

Idaho State
UNIVERSITY

Pharmacy

Bulletin

Spring 2009

Nontraditional
Pharm.D. Program:
20 years of distance learning



Plus...

- Selvage, Madaras-Kelly tap NIH grants
- Pharmacy student fundraiser helps ill teen
- Alumni earn professional honors, appointments

Pharmacy

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In an effort to increase bidding during the 2009 Spaghetti Feed & Auction, faculty member Dr. Cathy Heyneman sports a Nemo hat she claimed to wear while skiing with the highest bidder of her ski package donation.

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Students learn the role of a pharmacist in an emergency room through simulation.

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Faculty members have been awarded grant funding from the National Institutes of Health.

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Alumnus John Jones, '75, has been elected treasurer of AMCP.

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The College of Pharmacy celebrates 20 years of offering the Nontraditional Pharm.D. Read about the history and alumni of the program - pictured is Bina Patel, '09.

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Cover photo: College of Pharmacy alumnus Edee Dvorak, '86, '05, in the compounding lab at Shaver Pharmacy & Compounding Center. Dvorak is a graduate of the Nontraditional Doctor of Pharmacy program.

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DEAN'S MESSAGE

Dear Friends,

Originally, I intended to write exclusively about the 20th anniversary of the Idaho State University College of Pharmacy Nontraditional Doctor of Pharmacy degree. However, I feel that I must also say a few words about the effect of Idaho's economy on the budget of the College. Since last fall, I have been involved in developing scenarios of cutting between 10 to 15 percent of the funding appropriated by the state for the College. Since 97 percent of that funding is in salaries, it means losing valuable faculty and staff members, or finding other resources to replace these needed dollars. The scenarios I presented did just that; they retained all faculty and staff and still provided for our continued expansion of the full Pharm.D. program to our new site in Meridian. While the final budget is still not available for next fiscal year, I want to assure you that the College will weather this economic storm albeit being financially leaner and more reliant on other sources of income than state funding.

Now, I want to say a few words about the 20th anniversary of the Nontraditional Doctor of Pharmacy degree. The program began in 1989 and was one of the first in the country and today has approximately 300 graduates. The intention was and remains offering practicing pharmacists with bachelor's degrees an avenue to obtain the additional education necessary to earn the Doctor of Pharmacy degree without having to relocate to Pocatello for traditional classroom instruction. The program has always been based on our traditional degree so the nontraditional and traditional degrees are the same; only the pathway to obtain the degree is different. This is an important consideration since the degree from ISU is well respected regardless of the teaching format.

We continue to offer the nontraditional degree while programs at other colleges have closed or are no longer accepting students. We feel it is important to continue to offer this opportunity to pharmacists as long as the demand remains strong. This credential may be even more important today since the pharmacist shortage is not as severe as it has been nationally. Practicing pharmacists with bachelor's degrees in the past have found their career advancement limited by not having the doctoral degree. This will become even more evident as additional graduates with doctoral preparation become available for employment.

I often speak with alumni of this program. Many extol the education they received and talk about the doors their degree has opened in their careers. They have become strong supporters of the ISU College of Pharmacy and are true Bengals.

If you are an alumnus who is considering this degree – do it now. If you intend to practice for another decade or more in today's profession, you will need this credential. The ISU program will not be around forever and it is one of the few remaining in the country.

All the best,



Joe



STUDENT NEWS

Annual Spaghetti Feed & Auction raises \$5,000 for ill Pocatello teen

Hailed as a record-breaking success, the Professional Pharmacy Student Alliance, (PPSA), sponsored annual Spaghetti Feed & Auction raised \$5,000 towards an ill Pocatello teen's dream of vacationing with her family in Hawaii through the Make-A-Wish Foundation of Idaho®.

Ashlen Cooper, 14, was diagnosed with a brain tumor in October 2008, according to Jacob Cooley, student co-chair of the fundraiser. Following her diagnosis, Ashlen underwent surgery

and began a yearlong chemotherapy treatment regime.

Members of the faculty, staff, student body, university community and public turned out in support of the fundraiser, held in February in the Earl R. Pond Student Union Ballroom.

Each year, PPSA members donate 25 percent of the proceeds towards a local charitable organization. The remaining \$11,000 from this year's event will go towards

student-organized health clinics for community immunization, heartburn, methamphetamine and diabetes awareness programs throughout Southeast and Treasure Valley areas of Idaho.

Ashlen's Hawaii vacation wish will be granted in 2010 when she is finished with her treatment. She is a student at Highland High School and holds a 4.0 grade-point average. English is her favorite subject.



ISU College of Pharmacy's Professional Pharmacy Student Alliance's annual Spaghetti Feed & Auction, held Feb. 13, proved to be a profitable success, according to student co-chair, Jacob Cooley. The event raised about \$16,000, with \$5,000 earmarked for the Make-A-Wish Foundation of Idaho®.

STUDENT NEWS

ACLS simulation provides new tool for classroom learning experience

In an effort to improve the learning experience for Pharmacy students while teaching advanced cardiac life support (ACLS), Dr. Teddie Gould arranged for an ACLS simulation for her pharmacotherapy laboratory course offered this semester.

Jim Allen, senior laboratory supervisor of the ISU Human Simulation Center, two of his students from the paramedic program, along with Jen Seeley, PharmD, Eastern Idaho Regional Medical Center, EIRMC, joined pharmacy students in a Leonard Hall classroom so students could observe the pharmacist's role on a Code Blue team. The event helped students become aware of the knowledge required for a pharmacist to function in this scenario and to develop an appreciation for the role of other health care professionals, Gould said.

Allen, who directs the paramedic program at ISU, brought an ambulance full of equipment to the College to stage the simulated cardiac arrest. This included a \$48,000 computerized mannequin called SimMan®, equipment required to operate the mannequin, and the monitors one would typically see attached to a patient in a

cardiac arrest case. Dr. Seeley had a cardiac arrest drug box and IV solutions from the EIRMC Center to use during the simulated arrest.

Following an introduction, the students witnessed SimMan® go into cardiac arrest, including some different heart rhythm abnormalities for which he was treated. The good news is that he survived the event and was later able to be transported “back home” following the simulation, Gould said. Following the simulation, students were able to ask questions and talk with the paramedics and pharmacist about their respective roles in a ACLS situation.



Jim Allen, upper right, discusses how he uses a simulation mannequin for educating students about their role as a pharmacist on a Code Blue team.

STUDENT NEWS

Independent pharmacy business plan takes top honors in competition

The idea of operating an independent pharmacy practice following graduation is not as common as it may have been 20 years ago. However, third-year students in Dr. Kerry Casperson's business management class get the opportunity to collaborate with classmates and formulate a business plan to possibly use one day.

Students in Casperson's class finished their semester-long business plan competition where teams of students develop a detailed pharmacy-related business plan, with the first-, second- and third-place teams earning financial rewards.

The team who created a business plan for Heartland Pharmacy & Gifts, located in Quincy, Wash., took top honors for Tyson Frodin, Grant Bell, Casey Sayre and Heidie Carlson. The owner of the only pharmacy in Quincy, which has been in operation for 25 years, is looking at selling the store and eventually

retiring.

The student's plan highlighted the integrity and sense of community practice the independent pharmacy provides to patients in this rural area.

The plan calls for Grant Bell to purchase the pharmacy through a junior partnership buy-in, while maintaining the community pharmacy services. In addition to preserving the locally-owned and operated business, the plan outlined options to continue to provide quality pharmacy and community services. Some of the suggestions included:

- stocking and efficiently dispensing quality pharmaceutical products;
- continue to provide services to the Hispanic population;
- offer clinics dedicated to prevention, education and testing for diabetes, dyslipidemia, smoking cessation, weight loss and heart health;
- and continue to provide OTC products, sundries and gift items.

Many pharmacy students have expressed a desire to own their own businesses, Casperson said. "A business plan is a core component of a successful entrepreneur."

In order to promote pharmacists as business leaders, College alumnus Bill Eames has provided the financial incentive through the William M. Eames Practice Management College of Pharmacy Scholarship Fund.

In addition, compliance with the Accreditation Council for Pharmacy Education, (ACPE) board requires pharmacy students to have a core competency education model in business principles taught to pharmacy students.

Members of the winning team also have the opportunity to compete nationally against their peers through a business plan competition with the National Community Pharmacists Association.



First place Business Plan Competition winners, l to r, Tyson Frodin, Grant Bell, Casey Sayre and Heidie Carlson, are presented a check from Dr. Kerry Casperson who teaches the P3 business class.

TREASURE VALLEY UPDATE

Spring brings change for students, faculty and staff at College of Pharmacy

April showers brings May flowers... and graduation, the end of classroom-based learning, the start of Advanced Pharmacy Practice Experiences (APPE), a move to Boise for some students and spring continuing education programs. This is certainly a time of anticipation and excitement for many - P4s, P3s, P2s, residents, faculty and preceptors.

The current P4s are finishing up their APPEs, filling out paperwork for graduation and the NABPLEX, finalizing job offers and beginning their next stage of life. For the P4s, discussions range from "can you believe four years are over?"; "senior seminar wasn't that bad!"; to planning moves and buying houses. The P3s are nearing the end of their classroom-based courses and eagerly await the start of APPEs. Soon a group of 20 or so P2s will make the move to Boise to join us as P3s in the new L.S. Skaggs Pharmacy Complex at the ISU Meridian facility. Many hopeful P1s have recently received their acceptance letters to the program, as 20 of them will be in the first class to have all four years of their pharmacy education in the Treasure Valley.

As for the Boise faculty, we have all been busy with teaching both in the modules and APPEs; doing scholarly activities and preparing for the opening of the Meridian campus. Dr. Karl Madaras-Kelly was named as one of ISUs 2009 Outstanding Researchers - a deserved recognition for all of his

many research accomplishments. A BIG thank you goes out to Dr. Barb Mason for her years of service as Vice-Chair of the Department of Pharmacy Practice and Administration (PPRA) and more recently as Interim Chair of PPRA. Dr. Mason has served us well over the years in these positions. Drs. Rex Lott and

Glenda Carr have been busy with the Meridian Task Force Expansion Committee. Dr. Carr has also been busy serving as the Boise advisor to a student organization and all of the responsibilities that go along with that role.

Dr. Sandra Jue is finishing up with this year's group of VA residents and preparing for the new group of residents. You may have heard Drs. Roger Hefflinger, Kathy Eroschenko, or Tom Wadsworth recently speak at one of the several spring CE programs occurring around the state (or one of Dr. Hefflinger's many other presentations). For you know the

saying, "never stop learning."

To our graduating P4s, congratulations and enjoy your journey. Welcome to our new P1s and Meridian P3s. And a big thanks to our alumni and preceptors, as none of this could happen without you and your support!

Cathy Oliphant, PharmD, is the Vice Chair for the Department of Pharmacy Practice and Administrative Sciences.



COLLEGE OF PHARMACY CELEBRATES:

20 years of providing Nontraditional education

*W*ith more than 300 alumni, the Idaho State University College of Pharmacy's Nontraditional Doctor of Pharmacy (NTPD) program has been providing licensed pharmacists from the US and Canada with the opportunity to earn their Pharm.D. degree, at their own pace, for 20 years.

The College of Pharmacy began conversion to the entry level Doctor of Pharmacy degree curriculum in 1987. At that time, a survey of practitioners within the state suggested a high degree of interest in pursuing an off-campus nontraditional Pharm.D. Two years later, in October of 1989, the Nontraditional Doctor of Pharmacy program was initiated to allow well established and clinically oriented pharmacy practitioners the opportunity to obtain the Pharm.D. degree without returning full time to campus. The curriculum was specifically designed to provide B.S. practitioners with the contemporary skills and knowledge necessary for provision of comprehensive primary care and institutional-based pharmaceutical care services, according to Vaughn Culbertson, director of the Nontraditional program.

However, the geographical expanse and limited number of pharmacists within the state necessitated a larger student enrollment to justify program development. As a result, the program was initially established to accommodate 15 students, eight to 10 residents and five

to seven non-resident student practitioners. However, due to extraordinarily large non-resident applications, the program was expanded to 50 students per year in March 1992.

Since that time, the program's national prominence and recognition has continued to grow and now includes students and alumni from nearly all 50 states in the US. Evolution of the NTPD has continued and in 1999, admission criteria were adopted to allow Canadian licensed pharmacists entry into the program. Currently, the program enrolls approximately 20 to 30 U.S. and Canadian licensed pharmacists each year. The program is fully accredited by the American Council on Pharmaceutical Education (ACPE).

Many alumni of the program say that earning their Pharm.D. through the NTPD allowed them the needed time to work, tend to family needs and earn an advanced degree part-time. The program and degree also opened doors of opportunity that otherwise may have not been available.

"After graduating with a B.S. in Pharmacy in 1986, (ISU), I always felt I needed to continue on with my pharmacy education and receive my advanced degree," said Dr. Edee Dvorak, '05. "The NonT Pharm.D.



Michael LeBlanc, Aug. '09, New Brunswick, Canada, came to campus in the spring to work on his APPE.



College of Pharmacy Nontraditional Doctor of Pharmacy graduate, Dr. Sheila Seed, '09, with daughter Pat visiting the Red Sox World Series trophies.

program provided a way for me to continue working full-time and earn the degree I felt was necessary for continued success in my career.”

Dr. Sheila M. Seed, '09, agrees.

“The program at ISU was a perfect fit for me,” said the assistant professor of pharmacy practice with the Massachusetts College of Pharmacy and Health Sciences in Shrewsbury, Mass. “It allowed me to juggle three children’s schedules, work full time and work at a retail pharmacy every other Saturday. It wasn’t easy, but the program added to my knowledge base.”

Dvorak, a pharmacist with Home Living Services Pharmacy and Shaver Pharmacy & Compounding Center in Pocatello, says that continuing her education while working full time provided her with new insight about the pharmacy profession she worked in daily.

“The course work and video tapes, which worked wonders for insomnia, made me realize how much the practice of pharmacy was changing in so many ways besides the daily issues I dealt with in my work environment,” she said.

Candidates for the NTPD program must complete an admissions procedure that includes submitting documented evidence of a strong academic record, clinical experience and past achievements as a pharmacy practitioner. Applicants are required to submit official transcripts of all college coursework, three letters of recommendation, and proof of current US or Canadian pharmacy licensure. Prior to admission to the program,

candidates must travel to Pocatello to complete an assessment process, which includes interviews with faculty and a baseline evaluation of clinical skills, said Dr. Kevin Cleveland, NTPD curriculum coordinator.


In addition, the NTPD curriculum consists of 37 credits of didactic course work followed by 18 credits of Advanced Pharmacy Practice Experience (APPE). The didactic coursework is taught utilizing a combination of DVDs, interactive web-based case studies, detailed syllabi and textbooks suitable for the nontraditional learner. This format allows the student significant flexibility in terms of setting their own pace through the didactic coursework. Each course has an assigned coordinator who is available to students via telephone for questions or assistance.

A proctor identified by the student and approved by the program administers examinations. Students must

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Earn your Doctor of Pharmacy degree from home

Idaho State University College of Pharmacy Nontraditional Doctor of Pharmacy Program



The NonT Doctor of Pharmacy program is designed for practitioners holding a bachelor’s degree in pharmacy and a valid US or Canadian pharmacy license who want to earn the Phram.D. degree without returning full time to a college campus.

Ranked one of the top NonT programs in the US, the ISU College of Pharmacy’s NonT program has more than 300 graduates.

For more information, call 208.282.3918 or online at pharmacy.isu.edu

ALUMNI NEWS

Wheatley, '72, earns PCCA honors for compounding at Ontario store

Idaho State University College of Pharmacy alumnus, Bob Wheatley, '72, owner of Ontario



Pharmacy in Ontario, Ore., was named the January 2009 Pharmacist of the Month by the Professional Compounding Centers of America (PCCA). The PCCA is a provider of Accreditation Council on Pharmaceutical Education (ACPE)-approved pharmacy compounding training and continuing education

programs, fine chemical, devices and technical consulting. Pharmacists are chosen for this honor based on their dedication to quality standards in pharmacy compounding, and for their commitment to their community and patients. Bob was selected from a field of more than 3,500 independent pharmacists located throughout the United States and Canada.

Compounding is the pharmacy method of preparing customized medications tailored to an individual's needs when a commercial medication is not available in the dosage form and strength needed. Many patients are allergic to preservatives or dyes, or are sensitive to standard drug strengths. With a physician's consent, a compounding pharmacist can change

the strength of a medication, alter its form to make it easier for the patient to ingest and add flavor to it to make it more palatable. A compounding pharmacy also can prepare the medication employing several unique delivery systems, such as a troche or lozenge, a lollipop or a transdermal gel.

Preparing these customized medications allows compounding pharmacists to achieve their ultimate goal—to help the physician and patient achieve a more positive therapeutic outcome.

"My advice to any new compounding pharmacist is to be patient and educate your customers and staff about the benefits of compounding," Wheatley said. "We averaged one compound per day for at least a year when we first started. I figured if we could average five compounds a day, I would be happy. We now do enough compounding to justify two full-time technicians in the compounding lab, and the truth is we have just started to scratch the surface of what we can do. Also, hire exceptional people and pay them well. It will pay off in the long run!"

Ontario Pharmacy is a full-service pharmacy providing compounding in areas including: pain management, BHRT, dermatological and veterinary preparation.

In Memoriam...

Margaret Bonham, '43, Rigby, April 19, 2009
Alwell Brown, Los Angeles, November 5, 2008
Taylor Carr, '42, Idaho Falls, April 24, 2009
Vernon Christenson, '51, February 23, 2009
Robert Klamt, '42, Eagle, December 9, 2008
Leonard Lombardi, '51, Pocatello, March 14, 2009
William Mooring, '60, Geraldton W.A., Australia, December 31, 2008
Dale Plesner, '44, Idaho Falls, April 14, 2009
Grover Swallow, '49, Panaca, Nevada, April 22, 2009
Fred Waugh, '45, Eugene, Oregon, December 13, 2009

ALUMNI NEWS

CPhA presents Bowl of Hygeia Award to Chester Yee, '62, at annual meeting

A 1962 College of Pharmacy alumnus, Chester Yee, Menlo Park, Calif., was presented with the Bowl of Hygeia award earlier this year at the annual California Pharmacists Association (CPhA) meeting in Anaheim. Yee earned the award for his contributions to patient care and the advancement of the pharmacy practice.

The Bowl of Hygeia award recognizes a pharmacist for outstanding involvement both in and outside of the pharmacy by demonstrating how pharmacists can elevate themselves and the profession in the eyes of the public.

Yee has been active since his graduation from the College, where he served as editor for the school's newsletter and APhA student chapter president. He, along with other ISU alumni and other pharmacists banded together to form the San Mateo County Pharmacists Association and affiliated the CPhA as a local association. He has served in numerous capacities on the San Mateo County Pharmacists Association, where he notably served as the chair of the "Talk with a Pharmacist Day." Yee also has served

as president of the CPhA in 1978 and received the CPhA Pharmacist of the Year Award in 1985.

In addition to multiple leadership roles with CPhA, Yee was elected to the APhA Board of Trustees. He also has served as an adjunct professor with the University of Pacific since 1980. He not only spends many hours promoting the profession, but also is actively involved in his community including the Lions Club and his church, having become an ordained deacon. Yee is the owner of Menlo Park Pharmacy.



David Chu, '70, makes contribution to Robert Goettsch Scholarship Endowment

College alumnus, Dr. David Chu, '70, recently made a major gift to the Dr. Robert and Janice Goettsch Scholarship Endowment in the College of Pharmacy. Recipients of the scholarship are students who intend to practice in a hospital or community pharmacy.

Chu earned his master's in medicinal chemistry from ISU and was a member of the faculty for a period of time. He is a distinguished research professor emeritus with the University of Georgia College of Pharmacy, where he has taught at the UG

for more than 25 years.

During his tenure with UG, Chu was the recipient of numerous awards and served as a National Institutes of Health Advisory Committee Member for several appointments.

The Statham, Georgia resident is also a supporter of the Dean Emeritus Frank P. Cosgrove Scholarship Endowment.



Dr. David Chu in 1970

ALUMNI NEWS

John Jones, '75, to hold new post with Academy of Managed Care Pharmacy

College of Pharmacy alumnus John Jones, J.D., R.Ph., was recently elected to treasurer of the Academy of Managed Care Pharmacy, (ACMP), an organization he has been involved with for several years.

Jones, senior vice president for professional practice and pharmacy policy for Prescription Solutions, Irvine, Calif., has also served as an ACMP committee chair and presidential officer. Jones represents AMCP on the Utilization Review Accreditation Commission (URAC), Board of Directors and as chair of the URAC Pharmacy Benefit Management Accreditation Standards Committee. He graduated from Idaho State University in 1975 and went on to earned his law degree from the University of San Francisco. His term of service as ACMP treasurer is for two years.

In addition to his service to ACMP, Jones has held various positions with several organizations including

has returned to campus as a guest lecturer through the Executive-in-Residence program.

Jones says today's Pharm.D. graduates have several opportunities to excel in the profession, and those who differentiate themselves with either an MBA or residency have even a greater advantage.

"Your degree from ISU prepares you to be competitive...and there are a lot of opportunities to work in community or health-system pharmacy," he said.

A clear leader in the pharmacy profession, Jones has served on Congressional committees; one that studied the Department of Veterans Affairs, (VA), health care management system policies.

Jones encourages graduates to also get involved in pharmacy associations and organizations that benefit the practitioner and profession.

"When you get involved, you have to ask the tough



"Your degree from ISU prepares you to be competitive.." - John Jones

the National Association of Boards of Pharmacy, NABP, accreditation for community pharmacies committee, California Pharmacy Association and many others.

A member of the College's Dean's Advisory Council and longtime advocate for the College, Jones

questions and there are many tough questions in our industry," he said. "If opportunities presents itself, you should take advantage of them."

Jones and his wife, Fabienne, '75, pharmacy, are the parents of three children: Meagan, 27, Clay, 24 and Katie, 22.

DEVELOPMENT NEWS

Dan Dean returns from adventure in Christchurch, New Zealand

Dear friends:

My family and I have returned from our New Zealand adventure and it was as unique and fun-filled an experience as we had hoped. On every front—my wife's fellowship, our accommodations in Christchurch, the kids' school experience, and our travel—being in New Zealand was the opportunity of a lifetime.

The MBA students my wife had in class at the University of Canterbury, in Christchurch, were simply terrific and were fearless in adapting to an American style of participative learning. On the kids' side, New Zealand has a primary school system that is essentially a whole country of charter schools, each with its own focus and character. Our kids attended the Ilam School, whose focus is cross-cultural learning and reading. There were about 30 different countries represented there, and our boys brought books home every night to read with us.

Our travels took us all over the South Island, and Kathy and her sister got to travel to Australia! She did a couple of lectures at the University of Wollongong, just south of Sydney, and then the sisters spent a couple of days in the heart of Sydney. My personal favorite was watching the boys play in



Pharmacy Director of Development, Dan Dean in New Zealand with his wife, Kathy Lund Dean and sons Harrison, left, and Cooper.

the ocean for hours. They would run into the ocean as the waves went out, and then they would come screaming and giggling back to the beach. They were intrigued by the surfers, but they didn't volunteer to try it and neither did I. The waves were pretty big.

Best,
Dan
Director of Development

The IRA Charitable Rollover is back for 2009!

With the signing of the Emergency Economic Stabilization Act, you may be eligible to make gifts to the ISU College of Pharmacy today by making direct transfers from your IRA. Here is how it works:

- You must be 70 1/2 or older on the date of your gift.
- You must transfer the funds directly from you IRA to the ISU College of Pharmacy.
- Your IRA gifts total \$100,000 or less each year in 2008 and 2009.
- In most cases, the transfer counts toward your required minimum distributions (RMD).
- The gift does not generate taxable income (or a tax deduction).

For more information, contact Dan Dean at 208-282-6655 or dandean@pharmacy.isu.edu.

This information is not intended as legal advice. Please consult your CPA or attorney.

FACULTY NEWS



Selvage, Madaras-Kelly awarded National Institutes of Health grants

Drs. Dan Selvage and Karl Madaras-Kelly have successfully been awarded grant funding from the National Institutes of Health for their research in the areas of alcohol responses and epidemiology and clinic outcomes in health care associated pneumonia, respectively.

Selvage, Ph.D., assistant professor with the Department of Biomedical and Pharmaceutical Sciences, was awarded \$223,080 for his project titled "Role of Gonadal Hormones in HPA Responses to Alcohol Administration in the Rat."

According to Selvage, alcohol causes many detrimental health effects in both men and women. Interestingly, pre-menopausal women who routinely abuse alcohol tend to suffer worse health effects because of their alcohol use when compared to males. This is hypothesized to be in part due to problems associated with the fact that the hypothalamus-pituitary-adrenal (HPA) or "stress" axis of women is activated to a greater degree by alcohol than the HPA axis of men. The purpose the proposed project is to investigate the basic central nervous system mechanisms by which gonadal hormones influence HPA activation by alcohol, in order to aid in the development sex-specific treatments for alcohol abuse.

Madaras-Kelly, Pharm.D., associate professor with the Department of Pharmacy Practice and Administrative Sciences, was awarded approximately \$62,000 per year for two years for his project titled "Etiology, Epidemiology, and Clinical Outcomes of Health Care Associated Pneumonia." The grant comes from the National Institute of Allergy and Infectious Diseases.

The renewal of a \$16.5 million grant from the National Institutes of Health to continue efforts to enhance the state's biomedical research was also announced this spring.

Ten Idaho higher education and research institutions will share the \$16.5 million to continue efforts to enhance the state's biomedical research. The renewal grant to the Idaho IDeA Network of Biomedical Research Excellence, or INBRE, supports undergraduate, graduate and faculty research at the College of Pharmacy and other statewide efforts. The grant is the third major award for the network founded in 2001 and brings the total federal investment to \$40 million.

The NIH Institutional Development Award Program, or IDeA, supports programs in 23 states that have smaller capacities to conduct biomedical research. The program is based in the NIH National Center for Research Resources.

The network also provides support for faculty, grad students and post-doctoral researchers

who generated a 20-fold return on an eight year investment of about \$1.2 million in seed grants



Dr. Karl Madaras-Kelly

investment that resulted in 65 extramural applications and over \$26 million in new awards.

Students who have received INBRE fellowships are now in medical and veterinary schools or graduate school at Harvard and other outstanding research institutions. These students and faculty who have received NIH support are addressing critical biomedical problems.

The Idaho educational and research institutions with students participating in the summer fellowship program include Idaho State University students. These students, who will study this summer as INBRE fellows on the Pocatello campus include Anthony Eckman of St. Anthony, Roy Malamakal of Boise and Ryan Marcum of Idaho Falls.



ISU College of Pharmacy Assistant Professor Dr. Dan Selvage, left, and graduate student John Larkin, M.S., working in Selvage's lab at the Department of Biomedical and Pharmaceutical Sciences in the College of Pharmacy.

Nontraditional Program

Continued from page 9...

complete all didactic courses within three calendar years after enrollment because of the time-sensitive nature of the material presented, he said.

Following the didactic portion of the program, students then apply their clinical pharmacy skills during 18 weeks of APPEs in various disciplines. Approximately 300 clerkship sites have been established throughout the US and Canada. ACPE accreditation now requires all Canadian students to complete their required practice experiences in the US; elective and pharmaceutical care experiences may be completed in Canada.

“The non-traditional PharmD offered by ISU is exceptional because of the people who run it,” said Dr. Peet de Villiers, a Canadian resident who completed the program in 2008. “It is a quality degree and the help and support offered by the faculty is second to none in my opinion. The Pharm.D. has helped me to become a good clinical pharmacist and has equipped me to my job as a family health team pharmacist.”

Many of the NTPD students have never visited Idaho before entering the program. Before beginning the experiential portion of the NTPD program, a second on-campus visit is required during which the student must repeat the evaluation of clinical skills to assess and document the extent of improvement in their knowledge base. A physical assessment practicum is also offered at this time that provides hands-on training in immunization administration as well as cardiovascular, pulmonary, visual and auditory physical assessment techniques.

“Working in the Non-T Program has given me the unique opportunity to develop long-lasting friendships with some truly amazing individuals I wouldn’t otherwise have had the chance to meet. I have also been able to do site visits across the US and in Canada to explore the art and science of pharmacy practice outside of rural Idaho,” said Dr. Cathy Heyneman, associate director of NTPD.

Although a successful conclusion to NTPD will eventually occur, the ISU College of Pharmacy continues to provide ACPE accredited Pharm.D. programs, including both an entry level and a non-traditional post-B.S. pathway.

“The ISU Nontraditional Pharm.D. program has provided excellent education that has opened professional doors to so many of its graduates during its history. I expect that that will continue as the program will accept new students as long as there is interest,” said Dean Joseph Steiner.

COPNEWS MORE WAYS TO GET ISU COLLEGE OF PHARMACY NEWS & INFORMATION

If you are not receiving *The Refill*, ISU College of Pharmacy’s monthly electronic newsletter, or if you’re not checking the pharmacy.isu.edu Web site, then you may have missed some recent stories and events.

- ISU College of Pharmacy student, Josh Gehrke appears on popular game show, *The Price is Right*. See [May 2009 Refill](#).

- ISU Alumni Association J.B. Smith Memorial Golf Scramble, ISU Alumni Golf Scramble, June 27 at 9 a.m., 93 Golf Ranch, Jerome. For more information, contact Dan Dean at 208-282-3655 or dandean@pharmacy.isu.edu.

To receive *The Refill*, e-mail editor@pharmacy.isu.edu

Find other information online at:

pharmacy.isu.edu and click on “Alumni & Friends” link.



FACULTY ACCOMPLISHMENTS

PRESENTATIONS

James C.K. Lai was an invited speaker, L.S. Skaggs Inaugural Biomedical Research Symposium, November 10-11, 2008, University of Utah, Salt Lake City, 2008, University of Utah, Salt Lake City, sponsored by the ALSAM Foundation to honor Mr. L.S. "Sam" Skaggs. His talk was entitled: "New Insights into Cytotoxicity of Metallic Oxide Nanoparticles."

James C.K. Lai gave a Joint Presentation with Dr. Alok Bhushan (main speaker) in a talk given at J.N.U., New Delhi Cancer Symposium at J.N. University, December, 2008; the talk was titled: "3-Bromopyruvate and Iodoacetate Enhance the Efficacy of Biochanin A in Inhibiting Breast, Oral, Pancreatic and Prostate Cancer Cell Progression."

Lai JCK, Dukhande VV & Isaac AO (2008) Cell Models for Elucidations of Neurodegeneration: Implications in Parkinson's and Alzheimer's Disease. Snake River Association for Neuroscience, Fall Conference 2008, Idaho State University, Pocatello, ID, October 24-26, 2008 (in Abstracts Volume).

Dukhande VV & Lai JCK (2008) Glutathione-Depletion Induced Death of SK-N-SH (Human Neuroblastoma) Cells: Molecular Mechanisms and the Role of Mitochondrial Glutathione. Snake River Association for Neuroscience, Fall Conference 2008, Idaho State University, Pocatello, ID, October 24-26, 2008 (in Abstracts Volume).

Dukhande VV & Lai JCK (2008) Glutathione-depletion Induced Death of SK-N-SH (Human Neuroblastoma) Cells: Molecular Mechanisms and The Role of Mitochondrial Glutathione. Annual Meeting, Society for Neuroscience, November, 2008, Washington, DC (in Abstracts Volume).

Pettinger TK Fish Oils: Real Evidence or Red Herring". 2009 Annual College of Pharmacy Conference, March 1 Boise, March 15 Pocatello, April 26 Post Falls.

Pettinger TK "EMS Medication Review". Critical Care Transport Blackfoot EMS/ Firefighter Education at Blackfoot Medical Center. March 11, 2009

Liday C. Insulin Pump Therapy. Pocatello Family Medicine Residency Program, March 2009.

Liday C. Insulin Resistance and Type 2 Diabetes: What You Need to Know. Retired Teachers Association, January 2009.

Liday C. Diabetic Neuropathy. Portneuf Diabetes Education Support Group, March 2009.

Owens, Christopher. Pain Management for Individuals in Recovery. 6th Judicial District Drug and Mental Health Court "Mini Institute." Pocatello, ID.

Erramouspe J. MMR and Thimerosal-Containing Vaccines, Causal Association with Autism?, Eastern Idaho Association for the Education of Young Children (AEYC), 2009 Early Childhood Conference, Idaho State University, Pocatello, ID, March 14, 2009.

Erramouspe J. Over-the Counter (OTC) Cough and Cold Medications in Children, Why all the Change?, Eastern Idaho Association for the Education of Young Children (AEYC), 2009 Early Childhood Conference, Idaho State University, Pocatello, ID, March 14, 2009.

POSTER PRESENTATIONS

Lai JCK, Lai MB, Jandhyam S, Dukhande VV, Bhushan A, Daniels CK & Leung SW (2008) Human Astrocytoma Cells Are Differentially Susceptible to the Cytotoxic Effects of Metal Oxide Nanoparticles. Society for Biomaterials, Translational Biomaterials Research Symposium, Atlanta, Georgia, September 11-13, 2008 (in Abstracts Volume).

Leung SW, Bartolin CS, Daniels CK & Lai JCK (2008) Differential Effects of Surfactants on DNA and Protein Transport through a Semipermeable Membrane. Society for Biomaterials, Translational Biomaterials Research Symposium, Atlanta, Georgia, September 11-13, 2008 (in Abstracts Volume).

Liu T, Saini A, Sheridan PP, Bhushan A, Lai JCK & Daniels CK (2008) Investigation of the Role of HSPa8/HSC70 in Regulating Multidrug Resistance in the L1210 Leukemia and Other Cancer Cell Lines. Idaho State University 4th Annual Workshop and Symposium on Evolutionary Bioinformatics, Aura Soma Lava, Lava Hot Springs, Idaho, October 3-5, 2008 (in Abstracts Volume).

Jain A, Sheth S, Meier GP, Bennett B, Lai JCK & Bhushan A (2008) Novel Analogs of Flavonoids Blocks Brain Tumor Proliferation. Snake River Association for Neuroscience, Fall Conference 2008, Idaho State University, Pocatello, ID, October 24-26, 2008 (in Abstracts Volume).

Isaac AO, Rizvi N & Lai JCK (2008) In U87 Astrocytoma cells Harboring Mitochondrial DNA Deletions, the Targeting or Import of Aconitase into Mitochondria is decreased. Snake River Association for Neuroscience, Fall Conference 2008, Idaho State University, Pocatello, ID, October 24-26, 2008 (in Abstracts Volume).

FACULTY ACCOMPLISHMENTS

Chatterji T, Dukhande VV, Bhushan A & Lai JCK (2008) Metabolic Adaptation in Astrocytoma Cells Leads to Improved Survival. Snake River Association for Neuroscience, Fall Conference 2008, Idaho State University, Pocatello, ID, October 24-26, 2008 (in Abstracts Volume).

Liu T, Saini A, Sheridan PP, Bhushan A, Lai JCK & Daniels CK (2008) Investigation of the Role of HSPa8/HSC70 in Regulating Multidrug Resistance in the L1210 Leukemia and Other Cancer Cell Lines. Snake River Association for Neuroscience, Fall Conference 2008, Idaho State University, Pocatello, ID, October 24-26, 2008 (in Abstracts Volume).

Daniels CK, Liu T, Saini A, Sheridan PP, Lai JCK & Bhushan A (2008) A Role for HSPa8 Gene/HSC70 in Regulating Multidrug Resistance in the L1210 Murine Leukemia Cell Line. 48th Annual Meeting of the American Society for Cell Biology, December 13-17, 2008, San Francisco, CA (in Abstracts Volume).

Eroschenko K, Pugmire B. Low-dose atypical antipsychotic use in the Idaho Medicaid population. Accepted for poster presentation, Idaho Society of Health-Systems Pharmacists. Sun Valley, Idaho, October 2008.

Holmes J, Pugmire B, Gould T, Casperson A. Long-acting beta-agonist therapy in asthma. Accepted for poster presentation, Idaho Society of Health-Systems Pharmacists. Sun Valley, Idaho, October 2008.

Force RW, Pugmire B, Owens CT. Use of geographic information systems to evaluate medication selection, resistance patterns, and treatment failures in acute uncomplicated cystitis. Poster presentation for L.S. Skaggs Biomedical Research Symposium. Salt Lake City, Utah. November 2008.

Pugmire B, Force RW, Owens CT. Long-term drug utilization trends in acute uncomplicated cystitis. Poster presentation for L.S. Skaggs Biomedical Research Symposium. Salt Lake City, Utah. November 2008.

Force RW, Pugmire B, Owens CT. Use of geographic information systems to evaluate medication selection, resistance patterns, and treatment failures in acute uncomplicated cystitis. Accepted for poster presentation for March 2009, Kasiska College of Health Professions Research Day Annual Conference. Pocatello, ID.

Pugmire B, Force RW, Owens CT. Long-term drug utilization trends in acute uncomplicated cystitis. Accepted for poster presentation for March 2009, Kasiska College of Health Professions Research Day Annual Conference. Pocatello, ID.

Lee C, Force RW, Pugmire B. Valproate use in women of childbearing potential. Accepted for poster presentation for March 2009, Kasiska College of Health Professions Research Day Annual Conference. Pocatello, ID.

Holmes JT, Pugmire B, Force RW. Proton pump inhibitor contribution to cardiovascular events in users of clopidogrel. Accepted for poster presentation for March 2009, Kasiska College of Health Professions Research Day Annual Conference. Pocatello, ID.

Steed ML, Mason B. Incorporation of a Pharmacist Performed Continuous Glucose Monitor System (CGMS) into a Family Practice Clinic Setting. Idaho Society of Health-Systems Pharmacists Annual Meeting Poster Session. Sun Valley, Idaho. September 26, 2008.

GRANTS/CONTRACTS

NIH/NCRR; 1 P20 RR016454, renewal, 5-1-2009 to 4-30-2013; "Idaho IDeA Network for Biomedical Research Excellence (INBRE);" Co-Principal Investigator: Christopher K. Daniels (PI – Carolyn Bohach, UI); ISU Total Costs \$1,730,610.

James C.K. Lai: Project Director/ Subcontractor 9/1/2006-3/31/2010. Origin of Extracellular Glutamate in Human Temporal Lobe Epilepsy. (Project Principal Investigator: Dr. Dennis D. Spencer) National Institutes of Health Project Grant, RO1 NS054038. [Subcontract to Dr. Lai, total costs: \$61,660]

James C.K. Lai: Co-Investigator/Researcher 7/23/2007-2/22/2009. Smart Prosthetic Hand Technology. (Principal Investigator: Dr. D. Subbaram Naidu, College of Engineering, Idaho State University) USAMRMC Project Grant (Contract #W81XWH-07-2-0078, administered by USA MED RESEARCH ACQ ACTIVITY). [Total direct and indirect costs for 18 months: \$842,000]

PUBLICATIONS

Eid T, Ghosh A, Wang Y, Beckstrom H, Zaveri HP, Lee T-SW, *Lai JCK*, Malthankar-Phatak GH & de Lanerolle NC (2008) Recurrent Seizures and Brain Pathology after Inhibition of Glutamine Synthetase in the Hippocampus of Rats. *Brain* 131 (Pt 8):2061-2070.

Malthankar-Phatak GH, Patel AB, Xia Y, Hong S, Chowdhury GMI, Behar KL, Orina IA & *Lai JCK* (2008) Effects of Continuous Hypoxia on Energy Metabolism in Cultured Cerebro-Cortical Neurons. *Brain Res* 1229:147-154.

Bhushan A & *Lai JCK* (2008) Obesity and Cancer: How Understanding the

FACULTY ACCOMPLISHMENTS

Connection Early Can Have an Impact on Prevention. Forum on Public Policy Online, Spring 2008 edition, pp 1-7. [[http://www.forumonpublicpolicy.com/archivespring08/obesity and cancer: how understanding the connection early can have an impact on prevention.pdf](http://www.forumonpublicpolicy.com/archivespring08/obesity%20and%20cancer%20how%20understanding%20the%20connection%20early%20can%20have%20an%20impact%20on%20prevention.pdf) (accessed September 18, 2008)].

Lai JCK, Lai MB, Jandhyam S, Dukhande VV, Bhushan A, Daniels CK & Leung SW (2008) Exposure to Titanium Dioxide and Other Metallic Oxide Nanoparticles Induces Cytotoxicity on Human Neural Cells and Fibroblasts. *Int J Nanomed* 3(4):533-545.

Zhou D, Xue J, *Lai JCK*, Schork NJ, White KP & Haddad GG (2008) Mechanisms Underlying Hypoxia Tolerance in *Drosophila melanogaster*: /Hairy/ as a Metabolic Switch. *PLoS Genetics* 4(10):e1000221.

Bhushan A, Lai MB, Agharkar V, Jandhyam S, Daniels CK, Leung SW & *Lai JCK* (2008) *Differential Effects of Nanomaterials on Cancer Cells: Relevance to Chemotherapy. In Proceedings of Institution of Mechanical Engineers, Medical Engineering Division, One Day Seminars on Nanotechnology in Medicine and Biotechnology: Achievements, Applications and Future Needs, September 30, 2008, Paper 7: pp 1-5.

Gangavarapu KJ, Pearce S, Olbertz J, Bhushan A, *Lai JCK* & Daniels CK (2008) Apoptotic Resistance Exhibited by Dexamethasone-Resistant Murine 7TD1 Cells is Controlled Independently of Interleukin-6 Triggered Signaling. *Apoptosis* 13(11):1394-1400.

Culbertson VL. Pharmaceutical Care Plan Examinations to Identify Students at Risk for Poor Performance in Advanced Pharmacy Practice Experiences. *Amer J Pharmaceut Edu* 2008; 72(5)1-6.

Ozburn J, Pettinger TK, Wright D. Exelon patch: a better treatment? *Evidence Based Practice* 2009 Jan; 12(1):9-10.

Pugmire B, Borzadek E. New ophthalmic antibiotics for bacterial conjunctivitis. *Evidence-Based Practice* 2008; 11(10):9-10.

Murdock N, Solbrig R, Liday C. Benign Prostatic Hyperplasia. In Linn. Et al. eds *Pharmacotherapy in Primary Care*. New York, NY:McGraw-Hill, 2008.

Lawless-Liday C. Erectile Dysfunction. In Schwinghammer TL, et al. eds. *Pharmacotherapy Casebook: A Patient-Focused Approach*. 7th ed. New York, NY: McGraw-Hill, 2009.

Liday C. Should you suffer the cost of acne? *Evidence Based Practice* 2008 November;11(11):10-11.

Heiner SB, Liday C. Managing diabetes with the help of your pharmacist. *Idaho State Journal*, October 2008.

Pugmire B. Outpatient Treatment of Community Acquired Penumonia: Macrolide or β -Lactam?. *DUR Discovery Winter Newsletter*, February 2009.

AWARDS/OTHER

Eroschenko K and Pugmire B. ISHP Pharmacist Poster Award, 2nd place. Sun Valley, Idaho. September 2008.

Steed ML. Best Pharmacist Poster Award. Presented at Idaho Society of Health-Systems Pharmacists Annual Meeting. Sun Valley, Idaho. September 27, 2008.

Dr. Sandra Jue passed the Commission on Certification in Geriatric Pharmacy Examination.

Dr. Barb Mason was a faculty attendee at the MRM held in Boise in October; keynote speaker for Idaho Health Care Hero Award Dinner and Moderator for the Women in Pharmacy event hosted by the ISU College of Pharmacy.

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