, '75

President

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Office of External Affairs
University at Buffalo
160 Kapoor Hall
Buffalo, NY 14214-8033

2014 REUNION CELEBRATION WEEKEND

We welcome all alumni back to campus for our Alumni Cocktail Party, Tours of Kapoor Hall, CE Programming, History of Pharmacy in Buffalo Workshop as well as class specific lunches and dinners.

THURSDAY, SEPTEMBER 11

- Pharmacy Continuing Education Program

FRIDAY, SEPTEMBER 12

- Tours of Kapoor Hall
- History of Pharmacy in Buffalo Workshop
- All Alumni Cocktail Party

SATURDAY, SEPTEMBER 13

- Class Specific Lunches and Dinners

**SPECIAL RECOGNITION WILL BE GIVEN TO THE CLASSES OF
1954, 1959, 1964, 1979, 1984, 1989 AND 2004**

REGISTRATION WILL BEGIN JULY 2014.

Questions or help plan a class specific event:
Office of External Affairs: phm-alumni@buffalo.edu or 716-645-3340