Building a community of discovery and care.

ANNUAL REPORT 2005-06







OUR MISSION STATEMENT

The mission of the University at Buffalo School of Pharmacy and Pharmaceutical Sciences is to educate students in pharmacy practice and the pharmaceutical sciences, to create and disseminate knowledge in pharmacy practice and the pharmaceutical sciences, to provide patient care, and to provide services to the community-at-large based upon this knowledge. This mission is to be achieved consistent with the highest ethical standards and with respect for diversity and cultural sensitivity.

The mission recognizes pharmaceutical care as a mode of pharmacy practice within the health-care team in which the patient is empowered "to achieve the desired outcomes of drug and related therapy."

The mission also recognizes that research in the broad area of the clinical sciences, pharmaceutical sciences, and education is necessary to create and maintain a body of knowledge needed for professional education, health-care delivery, and the advancement of science. In this context, our goal is to enhance the local, national, and international leadership of the School of Pharmacy and Pharmaceutical Sciences and continue it as one of the strong components of the University at Buffalo and the State University of New York system. This will involve a focus on those areas of unique strength within the school and those areas that form unique, interdisciplinary bridges within the university.

For more than 120 years, the School of Pharmacy and Pharmaceutical Sciences has been building a community of discovery and care, from around the region to around the world. Our faculty and graduates have continuously advanced practice and research, raising our school to the upper ranks among peer institutions.

Within this annual report, you will see the wealth of activities and advancements that are building on the pioneering achievements of the school and the world-class recognition that continues to generate widespread interest.

Message from the Dean

Strength, promise, and achievement characterize the activities of the school during 2005–06.

First was the preparation for the Accreditation Council for Pharmacy Education (ACPE) accreditation site visit. Our comprehensive self-study provided us with the basis for a continuing dialogue in the school and formed the basis for a successful full reaccreditation. The ACPE recommendations provided strength and support to the school's mission and will help provide an even stronger experiential program for our PharmD students throughout their training.

Another major activity involved planning for our new building on the UB South Campus (Main Street). As plans evolve for our occupancy of Acheson Hall, our building plans will also support the development of UB's Academic Health Center (AHC). The emerging AHC will bring together, in a more formalized way, all of UB's health sciences schools to form a synergistic health sciences center benefiting collaborative education and research, as well as local, regional, and national community members.

The highlight of the year, however, continues to be the achievements of our students and faculty. As you read this annual report, please share with me the pride in their accomplishments. The dedicated efforts of our staff are a critical element within the school. Together we have created a vision for our future in research, education, and service.

The final piece to ensure a successful future is you. Friends and alumni continue to support our school in myriad ways, including personal contributions, estate plans, and leadership in the development of corporate support.

Your support has increased the available pool of scholarships (need and merit based) for our PharmD students, the number of graduate students we can support, and the quality of our teaching and research environments.



Thank you,

Dayne St. anderson

Wayne K. Anderson
Professor and Dean

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Bench to Bedside, Bedside to Bench

The unassuming brilliance of two alumni changing the face of health care

A first impression of Robert Straubinger and Linda Catanzaro does not necessarily spark their profound connection to the evolution of pharmacodynamics and pharmacoinformatics.

Catanzaro looks like the quintessential girl-turned-mom next door.

And Straubinger's laid-back demeanor seems reminiscent of his tenure on the West Coast, where he earned a PhD in pharmacology from the University of California-San Francisco.

Together, Catanzaro and Straubinger represent the essential balance of bench science brilliance and conscientious clinical research in a field that is changing the dynamic of American health care.



started on a pre-science, pre-med track, but the courses really weren't that interesting," confides Straubinger, associate professor of pharmaceutics. A native of Buffalo, he also is director of the Pharmaceutical Sciences Instrumentation Facility, and is heading the development of the proteomics laboratory at UB's New York State Center of Excellence in Bioinformatics and Life Sciences.

Straubinger earned dual undergraduate degrees in English and anthropology from the University of Rochester, and then an MS in natural sciences from Roswell Park Cancer Institute, the graduate program that is affiliated with UB. "After I finished the master's degree, I volunteered for about a year in a research lab in virology," he says. "Being in a research lab, it was clear that I was really interested in that."

When the researcher with whom he was working was recruited by the University at California–San Francisco, Straubinger went along as his PhD graduate research assistant in pharmacology. After earning his doctorate there, he completed a postdoctoral fellowship at the UCSF Cancer Research Institute and UCSF Cardiovascular Research Institute.

When Straubinger left Buffalo, he admits that he had "neither intention nor hope of ever returning." But nearly ten years later, on a trip home to visit friends and family in 1987, he was quickened by the rising promise of the city—and of the University at Buffalo—and responded to an ad in *Science* magazine. Since then, Straubinger has been responsible for bringing in an extraordinary volume of research grants;

type his name into an Internet search, and the scope of his scholarship speaks volumes on the position of the School of Pharmacy and Pharmaceutical Sciences (SoPPS) as a world leader in the advancement of the pharmacy field.

Liposome carrier

His scientific work focuses on drug carriers and drug delivery, and primary research involves the use of liposomes. Somehow, listening to Straubinger talk about his research at the bench is like hearing the pitch for a remake of the old movie, *Fantastic Voyage*.

"When you take these dried, purified lipids, and you add water to them, they naturally form enclosed spheres. So when they form these spheres, if you had a drug in the water, then the drug is captured inside," Straubinger explains matter-of-factly. "These carriers can either capture water soluble molecules in the core, or incorporate greasy poorly soluble molecules in the shell. So they are a very diverse carrier. And it turns out there are certain combinations of drugs with this liposome carrier that can be made to do particular things, like go more selectively into a particular site."

His earliest research on liposome carriers focused on improving drug therapy for an opportunistic infection associated with HIV/AIDS; the findings of that study, published in the early 1990s, are still cited. Shortly after, Straubinger began research to discover ways to improve the application of Taxol, a drug used to treat ovarian and breast cancer.

HE FIRST HUMANS, if I recall literature correctly, suffered very severe consequences of administration of this drug. Not because of the drug toxicity, but because it wasn't soluble in the traditional things you would use in pharmacy," he explains. "People came up with this concoction of a chemically modified oil plus ethyl alcohol. If you dissolved the drug in that you could get it at a high enough concentration to administer a human dose. But it turns out that the oil would cause a massive loss of blood pressure."

Straubinger discovered that Taxol was less toxic to administer, and that chronic toxicity also was lower, when liposomes were used to carry the drug. "Results using an animal tumor model basically showed that if you gave the drug in liposomes, you could give much higher doses and those higher doses could arrest tumor growth."

Although he does not consider himself a "card-carrying PK/PD scientist," Straubinger concedes that his research falls within the contemporary realm of pharmacokinetics and pharmacodynamics.

"If you would follow the way pharmacodynamics is defined here, all therapeutics with drugs is ultimately pharmacodynamics," he maintains, adding that research with certain drug carriers is now producing FDA-approved products. "This is suggesting that drug carriers can create almost a new and potentially useful mechanism of action out of drugs that don't necessarily have that mechanism of action."

This logic defines a major direction of Straubinger's new research, which uses liquid chromatography/mass spectrometry (LC/MS) to identify pharmacodynamic effect biomarkers and other mechanisms by which drug carriers can modulate tumor vascular permeability. Recent bench work targeted the potential of liposome carriers to improve

application of the anti-cancer drug doxorubicin.

"We discovered that the formulation may work better against tumors not because the liposomes carry more drugs to the tumors, but because the liposomes get stuck just outside the tumor blood vessels," he explains.

"Doxorubicin is not known to have this mechanism of action. It's a cell-killing drug. But by putting it in the liposome, the liposome is carrying it just outside the tumor, and it starts killing off the blood vessel cells. This is a new dosage form. The challenge now is to figure out how this dosage form is working."

HIV pharmacotherapy

At Women and Children's Hospital of Buffalo, Linda Catanzaro is directing clinical research to figure out how well prescribed cocktail dosages of antiretroviral medications are working on children and adolescents, in an effort to optimize HIV-related pharmacotherapy.

"The role of the pharmacist is actually helping to optimize their therapy. Basically we're the drug experts working as part of an interdisciplinary team of health-care providers," says Catanzaro, clinical assistant professor. She also is director of the school's Pharmacotherapy Information Center (PIC) and the pharmacoinformatics residency program within the Department of Pharmacy Practice.

The PIC is a collaboration between the Department of Pharmacy Practice and the UB Health Sciences Library—and



"I'd like to think that the research I do is helpful in some detectable way to pharmacy as practiced in the clinic."

Dr. Robert Straubinger

hub of several research initiatives integrating information technology for optimization of clinical pharmacotherapy management.

Born and raised in Buffalo, Catanzaro was married with three small boys when she decided to pursue a pharmacy career. She earned an associate degree in applied science from Niagara County Community College, worked briefly as a gas chromatography analyst, and then enrolled in UB SOPPS.

After receiving her PharmD degree in 2001, Catanzaro worked at supermarket and hospital pharmacies before pursuing a postgraduate residency in HIV informatics. "I felt like I learned so much earning my doctoral degree, I wasn't actually doing as much with it as I wanted to do," she says of her first year as a licensed pharmacist. "I realized pretty quickly that extra training in a particular area would put me on a different path in my career, and I wanted to be more involved in actual management of pharmacotherapy."

Her residency experience connected her to the adult HIV Adherence Program at Erie County Medical Center—which inspired Catanzaro to launch a pediatric/adolescent satellite clinical research program for therapeutic drug monitoring of antiretrovirals at Women and Children's Hospital.

"Adherence is a huge factor for medication treatment to be successful in any type of disease state. With HIV it's even more critical." she explains. Her young patients take at least three antiretroviral medications, and may be taking other prescription drugs.

e want to make sure the doses are appropriate, based on their height, their weight, and other drugs they may be taking. If the drug concentrations are too low, then the treatment will fail because it won't adequately suppress the virus. If concentrations are too high, there's more risk of side effects and toxicity," she continues, adding that pediatric and adolescent patients present unique challenges to optimizing adherence and individualizing medication therapy. "Drug interactions are of particular concern, and pharmacokinetic and pharmacodynamic data for many of the antiretroviral combinations is sparse in the pediatric population," she notes.

"We continually assess how much the children understand about their treatment because as they get older it's very important for them to take the medications correctly on their own. Having a nonjudgmental attitude, providing an environment where patients know that you're their advocate in terms of helping them to be successful with their medication treatments, whatever they are, is important."

Research to practice

Catanzaro's clinical research at Women and Children's Hospital is being translated through her other work at the SoPPS. Recently, she led several PharmD candidates in researching the published literature in the hospital's patient population to create a training curriculum for the Center for Development of Human Services in Buffalo.

"This project illustrates one of the ways that novel mechanisms can be

utilized to link pharmacotherapy information with clinical practice," she maintains.

She adds that the PIC is using the HIV Adherence Program as a model to develop "The role of the pharmacist is actually helping to optimize their therapy. Basically we're the drug experts," says Catanzaro.

similar programs, partnering health-care systems in Western New York with the clinical expertise of the faculty, residents, and students of the Department of Pharmacy Practice.

Straubinger believes that defining clinical applications to optimize pharmacotherapy is both an impetus and inspiration for his bench research.

"Better efficacy, greater effectiveness, less toxicity—these are things that really are relevant to all drug treatments," he says. "Pharmacodynamic analysis can allow you to capture and describe the drug, show undesirable effects, and find ways to balance those to improve therapy."

With a wistful laugh, he adds: "I'd like to think that the research I do is helpful in some detectable way to pharmacy as practiced in the clinic."

— Jessica Thorpe

Education

The UB 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

A central mission of the Office of Admissions is to advance the diversity and academic quality of the student body. This mission is supported by our ever-increasing enrollment growth.

ENROLLMENT (FALL HEADCOUNT)

ANNUAL CREDIT HOURS

	PharmD	BS	BS/MS	MS	PhD	Total			Prof	
2001/02	394	30.5	0.5	6	29	460	1,979	474	8,572	11,025
2002/03	413	33	2	13	30	496	2,255	569	8,959	11,784
2003/04	433	31	0	13	30	512	1,164	529	9,138	11,931
2004/05	448	29	1	8	35	521	2,348	449	9,374	12,171
2005/06	467	34	4	6	35	546	2,378	607	9,536	12,521

Applications to the doctor of pharmacy program grew 31 percent to 1,375. This increase in applications brought with it a diverse and well-qualified applicant pool. Mean GPA for the Class of 2010 was 3.54. As the demand for pharmacists remains high, the school believes future projections will continue to allow a robust applicant pool of highly qualified students.

ADMISSIONS TABLE INFORMATION

Year of Admission (expected year of graduation)	Number of Completed Applications	Number Admitted	Average GPA	Average PCAT Score	Percent (numbers) holding a baccalaureate or higher degree
2001 (2005)	216	108	3.35	285 *	24% (26)
2002 (2006)	244	115	3.35	281 *	36% (41)
2003 (2007)	384	117	3.24	376	49% (57)
2004 (2008)	822	117	3.48	396	39% (46)
2005 (2009)	1,051	120	3.55	395	34% (41)
2006 (2010)	1,375	124	3.54	395	28% (35)

^{*} SoPPS began to accept other scores (e.g., MCAT) and waive PCAT requirements for UB's Early Assurance students. The GPA and PCAT scores reflect the entering class, not the entire school.



DEGREES GRANTED (2005-06)

PharmD	109
BS in Pharmaceutical Sciences	15
BS/MS in Pharmaceutical Sciences	3
MS in Pharmaceutical Sciences	1
PhD in Pharmaceutical Sciences	7
Total	135

DEGREE PROGRAM ENROLLMENT (2005–06)

118
119
109
112
458
34
4
6
35
79
537

Degree Programs

PharmD

Program entails two years of pre-pharmacy coursework followed by four years of coursework in the SoPPS. The curriculum consists of courses in the basic biological sciences, clinical sciences, pharmaceutical sciences, and pharmacy practice, capped by a ninemonth experiential program.

PharmD offers two dual-degree programs:

- PharmD/JD
- PharmD/MBA

BS in Pharmaceutical Sciences

This four-year science degree program emphasizes the foundational principles of science and research relevant to the pharmaceutical sciences discipline. The program's comprehensive approach to educating students has led to an outstanding reputation throughout the world.

BS/MS in Pharmaceutical Sciences

The combined degree program, the BS/MS degree, is an accelerated program for academically qualified, currently enrolled undergraduate pharmaceutical sciences students. This program allows students to complete essential pharmaceutical sciences requirements of the bachelor's and master's in five years. One degree is awarded: the BS/MS degree.

MS in Pharmaceutical Sciences

Students focus their studies within one of many high caliber areas: drug delivery/development, drug metabolism/transport pharmacometrics and pharmacodynamics, pharmacogenetics, pharmacometrics, and basic pharmaceutical research and analysis.

PhD in Pharmaceutical Sciences

Trainees are given instruction and research training in diverse aspects of drug action and discovery. These areas are examined at the molecular, genomic, biochemical, and clinical levels through an interdisciplinary curriculum that is individualized to the needs of each trainee.

Continuing Education

Department of Pharmacy Practice Office of Postgraduate Professional Education

FISCAL YEAR 2005–06 UB Programs 12 UB Certificate Programs 1 Home Study Programs 2 Cosponsored 9 Teleconferences (five topic series) 5 (offered to fifty-eight sites throughout the nation) Total 29

The Office of Postgraduate Professional Education accredited and conducted twenty-nine pharmaceutical continuing education programs over the past twelve months.

Programming includes both live and home-study offerings. Five series of teleconferences were offered to fifty-eight different sites throughout the nation. The postgraduate office cosponsors educational activity by accrediting pharmacy programs for nonaccredited providers including interprofessional continuing education.

Certificate programs are designed to expand and enhance predetermined practice competencies through the systematic acquisition of specified knowledge, skills, attitudes, and performance behaviors. The postgraduate professional education office is currently running a certificate program focused in HIV. Future plans include certificate programs in medication therapy management and diabetes.

UB Continuing Education Programs and Symposia

8/12/05	GI Symposium
9/18/05	Treatment of Depression
10/16/05	Treatment of ADHD in Children and Adults
10/30/05	Treatment of Neuropathic Pain
3/12/06	Pharmacy Law Update 2006
4/7/06	Critical Care Symposium
4/11/06	Update on HIV Treatment: 2006
5/1/06	HIV Pharmacotherapy Continuing Education
5/24/06	Pharmacy Law Review Series
5/25/06	Pharmacy Law Review Series
6/13/06	Management of Adult Asthma

Residency and Fellowship Training Program

The Department of Pharmacy Practice residency and fellowship programs experienced growth of all training programs within the area of general pharmacy practice, as well as many specialty areas.

Programs that received American Society of Health-System Pharmacists (ASHP) accreditation in the 2005–06 academic year:

- Homecare with Emphasis on Hospice and Palliative Care
- Psychiatry





Postdocs 5/06

Pharmaceutical Sciences Postdoctoral Fellows

Vamsi Addanki Mechanisms of Nitrate Tolerance

Hea-Young Cho
PK/PD of Drugs in Diabetes

Ying Hong Population PK/PD Modeling and Simulation of Therapeutic Drugs

Qiang Lu Antibody PK/PD and New Treatments for Auto-Immune Diseases

Beom Soo Shin
PK/PD of Monoclonal Antibodies

Kamei Tomonori (Visiting Scholar) Elucidation of Nitric Oxide Donor Biochemistry Using LCMS

Pawel Wiczling

Modeling of Reticulocyte Aging

Chao Wu Antidepressant Drug Metabolism in Transgenic and Wild Type Mice

Jun Yang
PK/PD Modeling of Anticancer Drugs

Weiyan Zhang Construction and Expression of Chimeric Antibody

Baiteng Zhao
PKIPD of Anti-inflammatory Drugs

Pharmacy Practice Residents/Fellows

Ahmed Amer
Fellow

Drug Development/Novartis

Melissa Baxter Resident Critical Care

Yseult Brun Fellow

Drug Development/Novartis

Amy Chen Fellow Drug Deve

Drug Development/Pfizer

Niamh Higgins Resident HIVIID

Stephanie Keller Resident Psychiatry

Michelle Lewis Resident

Primary Care/Buffalo Medical Group

Qing Ma Fellow PK/PD

Madonna Mashburn Resident

Family Medicine

Yomi Ogundele

Fellow

Drug Development/Novartis

Lanre Okusanya

Drug Development/Pfizer

Elizabeth Shang

Fellow

Drug Development/Pfizer

Mark Wrobel Resident

Managed Care/Lifetime Health Medical

Center

Julia Zack Fellow

Drug Development/Novartis

Student Supporters

The following supporters have generously provided funding for various student training programs, allowing our students, residents, fellows, graduate students, postdoctoral students, and scholars the ability to achieve their educational goals.

Amgen, Inc.

Cognigen Corporation

Daiichi Sankyo Pharma, Inc.

Eli Lilly & Co.

Glaxo Smith Kline

Johnson & Johnson

Kapoor Foundation

Lifetime Health Medical Group

Merck & Co., Inc

Metcare RX Pharmaceutical Service Group, LLC

Novartis Pharmaceuticals Corporation

Pfizer Global Research and Development Corporation

Schering-Plough Corporation





Commencement Awards

Lilly Achievement Award

Lori Podkulski

Phi Lambda Sigma of Achievement, Chapter Member of the Year Award *Kristen Nagy*

GlaxoSmithKline Patient Care Award

Cindy Amabile

Michael E. Crawford Award *Alan Frydrychowski*

Eino Nelson Award

Shui Hang Hong

UB Pharmacy Alumni
Association Award
Scott Monte

David E. Guttman Award

Jessica Haas

Renee A. Dederich Award

David Hutchinson

Francis P. Taylor Award

Cassie Grady

APHA-ASP Mortar & Pestle Professionalism Award (McNeil) Lori Podkulski

Robert H. Ritz Award

Bridget Barvian

National Community Pharmacists
Association Outstanding Student
Member Award
Michael Sterner

Roger Mantsavinos Award Bridget Barvian

The Lori Esch Memorial Award Linda Ghobrial

The Merck Award

Crystal Francoforte

Sadat Yorose

Bridget Barvian

ASP National Patient
Counseling Award
Kristen Nagy

Roche Pharmacy Communications Award *Linda Ghobrial*

Robert M. Cooper Memorial Award Crystal Francoforte

Mylan Pharmaceutical Excellence in Pharmacy Award David Hutchinson

Facts and Comparisons Award of Excellence in Clinical Communication Noel Forrett

Roy M. Barr Award Bridget Barvian

Western New York Society of Healthsystem Pharmacists Award

Karen Kuczmarski Joanne Haremza

Samuel J. Bauda Award

Darcie Sullivan

Pharmacists' Society of the State of New York Award Betsy Bender

Natural Medicines Comprehensive Database Recognition Award *Karen Kuczmarski*

McKesson Leadership Award

Kristina Palano

NYS Chapter of the American College of Clinical Pharmacy Research Award Elizabeth Hudzinski

TEVA Pharmaceuticals USA
Outstanding Student Award
Shui Hang Hong

Margaret C. Swisher Memorial Award Cindy Amabile

A.B. Lemon Memorial Award

Amy Partridge

ASP Certificate of Recognition

Karen Kuczmarski

The Acute Care Professional Experience Program Award Crystal Francoforte

The Ambulatory Care Professional Experience Program Award

Jamie McPoland

Pharmacists' Association of Western New York Student Leadership Award Terrence Attea

Perrigo Award of Excellence in Non-Prescription Medication Studies Kevin Harbison

The Kelli Jordan Memorial Award Jenny Yang

The Excellence in Teaching Award

Sathyamangalan Balasubramanian

2006 Who's Who Among Students in American Universities and Colleges

Cindy Amabile Terrence Attea

Bridget Barvian

Betsy Bender

Jennifer Bonafede

Kristy Wood

Clara Fayomi

Crystal Francoforte

Linda Ghobrial

Lekisha Griffin

Joanne Haremza

Anthony Jarkowski III

Karen Kuczmarski

Tamara Lee

Bhavin Mistry

Scott Monte

Kristin Nagy

Kristina Palano

Amy Partridge

Lori Podkulski

Christine Renzi

Lisa Rubin Heather Sodaro

Holly Strickland

Darcie Sullivan

Kristin Velev

Jenny Yang

Christopher Zawadzki

Student Achievements

Awards/Recognitions

Katie Sonich – Class of 2008

2006 Walmart Home Office Internship

Danielle Patti - Class of 2008

NACDS Foundation Pharmacy Student

Scholarships

Bradley Hoffman - Class of 2007

Armed Forces Health Professions Scholarship

Kerrie Peterson – Class of 2007

American Pharmacists Association – Academy of Students of Pharmacy Region 1 Delegate

Kwaku Marfo - Class of 2007

Region 1 Representative to the American

Pharmacists Association – Academy of Students

of Pharmacy Nominating Committee

Pat Comerford - Class of 2007

University at Buffalo, Patient Counseling Winner

Alister A. Rubenstein – Class of 2009

JR COSTEP Summer Internship in Zuni,

New Mexico

Shelley Wilson – Class of 2009

UB 2006 Summer Abroad Program at the

Universidade Presidente Antonio Carlos

(UNIPAC) in Health and Rehabilitation

Karen Kuczmarski and

Crystal Francoforte – Both Class of 2006

American Society of Health-Systems Pharmacists
Clinical Skills Competition 2005

Amanda Boeckel

United States Public Health Service Excellence in Public Health Pharmacy Practice Award

Excellence in Pharmaceutical Sciences 2005

Class of 2008

Dana Ruth Anderson

Won-Jin Choi

Nicholas Michael Clemente

Michael Cook

Libby Czajkowski

Lisa Chatwood Garrity

Michael Thomas Guskey

Binh Dat Ha

Nicholas Jennings

Jennifer Hedrick

Julie Mae Houseknecht

Andrea Keck

Deborah Ann Liana

Devon Marks

Amy Martin

Benjamin Rok

Pu Yi Tam

Marina Wu

Stephen David Yeager

Class of 2007

Michelle Rene Foster

Jodie Lee Grillo

Alison Ann Hynes

Kari Amber Mergenhagen

2005–06 SoPPS Degree Recipients

Bachelor of Science in Pharmaceutical Sciences

June 2006

Faaiza Ansari

Ruthanne Chiotti

Melanie Ciolek

Kimberly Demmans

Joseph Hooley

Jason Jarmusz Win Kwok Leung

NA - ++ |- ---- | A - ---- |

Matthew Murphy

Hala Sallaj Craig Smith

Amanda Spring

Jeffrey Suppon

Tuyet Tran

James Tutko

Patricia Zagst

Bachelor of Science/Master of Science in Pharmaceutical Sciences

June 2006

Jessica Haas

Raj Kale Wing Ki Lam

Master of Science in Pharmaceutical Sciences

September 2005

Huali Wu

Doctor of Pharmacy

February 2006

Sharon Ganatra

Johnny Lau

Jason Mumm

Gregory Thurber

June 2006

Dorothy Albright

Jill Almansberger

Cindy Amabile

Kristina Atencio

Terrence Attea

Bridget Barvian

Joel Begert Joseph Belair

Betsy Bender

Harry Berkoh-Asamoah

Andrea Bialek

Jennifer Bonafede

Christopher Bowers

Stephanie Brian

Andrew Brown

Alicia Burger

Amanda Caruso Holly Coe

Aaron Csicseri

Danielle Dahulich

Katherine Doyle

Lisa Dumuhosky

Clara Fayomi Cara Felton

Samuel Fianko

Noel Forrett

Crystal Francoforte

Alan Frydrychowski Rachel Galenda

Leah Gangl

Linda Ghobrial

Tracy Goodwin

Cassie Grady

Lekisha Griffin Kevin Harbison

Joanne Haremza

Yoriko Harigaya

Thomas Hart Patrick Hildenbrandt William Ho Heather Hodson Shui Hang Hong Julie Hoy Elizabeth Hudzinski David Hutchinson Nataliya Ivasiv Anthony Jarkowski III Andrew Kilmer Bo Young Kim Siyang Kim Tracy Kovacs Sara Krywcun Karen Kuczmarski Kristen Kusmierski Suet Ping Lau Jae-Eun Lee Tamara Lee Janet Lim Angela Litfin Marc Luxemburg

Jamie McPoland Sarah Mecca Jeffrey Meeker Bhavin Mistry Scott Monte Susan Morey Kristen Nagy Stephanie Neidrich Kristina Palano Ki-Jeong Park Amy Partridge Craig Pauline Lori Podkulski Michael Poling Kristin Provoncha Maura Radliff Christine Renzi Tamara Riggs Lisa Rubin Jacob Russell Lyudmila Sakhnovsky Joshua Sawyer Eric Schladebeck

Nathan Smith Heather Sodaro Danica Speciale Michael Sterner Megan Stockton Holly Strickland Darcie Sullivan Kai-Woon Sung Mussie Tesfaslassie Stephanie Vail Susan VanCott Kristin Veley Brian Wagner Matthew Wojdyla Kristy Wood Steven Wright Kristen Wudyka Jenny Yang Sadat Yorose Matthew Zak Christopher Zawadzki

Doctor of Philosophy in Pharmaceutical Sciences

September 2005

Rong Deng Yan Ji

February 2006

Feng Jin Vivek Purohit Karthik Ramani Mahesh Samtani

June 2006

Indranil Bhattacharya







Research and Training

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

Department of Pharmacy Practice: Annual Report Summary 2005–06

New Faculty

Patty Havard, PharmD, was appointed associate professor and division head, pharmacotherapy research programs, and comes to us from Ohio State University. Havard's clinical research is in infectious diseases and HIV treatment during pregnancy.

Qing Ma, PhD, was appointed research assistant professor after recently completing a pharmacometrics fellowship. Ma's research is focused on therapeutic drug monitoring and pharmacogenomics for therapeutic individualization.

Naomi Boston, PharmD, was appointed clinical assistant professor. Boston completed her HIV specialty residency and fellowship at ECMC in Immunodeficiency Services. Boston is the coordinator of the HIV Adherence Pharmacology Program and has research interests in therapeutic drug monitoring and HIV resistance.

Mark Wrobel, PharmD, was appointed clinical assistant professor after completing his residency in pharmacy practice, with an emphasis in managed care, at the Lifetime Health Medical Group.

New Partnerships

The Buffalo Medical Group has established a pharmacotherapy research program at its Buffalo and Williamsville practice sites. Nicole Paolini is the director of that program and the pharmacy residency program.

Erin Slazak is the director of the pharmacotherapy research program at the Lifetime Health Medical Group centers.

Slazak is investigating new practice models for pharmacists in managed care settings and directs the residency program.

A new collaboration with the Independent Health Association is led by Linda Catanzaro, with professors Peter Brody, Fred Bennes, and Karl Fiebelkorn, to investigate population approaches to medication management utilizing prescription claims.

The Pharmacotherapy Information Center is collaborating with MetCare Specialty Pharmacy programs and the Sheehan Memorial Hospital to examine medication management strategies for the primary care center.

Rite Aid and Eckerd pharmacies have initiated a collaboration to establish a network of pharmacists with a UB Certificate in Medication Management. This network will be teamed with health insurance plans to identify community pharmacists with expertise in medication management.

Walgreens has partnered with the HIV Pharmacotherapy Network to enroll seventy pharmacists to receive an online continuing education program to provide pharmaceutical care for HIV-infected patients. The certificate program is directed by Linda Catanzaro and Naomi Boston.

GlaxoSmithKline initiated a two-year drug development fellowship. The program will train individuals in applied pharmacokinetics and pharmacodynamics. These partnerships have broadened the variety of health-care settings in which our students and residents receive training during their programs.

Scholarships and Grants

Our faculty was selected from a nationally competed process to develop a resource paper for the Council on Credentialing in Pharmacy (CCP). The white paper, entitled "Scope of Contemporary Pharmacy Practice: A Framework for Professional Credentialing Roles, Responsibilities and Functions of Pharmacists and Pharmacy Technicians," was authored by Nicole Paolini, Robert Wahler, Cori Wyman,

Lee Klevens, Karl Fiebelkorn, Susan Ksiazek, Tammie Lee Demler, Edward Bednarczyk, Cindy Amabile (P4 student at the time), and Marc Luxemburg (P4 student at the time). In addition, two of our Pharmacy Practice residency programs (Family Medicine, Managed Care) received ASHP accreditation this year, increasing the total number of residencies to seven.



The department faculty was successful at competing for investigator-initiated grants. Some examples include: the Pharmacotherapy Research Center Core Analytical Laboratory (CAL), along with Alan Forrest, Robert DiCenzo, and Gene Morse, were awarded a seven-year grant as part of the new NIH-sponsored National/International AIDS Clinical Trials Group Laboratory Network. The lab is managed by Robin DiFrancesco who also coordinates the national quality assurance program for the ACTG Pharmacology Laboratories.

The CAL also supported research in the areas of neurology, transplantation immunosuppression, and oncology. DiCenzo received a grant entitled "Pharmacokinetics of Lopinavir in Plasma and CSF of HIV-Infected Adults from Abbott Laboratories."

Curtis Haas received a grant from the Society of Critical Care Medicine to conduct a clinical trial to evaluate the effect of inhaled tobramycin in mechanically ventilated patients with tracheobronchitis.

The faculty continued to enroll patients into a multisite protocol entitled "Evaluation of Patient-Centered Pharmacotherapy Management and the Impact on Health and Economic Outcomes." More than 300 patients have been enrolled at sites, including the Lifetime Health Medical Centers, the Buffalo Psychiatric Center, and the Department of Family Medicine at the Erie County Medical Center. The protocol examines outcomes associated with the integration of a pharmacist into medication management.

Overall, the Department of Pharmacy Practice continues to grow and expand its education and research programs. The doctor of pharmacy curriculum and postdoctoral residencies and fellowships have emerged as important mechanisms for facilitating new practice paradigms and creating environments for conducting research that will transition pharmacy practice to meet the needs of an aging society. As needs for new treatments increase along with strategies to achieve positive outcomes for patients, the department is recognized as a national leader in fostering the role of the pharmacist as the medication expert in a multidisciplinary approach to health care.

Department of Pharmaceutical Sciences: 2005–06 Annual Report

Our department has a well-established, international reputation for a tradition of excellence in teaching and research, and is well positioned to expand its prowess in pharmacokinetics, pharmacodynamics, and protein therapeutics.

Moreover, the department is a leading academic institute for cutting-edge research and teaching in pharmacogenomics.

The department's 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.

A major event during the year was the implementation of the UB-Pfizer Strategic Alliance and establishment of a Center of Excellence in Pharmacokinetics and Pharmacodynamics. With funding of \$1,500,000 for the first year, the alliance provides the means to hire two new assistant professors, partial funding of two research faculty members, addition of four new post-doctoral fellows, and six new doctoral students, and includes funding of \$300,000 in new equipment. The search committee brought in several excellent candidates for faculty positions.

A large group research conference was held at Pfizer in June to plan collaborations in the areas of protein therapeutics, cancer chemotherapy, anti-infective chemotherapy, and diabetes/metabolic syndrome. A smaller meeting was held in Buffalo in August.

The department has an exceptional faculty at a range of academic levels with highly productive, largely NIH-funded research programs and some corporate support. The school and department rank second in the U.S. in National Institutes of Health research funding per PhD faculty member, according to the latest report on pharmacy faculty from the American Association of Colleges of Pharmacy (AACP).

The departmental faculty brought in or shared more than \$2.5 million in individual and multidisciplinary grants. Donations of \$145,000 for graduate student training were provided by Merck, Eli Lilly, Sankyo, and Amgen, with continued graduate student support provided by the Kapoor Foundation. Because of the strong demand for our graduates, our department receives fifteen-fold more applications for our graduate program and fellowship positions than we can accept. We have grown to mentoring thirty students in the PhD program, fourteen in the BS/MS or MS programs in pharmaceutical sciences, and had eight postdoctoral fellows or visiting scientists.

The Liquid Chromatography Tandem Mass Spectroscopy Laboratory received equipment and funds for enhancements made possible by a shared instrument grant for \$319,000 from the National Institutes of Health. This support improves our capacity for further research in diverse areas requiring sensitive and specific analyses. The new Linear Ion Trap instrument will enable better quantitation of drug metabolites and biotechnology products.

An active research seminar program was offered with fifty presentations by local and visiting scientists. Thorir Bjornsson, vice president for pharmacology and translational medicine at Wyeth Laboratories, was selected for the 2005 Gerhard Levy Distinguished Lectureship

in Pharmaceutical Sciences. Other notable speakers during the academic year were: Daniel Salazar of Daichi Sankyo Pharmaceutical Company, Victor Wroblewski of Eli Lilly, Lawrence Yu of the Food and Drug Administration, Larry Weinkers of Amgen, Clark Anderson of Ohio State University, Darrell Abernethy of the National Institute on Aging, Jeffrey Stevens of Pfizer, and Colin Pillai of Novartis. David Smith of the University of Michigan was selected by the graduate students for the annual pharmaceutics alumnus lecture.

Our faculty was active in dissemination of our scientific accomplishments and knowledge. We had seventy-four research articles or book chapters published and gave ninety-seven seminars, lectures, or research presentations at various scientific meetings, university, and industrial venues. Five faculty members serve as editors of journals and many participate on numerous journal editorial boards and NIH study sections.

The department has offered annual courses in pharmacokinetic-pharmacodynamic modeling, WinNonlin for pharmacodynamics, and population pharmacokinetic modeling for visiting scientists from the pharmaceutical industry, academia, and the Food and Drug Administration each year in May. Due to large demand, the PK/PD course was given a second time in June. Similarly, the department offers an annual summer workshop in molecular genetic methodologies for pharmaceutical sciences at UB and at other institutions.

The department is poised for further growth of its research and training programs with additional faculty and graduate students and expanded capabilities in the area of protein therapeutics. A series of planning meetings were held to implement participation in UB's New York State Center of Excellence in Bioinformatics and Life Sciences.



THE PFIZER ALLIANCE TEAM (FROM LEFT)

WILLIAM JUSKO, professor and chair, Department of Pharmaceutical Sciences; JEFFREY KOUP, Pfizer research fellow; STEFANIE HANSEN, associate director, Pfizer Strategic Alliances; LIAM RATCLIFFE, senior vice president, global clinical research and development; LISA BENINCOSA, executive director, clinical PK/PD; RALPH STEVENSON, senior director, cardiovascular and metabolic diseases; and SoPPS Dean WAYNE ANDERSON.

Special Honors for Faculty Members

William J. Jusko, professor and chair, was given the Volwiler Research Award from the American Association of Colleges of Pharmacy, and was named the Joseph Swintosky Distinguished Lecturer by the University of Kentucky.

Marilyn Morris was appointed chair-elect of the pharmacokinetics, pharmacodynamics, and drug metabolism section of the American Association of Pharmaceutical Scientists. She was also appointed associate dean, graduate and postgraduate education, the Graduate School, University at Buffalo.



William Jusko



Marilyn Morris

Faculty Grants Awarded

SoPPS Faculty Grants Awarded July 1, 2005 – June 30, 2006

Pharmaceutical Sciences

Joseph Balthasar

University of Michigan

Triggered Local Release of Active Thrombolytic Agents

PTD-Mediated Protein or Drug Delivery for Cancer Therapy

Daniel Brazeau

Louisiana University Marine Consortium

Genetic Analysis Services University of Michigan

Ho-Leung Fung

National Heart, Lung, and Blood Institute
Organic Nitrate Metabolism,
Tolerance and Action

William Jusko

National Institute of General Medical Sciences

Mathematical Models in Pharmacodynamics

Pfizer, Inc.

Center of Excellence in Pharmacokinetics and Pharmacodynamics

Marilyn Morris

Susan G. Komen Breast Cancer Foundation

Multiple Flavonoids in the Treatment

of Multidrug Resistance

Murali Ramanathan

National Multiple Sclerosis Society

Brain-Derived Neurotrophic Factor in Multiple Sclerosis

Robert Straubinger

National Cancer Institute

Drug Carrier Modulation of

Blood/Tumor/Brain Permeability

Aiming Yu

Food and Drug Administration

Correlation of Permeability and Metabolic Stability and the Expansion of the Biopharmaceutics Classification System to Predict in Vivo Pharmacokinetic Performance







Pharmacy Practice

Robert DiCenzo

American College of Clinical Pharmacy Optimizing Adjuvant Chemotherapy in Obese and Overweight Women

University of Rochester

Pharmacokinetics of Lopinavir in Plasma and CSF of

HIV-Infected Adults

Curtis Haas

University of Rochester

Collaborative Program in Pharmacotherapy Research, Practice and Clinical Education Relative to Critically III Patients

American College of Clinical Pharmacy

Kinetics and Dynamics of IV Enoxaparin in the Trauma ICU

Gene Morse

National Institute on Drug Abuse

TDM and Drug Interactions in HIV-Infected Substance Abusers

Drug Interaction Studies of Buprenorphine and HAART in HIV-Infected Patients

Social and Scientific Systems, Inc.

AACTG Pharmacology Support Laboratory

AACTG: Pharmacology Laboratory QA/QC

University of Rochester

Adult Therapeutic Clinical Trials Program for AIDS

Walt Schroeder

Massachusetts College of Pharmacy
Assessment of Eptifibatide Dosing in Patients with Renal
Dysfunction

Patrick Smith

Hoffmann-La Roche, Inc.

The Effect of Co-Administration of Boosted Saquinavir and Methadone on the PK/PD of Methadone and the PK of Ritonavir and Saquinavir

GlaxoSmithKline

A phase 1, open Label, 2-period Single Sequence, Drug Interaction Study to assess Steady-State Plasma Methadone Enantiomer PK Following Co-Administration of Methadone QD with Fosamprenavir 700, g BID and RTV 100 mg QD in Opiate-Dependent HIV Seronegative, Adult Subjects



Research and Training Awards Fiscal Year 2005–06

Pharmaceutical Sciences

Name	Sponsor	Program Type	Current Period	Project Period
A. Awad and A. Ramanathan	National Multiple Sclerosis Society	New Research	\$8,800	\$8,800
J. Balthasar	National Institute of Allergy and Infectious Diseases	Continuation Research	\$336,774	\$1,363,304
J. Balthasar	University of Michigan	New Research	\$50,000	\$50,000
J. Balthasar	University of Michigan	New Research	\$50,000	\$50,000
J. Blanco	National Institute of General Medical Sciences	Continuation Research	\$278,595	\$1,399,080
D. Brazeau	Louisiana University Marine Consortium	New Research	\$31,000	\$31,000
J. Canty and J. Qu	National Heart, Lung, and Blood Institute	Renewal Research	\$9,267	\$49,199
Ho-Leung Fung	National Institute on Drug Abuse	Continuation Research	\$353,250	\$1,398,503
Ho-Leung Fung	National Heart, Lung, and Blood Institute	New Research	\$396,250	\$1,981,250
W. Jusko	National Institute of General Medical Sciences	Continuation Research	\$341,915	\$1,814,443
W. Jusko	National Institute of General Medical Sciences	Renewal Research	\$260,967	\$1,043,868
W. Jusko	Pfizer, Inc.	New Research	\$1,500,000	\$4,500,000
D. Mager	National Institute on Aging	New Research	\$20,862	\$40,505
M. Morris	Susan G. Komen Breast Cancer Foundation	New Research	\$237,500	\$237,500
M. Ramanathan	National Multiple Sclerosis Society	New Research	\$109,948	\$329,845
R. Straubinger	National Cancer Institute	Continuation Research	\$299,566	\$1,523,273
R. Straubinger	National Cancer Institute	Supplemental Research	\$40,857	\$40,857
R. Straubinger	National Cancer Institute	Supplemental Research	\$49,952	\$49,952
A. Yu	Food and Drug Administration	New Research	\$25,000	\$25,000
A. Zhang (Straubinger and Ramanathan)	National Science Foundation	Continuation Research	\$8,744	\$160,494
A. Zhang (Straubinger and Ramanathan)	National Institute of General Medical Sciences	Continuation Research	\$78,500	\$235,500
A. Zhang (Straubinger and Ramanathan)	National Science Foundation	Continuation Research	\$120,752	\$569,806
	Pharmaceutical Sciences Totals		\$4,608,499	\$16,902,179

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Pharmacy Practice

Name	Sponsor	Program Type	Current Period	Project Period
R. DiCenzo	American College of Clinical Pharmacy	New Research	\$17,500	\$17,500
R. DiCenzo	University of Rochester	New Clinical Trial	\$6,161	\$6,161
C. Haas	University of Rochester	Renewal Research	\$59,070	\$59,070
C. Haas	American College of Clinical Pharmacy	New Research	\$49,999	\$49,999
G. Morse	Virginia Commonwealth University	Continuation Research	\$103,155	\$103,155
G. Morse	National Institute on Drug Abuse	Supplemental Research	\$44,380	\$44,380
G. Morse	National Institute on Drug Abuse	Supplemental Research	\$117,513	\$117,513
G. Morse	National Institute on Drug Abuse	Supplemental Research	\$8,100	\$8,100
G. Morse	National Institute on Drug Abuse	Supplemental Research	\$87,625	\$87,625
G. Morse	National Institute on Drug Abuse	Continuation Research	\$139,634	\$275,812
G. Morse	National Institute on Drug Abuse	Continuation Research	\$525,278	\$2,290,254
G. Morse	University of Rochester	Renewal Research	\$155,607	\$311,214
G. Morse	Social and Scientific Systems, Inc.	Renewal Research	\$44,800	\$44,800
G. Morse	Social and Scientific Systems, Inc.	Renewal Research	\$178,312	\$178,312
W. Schroeder	Massachusetts College of Pharmacy	New Research	\$8,000	\$8,000
P. Smith	GlaxoSmithKline	New Clinical Trial	\$183,780	\$183,780
P. Smith	Hoffmann-La Roche, Inc.	New Clinical Trial	\$280,500	\$280,500
	Pharmacy Practice Totals		\$2,009,414	\$4,066,175
	School Totals		\$6,617,913	\$20,968,354



Scholarship

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

Pharmaceutical Sciences Publications: 2005–06

Balasubramanian, S.V.

Ramani K, Purohit VS, Miclea RD, Middaugh CR, and Balasubramanian SV: "Lipid binding region (2303-2332) is involved in aggregation of recombinant human FVIII (rFVIII)." *Journal of Pharmaceutical Sciences* (2005) 94, 1288–1299.

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Emregul E, David A, Balthasar JP, and Yang VC: "A GPIIb/Illa bioreactor for specific treatment of immune thrombocytopenic purpura, an autoimmune disease." *J Biomed Mater Res A.* 2005 Dec 1;75(3):648–55.

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Perez-Ruixo JJ, Kimko HC, Chow AT, Piotrovsky V, Krzyzanski W, and Jusko WJ: "Population cell life span models for effects of drugs following indirect mechanisms of action." *J. Pharamcokin. Pharamcodyn* 32:767-792 (2005).

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Mager DE: "Target-mediated drug disposition and dynamics." *Biochem Pharmacol* 72:1–10 (2006).

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Hu K and Morris ME: "Pharmacokinetics of α -naphthyl isothiocyanate in rats." *J Pharm Sci* 94(11):2441–51, 2005.

Ji Y, Kuo Y and Morris ME: "Pharmacokinetics of dietary phenethyl isothiocyanate in rats." *Pharm Res* 22(10):1658–66, 2005.

Ji Y and Morris ME: "Transport of dietary phenethyl isothiocyanate is mediated by multidrug resistance protein 2 but not P-glycoprotein." *Biochem Pharmacol* 70:640–647, 2005.

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Qu, Jun

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Yu, Aiming

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Pharmacy Practice Publications: 2005–06

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New Technology Disclosures/Patents

Title	Name
Method and Composition of Less Immunogenic, Long-Circulating Protein-Lipid Complexes	Balu-Iyer, Sathy, Pharmaceutical Sciences Miclea, Razvan D., Pharmaceutical Sciences Peng, Aaron, Pharmaceutical Sciences Straubinger, Robert, Pharmaceutical Sciences
Bridging Centrality: A Concept and Formula to Identify Bridging Nodes in Scale-free Networks	Ramanathan, Murali, Pharmaceutical Sciences
Method for Identifying Drug Targets in Biological Networks	Ramanathan, Murali, Pharmaceutical Sciences
Time-Dependent Immunodynamic Assessment to Chronic Immunosuppression	Tornatore, Kathleen, Pharmacy Practice

Community Service

To build a community of discovery and care requires significant outreach. All members of the SoPPS involve themselves in service to the community in a variety of ways.

Our students assist community members through their associations with many professional organizations, as well as fraternities and other social organizations. Students serve meals to needy families and raise funds for charitable organizations.

Health education is provided through wellness clinics and political activism, with Pharmacy Day in Albany being a primary way to achieve positive change through legislative channels. This annual effort is a time for students, faculty, and practicing pharmacists to address our New York State legislators about pharmacy health-care issues impacting our local and regional community.

Patient advocacy is a pervasive theme at the school and there is no better way to have broad impact on the community we serve than through lobbying and activism for optimal patient

care and health outcomes. Current legislative issues having major impact on health outcomes include giving pharmacists in New York State the ability to administer immunizations, Medicare Part D, and the general ability of pharmacists in New York State to have an increased clinical presence in health-care delivery.

SoPPS staff give of their time through various State Employees Federated Appeal fund-raisers: bake sales, "Enjoy the City" book sales, and 50/50 split clubs, as well as our annual holiday family fund-raiser.

The SoPPS believes strongly in giving back to the community that supports us. We will continue to assist many different community support programs and activities in the future.



SOPPS SCHOOL PICNIC 2005



SOPPS REPRESENTATION FOR PHARMACY DAY IN ALBANY (FROM LEFT)

Steve Giroux, Matt Duell, Eric Sauls, Karl Fiebelkorn, Samantha Stagney, Jeremy Schrader, and Assemblyman Mark Schroeder.

Alumni Relations

The support of our alumni community has been invaluable in the various student events and outreach efforts that have contributed to the continued success of our school.

2005-06 Alumni Association Activities

September 2005: Alumni Reunion Weekend activities were held September 23–24. Friday evening activities included a cocktail reception and class dinners recognizing the classes of 1955, 1980, and 1995. Saturday activities included Breakfast with the Dean and tours of UB, including the school. The annual dinner dance was held Saturday evening at the Buffalo Niagara Marriott. The school's P4 students were inducted into the Alumni Association via our special candlelight induction ceremony.

January 2006: Grants in Aid Program. Thanks to your dues membership payments, the Alumni Association is still able to offer annual need-based grants in the amount of \$500 to six pharmacy students. Our 2005–06 recipients were Colleen Kingsbury, Michelle Foster, Alicia Burger, Lisa Dumuhosky, Suetping Lau, and Anita Robek.

February 2006: Wine, Cheese and Dessert Reception. This annual event was held at the Jacobs Executive Development Center and had very strong attendance from alumni, as well as faculty and students. Attendees were treated to a delectable assortment of food and beverages and had the opportunity to purchase raffle tickets for a variety of Chinese auction items, such as overnight getaways and relaxation baskets. Proceeds benefited the Alumni Association's Grants in Aid Program.

April 2006: The school's spring awards ceremony gives the Alumni Association the opportunity to recognize the winners of the Orville C. Baxter and the Willis G. Gregory awards. Congratulations to 2006 award winners: Susan Jay '77, Willis G. Gregory Award recipient, and Thomas Smith '84, Orville C. Baxter Award recipient.

April 2006: UB's Alumni Association and the SoPPS Alumni Association joined in a collaborative student outreach program called Dinner with 12 Strangers, a nationally recognized program in which six alumni and six students come together over a meal and leave with new friendships and connections. Gayle Brazeau '89 hosted alumni and healthcare career undergraduates for an informative evening of career advisement and guidance.

May 2006: The Alumni Association was pleased to bestow its 2006 Commencement Award to Scott Monte, Class of 2006.

The association also continued to support many other student activities, such as pizza lunches, guest speakers, dances, and many other alumni outreach activities.







CLASS OF 1955 CLASS OF 1980 CLASS OF 1995

Development

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.

HONOR ROLL OF DONORS

We gratefully acknowledge the alumni, corporations, foundations, friends, and parents who made gifts to the school between July 1, 2005 and June 30, 2006. Your continuing support allows us to train and nurture the pharmacists, clinicians, pharmaceutical scientists, and community leaders of tomorrow.

WILLIS G. GREGORY SOCIETY

The Willis G. Gregory Society recognizes donors who have made an annual gift of \$1,000 or more to the School of Pharmacy and Pharmaceutical Sciences during the fiscal year. The society is named in honor of the school's admired dean, who served from 1890 until his retirement in 1936. Dr. Gregory was considered a visionary for his progressive views on pharmacy practice and is credited with transforming the pharmacy profession.

\$100,000+

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Honoring the generosity of our alumni and friends who recognize the historica significance of the school through their gifts of \$500 – \$999 annually.

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Leigh Yates



"I have been a Willis G. Gregory member for the past 19 years.

I feel like it is my moral obligation to give back to the school that allowed me to have success in so many different areas of my life."

Gerald Hooley '52

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Honoring alumni and friends who contribute \$250 – \$499 annually.

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The Hayes Society honors individuals who have made provisions to the School of Pharmacy and Pharmaceutical Sciences through a bequest or other method of deferred giving.

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Howard Weintraub '71

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Honoring alumni and friends who contribute \$100 - \$249 annually.

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"The School of Pharmacy and Pharmaceutical Sciences and the students in the profession are important to me. I volunteer and give back because others did the same for me when I was in school."

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THE MATCHING GIFT PROGRAM

You may be able to double or even triple your gift to the school by taking advantage of your employer's corporate matching gift program.

Evelyn J. Reda '88

Such programs allow you to receive credit for the full amount of the gift: your contribution plus the company's match. Eligible donors may also include retired employees and employees' spouses, depending on your employer's matching gift policy.

Just request and complete the matching gift form from your company's human resources office and send it, along with your gift payable to the University at Buffalo Foundation/Pharmacy.

For more information, contact Leigh Yates, director of development, at (716) 645-3432, or e-mail Ityates@buffalo.edu.



"Dean Lemon was always an advocate for students in obtaining scholarships. Since I received a scholarship to attend pharmacy school for four years, I thought that it was only appropriate to do it for someone else."

Rose Mary Madejski '59

STUDENT SCHOLARSHIP SUPPORT

Thank you to the many donors who have established scholarship endowments and given annual gifts that provide much needed support to fund our highest priority—helping bright, hardworking students fulfill their dreams of obtaining their pharmacy degrees. During the 2005–06 academic year, 264 students received academic and need-based scholarships totaling \$352,527.

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GOLF TOURNAMENT SPONSORS

Third Annual Student Scholarship Golf Tournament Sponsors

Thank you to all of our sponsors who participated in the Third Annual Student Scholarship Golf Tournament. We received more than \$27,000 in tournament sponsorships that allowed the school to award six scholarships. The following students from the Classes of 2007 and 2008 were recipients: Amanda Boeckel '07, Kwaku Marfo '07, Kari Mergenhagen '07, Kerri Peterson '07, Deborah Liana '08, and Kathy Truong '08.



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2121 Main Street Pharmacy

Special thanks to DHP Consulting, Target, and Hannaford for their contributions.



WHITE COAT CEREMONY

Students from the Class of 2010 take the oath of a pharmacist at the White Coat Ceremony.

Financial Reports

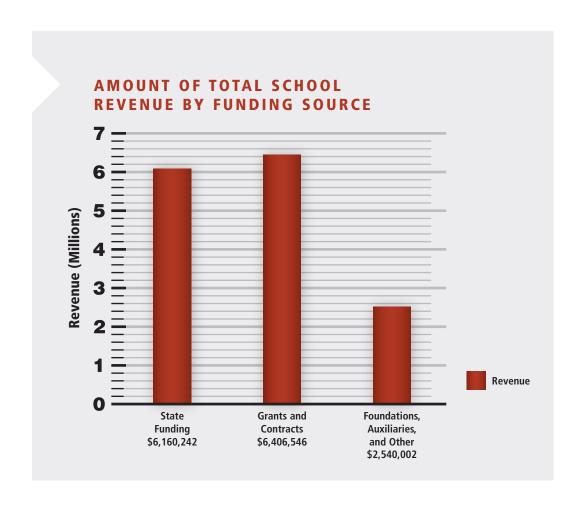
The support to achieve our goals, the security to reach for the future, and the impetus for creativity are allowed through our well-positioned financial portfolio.

A Supportive Financial Environment

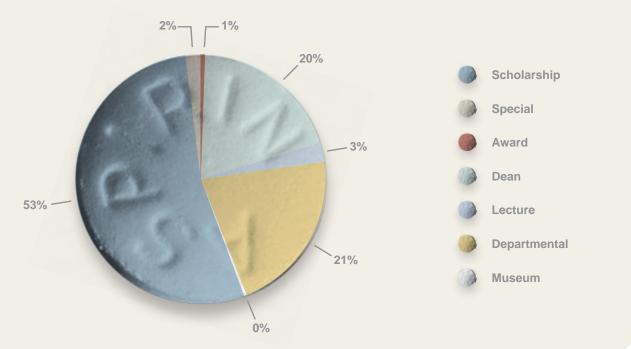
All members of the SoPPS are impacted by our positive and progressive financial planning. Financial support for the school is garnered through various avenues which include the State of New York, research activity, program and training, and philanthropic dollars.

The school is fortunate to have such a varied base of support to assist in achieving our goals: the education of our students, the quest for innovative research models, the growth of scholarly activity, and the advancement of health care.

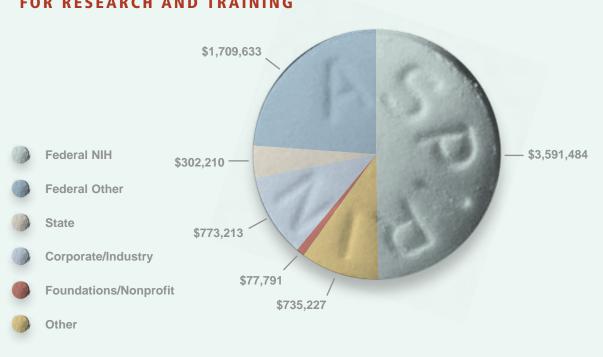
The following graphs give an overview of the school's financial activity via revenue, expenditures, and endowments.











School-wide Committees

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

Executive Committee

Wayne Anderson (Chair), Gayle Brazeau, Rebecca Brierley, Kathleen Boje, Karl Fiebelkorn, Cindy Konovitz, Candise Morris, Gene Morse, William Jusko, Leigh Yates

Student Academic Affairs Committee

Karl Fiebelkorn *(Chair)*, Gayle Brazeau, Kathleen Boje, Bob Wahler, Nicole Paolini

Admissions Committee

Cindy Konovitz (*Chair*), Gayle Brazeau, Peter Brody, Karl Fiebelkorn, Fran Gengo, Don Mager, Marilyn Morris, Murali Ramanathan, Jerome Schentag, Judianne Slish, Robert Straubinger

Curriculum Committee

Gayle Brazeau (*Chair*), Karl Fiebelkorn (*ex officio*), Cindy Konovitz (*ex officio*), S.V. Balasubramanian, Stewart Brower, Patricia Grace, Marilyn Morris, Nicole Paolini, William Prescott, Lisa Nichols (*P1*), Daniel Burger (*P2*), Lynn Monteleone (*P3*), Crystal Francoforte (*P4*)

Safety Committee

Kathleen M. K. Boje *(Chair)*, Wayne Anderson, S. V. Balasubramanian, Alfred Reiman, Patrick Smith, David Soda, Kathleen Tooley

Tenure and Promotion

William Jusko (*Cochair*), Gene Morse (*Cochair*), H. L. Fung, Marilyn Morris, Kathleen Tornatore

National Industrial Advisory Council

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