Low Levels of Common Insecticide Can Decimate Tadpole Populations, Pitt Research Shows

By Morgan Kelly

The latest findings of a University of Pittsburgh-based project to determine the environmental impact of routine pesticide use suggests that malathion—the most popular insecticide in the United States—can decimate tadpole populations by altering their food chain, according to research published in the Oct. 1 edition of Ecological Applications.

Gradual amounts of malathion that were too small to directly kill developing leopard frog tadpoles instead sparked a biological chain of events that deprived them of their primary food source. As a result, nearly half the tadpoles in the experiment did not reach maturity and would have died in nature.

The research was funded by a National Science Foundation grant. The research results build on a nine-year effort by study author Rick Relyea, a professor of biological sciences in Pitt’s School of Arts and Sciences, to investigate whether there is a link between pesticides and the global decline in amphibians, which are considered an environmental indicator species because of their sensitivity to pollutants. Their deaths may foreshadow the poisoning of other, less environmentally sensitive species—including humans. Relyea published papers in 2005 in Ecological Applications suggesting that the popular weed-killer Roundup® is “extremely lethal” to amphibians in concentrations found in the environment.

For his current research, Relyea and the study’s co-author, Pitt alumnus Nicole Diecks (CGS ’05), created simulated ponds from 300-gallon outdoor tanks containing wood frog and leopard frog tadpoles. They exposed the ponds to no malathion, moderate concentrations in a single dose, or low concentrations in weekly doses that mirror the levels tadpoles experience in nature. Malathion is commonly used worldwide to thwart crop pests and control mosquitoes that carry malaria and West Nile virus. It has been detected in the wetlands and ponds where frogs and other amphibians live.

The doses of malathion in the simulated ponds were low to directly kill the amphibians, but instead wiped out tiny animals known as zooplankton, which eat algae that float in the water. With few zooplankton remaining, the algae, known as phytoplankton, grew rapidly and prevented sunlight from reaching the bottom-dwelling algae, or periphyton, which tadpoles eat. This chain of events occurred over a period of several weeks. The wood frog tadpoles, which mature quickly, were largely unaffected. Leopard frog tadpoles, on the other hand, require more time to develop into frogs and experienced slower growth as a result of the reduced amount of periphyton. Ultimately, 43 percent of the leopard frog tadpoles did not mature as a result of the repeated application of malathion at very low concentrations. Relyea reported that the multiple low doses were a greater detriment than the single dose, which had a concentration 25 times higher than the multiple applications combined. The single doses also wiped out the zooplankton, but they eventually recovered, and the pond reverted back to its original state. The repeated doses prevented the zooplankton from recovering.

“The chain of events caused by malathion deprived a large fraction of the leopard frog tadpoles of the nutrients they needed to metamorphose into adult frogs,” Relyea said. “Repeated applications sustained that disruption of the tadpoles’ food supply. So, even concentrations that cannot directly kill tadpoles can indirectly kill them in large numbers.”

The research results should apply to several other insecticides that are highly lethal to zooplankton, including carbaryl, diazinon, endosulfan, esfenvalerate, and pyridaben, Relyea said. All of these chemicals are toxic to humans as well and are commonly used in the United States, although some are banned in other countries. The effects of insecticides and other pesticides on amphibians are not widely known because current regulations from the U.S. Environmental Protection Agency do not require amphibian testing. The EPA also relies on single-species tests to assess a pesticide’s risk and does not account for potential indirect repercussions.

“The indirect impacts on the amphibians observed in this study could not be observed in traditional, single-species tests,” Relyea said. “These results demonstrate that we need to take a much broader view of the consequences pesticides might have in our world.”

Leopard and wood frogs naturally range across North America, including Pennsylvania and the northeastern United States. Once plentiful, leopard frogs have declined in recent years. The journal Ecological Applications is available online at www.esajournals.org/loi/ecas.
Academic Benefits of Full-Day Kindergarten Are Short-Term, Pitt Study Finds

By Sharon S. Blake

As full-day kindergarten becomes more popular throughout the United States, parents may wonder whether the full-day programs pay off academically for children in the long run.

According to a new study by researchers at the University of Pittsburgh and Loyola University in Chicago, the academic benefits are more short-term.

The study, published in the July/August 2008 issue of the journal Child Development, suggests that full-day kindergarten promotes academic achievement, and those children in full-day kindergarten have slightly better reading and math skills than children in part-day kindergarten. However, those initial academic benefits diminish early in elementary school.

Pitt assistant professor of psychology Elizabeth Votruba-Drzal, the study’s lead author, worked with data on 13,776 children from the Early Childhood Longitudinal Study: Kindergarten Class of 1998-99, a study of a nationally representative group of kindergartners. Votruba-Drzal and her colleagues measured children’s academic achievement in math and reading in the fall and spring of their kindergarten and first-grade years, and in the spring of their third- and fifth-grade years. The researchers looked at the type and extent of child care the children received outside of the kindergarten classroom, the quality of cognitive stimulation they received at home, and their families’ poverty level.

“These study results suggest that the shift from part-day to full-day kindergarten programs occurring across the United States may have positive implications for the child’s learning trajectories in the short run,” says Votruba-Drzal. “They also highlight characteristics of children and their families that are noteworthy in explaining why the full-day advantages fade relatively quickly.”

Overall, the study found that reading and math skills of children in full-day kindergarten grew faster from the fall to the spring of their kindergarten year compared to the academic skills of children in part-day kindergarten. However, the full-day kindergartners’ gains in reading and math did not last far beyond their kindergarten year. In fact, from the spring of their kindergarten year through fifth grade, the academic skills of children in part-day kindergarten grew faster than those of children in full-day kindergarten. The advantage of full-day versus part-day programs was no longer evident by the spring of third grade.

According to the researchers, this is owing, in part, to the fact that the children in part-day kindergarten were from more socio-economically advanced situations and had more stimulating home environments than those in full-day programs.

The university of Pittsburgh received three government grants totaling $750,000 to bolster the nuclear engineering program. The U.S. Nuclear Regulatory Commission (NRC) recently awarded 60 institutions nearly $20 million in Nuclear Education Grants meant to support course development, scholarships and fellowships, and faculty recruitment for nuclear energy-related programs.

Pitt’s two-year-old nuclear engineering certificate program—the only such track in Western Pennsylvania—and Bloomsburg University of Pennsylvania were the only institutions in the state to receive an award. They join institutions across the country such as the Massachusetts Institute of Technology, Purdue University, and Virginia Tech in obtaining NRC support.

“Theese grants signify that the University of Pittsburgh is becoming a major player in nuclear engineering education and in meeting the workforce and research needs for the nuclear renaissance in the United States,” said Larry R. Foulike, director of Pitt’s nuclear engineering program, which includes the graduate and undergraduate certificate tracks.

The NRC grants will be instrumental in expanding the nuclear program’s research and teaching capability, Foulike said. Pitt will use a $450,000 Faculty Development grant to broaden the program to include nuclear-oriented faculty research in addition to the current emphasis on educating students in reactor operations and safety. A $200,000 grant will go toward establishing undergraduate scholarships, and another second-year award of $100,000 will promote the expansion of the graduate-level certificate program’s distance-learning component.

That builds on an initial $200,000 NRC grant in 2007 used to create a distance-learning module, a unique aspect of Pitt’s graduate certificate that is geared toward students across Pennsylvania and offering further education to nuclear engineers already in the workplace, Foulike said.

Westinghouse Electric Co. and FirstEnergy Nuclear Operating Co. submitted letters of support to the NRC endorsing Pitt’s program as a key source of the trained professionals both companies are increasingly seek. With its unique concentration of nuclear engineering experts, Western Pennsylvania is emerging as a focal point of nuclear power’s budding resurgence in light of the rising cost of oil and the political and environmental concerns associated with fossil fuels.

Pitt nuclear engineering students work closely with professionals from Westinghouse, one of the world’s largest vendors of nuclear reactor technology; the Bechtel Bettis Inc. naval nuclear propulsion research laboratory in West Mifflin; and FirstEnergy, which operates the Beaver Valley Power Station nuclear power plant in Shippingport. In addition, an advisory committee of engineers and managers from these three companies took part in designing the curriculum to ensure that students learn the most relevant information and expertise from those companies also serve as adjunct professors.

Nuclear Engineering Program Gets Three Federal Grants

By Morgan Kelly

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Charles Perfetti Appointed Director of the University’s LRDC

By Amanda Leff

Professor Charles Perfetti has been named director of the University’s Learning Research and Development Center (LRDC), Pitt Provost and Senior Vice Chancellor James V. Maher announced recently. Perfetti, University Professor of Psychology and professor of linguistics, has served as associate director of the LRDC since 2000 and has been a senior scientist with the LRDC since he joined the University in 1967.

Perfetti succeeds Lauren Resnick, University Professor of Psychology and Cognitive Science and the LRDC’s director since 1977, who announced her resignation in July 2007. Since its founding in 1963, LRDC has fostered school reform through professional development for educators. LRDC scholars from several disciplines have contributed substantially to knowledge about human cognition, learning, and effective schooling and training.

“Dr. Perfetti will provide strong academic leadership to the LRDC, which already is recognized as one of the world’s leading centers for basic and applied research on teaching and learning.”
—Mark A. Nordenberg

Eating Fish With High Levels of Omega-3 May Explain Japan’s Low Heart Disease Rates

By Clare Collins

Consuming large quantities of fish loaded with omega-3 fatty acids may explain low levels of heart disease in Japan, according to a study led by the University of Pittsburgh Graduate School of Public Health (GPSPH).

The study, published in the Aug. 5 Journal of the American College of Cardiology, also found that third- and fourth-generation Japanese Americans who eat fish regularly may have lower levels of heart disease compared to White Americans.

The very low rate of heart disease in Japan among developed countries has been puzzling. Death rates from coronary heart disease in Japan are the lowest of any major industrialized country. However, this does not mean that Japanese men are much more likely to engage in healthy behaviors than White Americans. There are, in fact, several factors that may contribute to the lower risk of heart disease among Japanese men.

One such factor is fish consumption. Fish consumption is typically higher among Japanese men than among White Americans. For example, the average daily intake of fish among Japanese men is about 100 grams, whereas the average daily intake of fish among White Americans is only about 30 grams. This difference in fish consumption may help explain the lower risk of heart disease among Japanese men.

In addition to fish consumption, another major difference between Japanese and White Americans is their diet. Japanese diets are typically lower in saturated fat and higher in unsaturated fat than White American diets. This difference in diet may also contribute to the lower risk of heart disease among Japanese men.

Finally, lifestyle differences may also contribute to the lower risk of heart disease among Japanese men. For example, Japanese men are more likely to engage in regular physical activity than White American men. This may help explain the lower risk of heart disease among Japanese men.

Overall, the study suggests that fish consumption, along with other lifestyle factors, may help explain the lower risk of heart disease among Japanese men.

Omega-3 fatty acids are a type of polyunsaturated fat found primarily in fish. The two most potent omega-3 fatty acids are known as docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) and are usually found in such oily fishes as mackerel, salmon, and tuna.

The study was funded by grants from the National Institutes of Health and the Japan Ministry of Education, Culture, Sports, Science, and Technology.
The volumes provide greater detail on mental health, drug, and alcohol problems; new entries on such critical areas as globalization, immigration and immigration policy, trauma and disaster, and displaced persons; and explanations of new areas of practice, including forensic social work and urban social work.

The 20th edition also reflects the breadth and scope of the profession, whose members shape public policy, influence research, and respond to the needs of people all over the world.

The encyclopaedia’s first edition, The Social Work Year Book, was published in 1929 by the Russell Sage Foundation.

Larry Davis

Shortly after arriving at Pitt as dean of SSW in 2001, Davis created CRSP, the first research center on race at Pitt—a Bachelor of Social Work in 1972, a Master of Social Work in 1974, and a Master of Public Health in 1975; the late Helen Northen, noted text author; and the late Margaret Berry, executive director of the Soho Community Development House in Pittsburgh in the 1940s and a full professor in Pitt’s School of Social Work during that time.

The six SSW faculty members who contributed to the encyclopaedia wrote articles include professor Valire Carr Copeland (Mental Health: Overview); assistant professor Christina Newhill (Client Violence); Continuing Education director Tracy Soska (Housing); professor John Wallace; and Davis (African Americans: Overview).

The sixth edition contains 1,200 articles written by 700 authors, the NASW Press delivers professional information to more than 250,000 readers through its scholarly journals, books, and reference works.

Risks From Occupational Lead Exposure
Last a Lifetime, Pitt Study Finds

Combination of age and early exposure to lead significantly increases risk

By Megan Grote Quatrini

Older workers with past occupational exposure to lead face a lowered risk for recirculation of lead into their bloodstream later in life, according to a study by University of Pittsburgh researchers published in the current issue of Archives of Environmental and Occupational Health.

“The neurotoxic effects of lead have been documented for over a century,” noted lead author Lisa A. Morrow, a Pitt psychiatry and psychology professor. “Our study found that even workers with no current workplace exposure to lead—but who have had considerable past exposure—show increasing levels of lead in their blood as they age.”

While state and federal standards constituting safe exposure have continued to be lowered over the last decade or so, lead exposure continues to be widespread in the United States, with more than 1.4 million industrial workers from the bones is an important source of lead circulating in the body. The most important source of lead circulating in the body. The most important source of lead circulating in the body.

Coauthors of the study include Herbert Needleman, professor of psychiatry and pediatrics in the Pitt School of Medicine; research associates Christine McFarland, in the Pitt psychiatry department; and Kim Metheny, in the Pitt neurology department; and biotechnology consultant Michael Tobin.
Six Pitt Faculty Receive NSF Awards

Awards fund junior faculty members’ emerging research

By Morgan Kelly

The University of Delaware. The University of Illinois at Urbana-Champaign topped the list with 19 awards. A description of each Pitt recipient’s research follows.

Tracy Cuí is developing a platform for better understanding how to harvest neural stem cells for therapeutic use for neurological diseases and injuries. Her research involves creating a surface of electroactive polymers on which neural stem cells can be directed to form functional neurons. This technology would allow scientists to answer the fundamental questions regarding neural stem cell growth and neural tissue regeneration, namely, whether stem cells can become functional cells on engineered surface and, if so, under what circumstances.

Di Gao’s research could help usher in the much-heralded future of personalized medical care based on an individual’s DNA, with his effort to revamp the technique for screening and separating DNA molecules. Gao’s approach would match DNA strands tethered to a solid surface via an electric field, allowing them to pull from the surface and analyzed based on their viscoelasticity. This method would overcome the limitations of the predominant method of electrophoresis by matching the strands in a matrix and applying an electric field. By stretching the DNA, chromosome-like DNA molecules can be separated and studied, large fragments can be screened for mutations, and longer sequence fragments can be extracted. The technology might also be applied to RNA. The education component of Gao’s project includes outreach to underrepresented high school students through a related course and workshop.

Rebecca Hwa aims to improve the ability of computers and data mining for medical care based on an understanding how to harvest neural stem cells for therapeutic use for neurological diseases and injuries. She will address the difficulty many systems have in processing texts from such specialized domains as business e-mails or scientific literature as well as texts that are automatically translated from foreign languages. Specifically, Hwa will create machine-learning algorithms that find correspondences between “standard English” and texts from specialized domains.

The project focuses on three types of correspondences: direct translations, such as bilingual documents; loose translations, e.g., paraphrased articles; and indirectly related texts without an explicit translation. From these correspondences, a standard system will be adapted to translate texts in specialized domains. Better language processing for a wide range of texts could allow for such things as: more intelligent tutoring programs and data mining for medical documents.

The need for personalized expectation is expected to increase dramatically as the Internet becomes more widespread and its users and content more diverse. Accordingly, Alexandros Labrinidis aims to create a user-centric Web portal that would allow users to tailor their search results. Labrinidis will first identify quality information from Web data sources; then—through a framework called Quality Answering (QA)—a person would specify preferences in three categories of quality: Quality of Service, Quality of Data, and Quality of Information.

The user-centric Web portal would then display the Web pages most in keeping with the person’s preferences. Labrinidis’ project re-examines traditional query processing techniques and introduces a new tier of interaction wherein the processor adapts to the user’s changing preferences over time. Labrinidis will conduct user studies to validate the QA framework, evaluate the proposed algorithms analytically and experimentally, and develop prototypes. Results of this research—including software, data, and publications—will be made publicly available via the project Web site db.cs.pitt.edu/user-centric. Labrinidis is codirector of Pitt’s Advanced Data Management Technologies Laboratory (ADMT Lab), which encompasses a range of projects, from data management for sensor networks to data-stream management systems, and from scientific data management to Web databases. The ADMT Lab was established in 1995 through an NSF CAREER award presented to ADMT codirector Panos Chrysanthis, a professor of computer science.

Lisa Weiland will under- take a twofold effort to help sustainable energy gain a foothold in Western Pennsylvania by implementing self-powered materials into an ongoing project to power the Maspalomas Center in the University of Nevada, which have been tested for such uses as self-powered sensors in bridges and for monitoring blood flow in patients at risk for arterial blockage; as the sensors monitor vibrations or fluid flow, they would simultaneously send out an electric data signal and recharge themselves. But ionomers have not yet been applied to such high-power designs as generators because of a concern for the real output and fragility increase in tandem. As part of her CAREER project, Weiland will work on creating more robust ionomers that can produce more power without becoming too delicate. The education component of her project includes working with civic and business leaders in Vandergrift—and eventually other cities—to develop tailored plans for becoming more efficient producers and consumers of energy and goods.

As technologies become more compact and powerful, the microprocessors within them become more prone to overheating, leading to poor performance, reduced reliability, and shorter lifetimes. Jon Yang will investigate ways of controlling temperature by proactively scheduling workloads among different processing cores—which perform specific tasks within a processor—of today’s multicore processors. Current processors adopt a reactive temperature control by decreasing power flow within the entire processor—even if only one core overheats. Yang and his group have developed a method of preventing overheating by ramping a high-stress task in an overheating core with a lower-stress task from a cooler core. This approach would diminish the occurrence of hot spots and maintain a temperature at which the whole system function with maximum performance and reliability. Yang focuses her research on computing devices that are both highly powerful and thermal-aware design, energy efficiency, and chip multiprocessor design.
Pitt Alumnus O’Malley to Receive The National Medal of Science

By Morgan Kelly

Pitt alumnus Bert W. O’Malley will be recognized as a recipient of the 2007 National Medal of Science, President George W. Bush has announced. Administered by the National Science Foundation, the National Medal of Science is the nation’s highest honor for science and engineering and recognizes individuals for pioneering research. O’Malley was one of eight leaders in science honored during a White House ceremony Sept. 20.

O’Malley received his bachelor’s degree from Pitt’s School of Arts and Sciences in 1959 and his Doctor of Medicine degree from Pitt’s School of Medicine in 1963. He is highly regarded in the fields of endocrinology, reproduction, genetic disease, and endocrine cancers. He has helped advance the field of molecular endocrinology by encouraging his colleagues to embrace molecular biology technology.

“The selection of distinguished alumnus Bert O’Malley for the nation’s highest scientific honor visibly and very appropriately recognizes his many outstanding contributions to the field of biological sciences,” said Pitt Chancellor Mark A. Nordenberg. “Dr. O’Malley has been honored by his alma mater as the recipient of the Dickson Prize in Medicine, the Philip S. Hench Distinguished Alumnus Award, and the Bicentennial Medallion of Distinction. Most recently, he was named a Legacy Laureate, one of the highest honors our University can bestow upon one of its graduates. Everyone at Pitt is proud of Dr. O’Malley and his distinguished career that has produced so many trailblazing scientific discoveries.”

“Bert O’Malley, through his creativity and willingness to ask the most extreme ‘What if?’ questions, has revolutionized our understanding of hormone function and, more generally, gene expression at the most fundamental level,” said Arthur S. Levine, Pitt senior vice chancellor for health sciences and dean of Pitt’s School of Medicine. “As Bert himself once said in an interview, ‘You have to understand how the cell works to understand the fundamental disease.’

“The O’Malley lab’s discoveries are now being applied clinically to understand fertility regulation, reproductive tissue differentiation, and predispositions to reproductive cancers, among other questions. In addition, Bert is the grandfather of what we now call ‘team science,’ having trained more than 250 students and postdoctoral fellows in a lab where, as he describes it, people took their science seriously and worked collaboratively but still had time for some levity. Many of Bert’s trainees have followed in their mentor’s footsteps to become the next generation of leaders in the field, perhaps the most singular honor of all,” added Levine.

O’Malley currently serves as the Thomas C. Thompson Chair in Cell Biology and chair of the Department of Molecular and Cellular Biology at the Baylor College of Medicine (BCM) in Houston, Tex. He also directs BCM’s Center for Reproductive Biology and is associate director for basic science at the school’s Dan L. Duncan Cancer Center. O’Malley served as president of the Endocrine Society and was instrumental in establishing the journal Molecular Endocrinology, one of the most highly cited peer-reviewed biomedical science journals. He has written more than 600 scientific and medical publications and holds 19 patents for special techniques and inventions related to molecular and cellular biology.

O’Malley has received numerous honors and awards, including the Academia Nazionale dei Lincei Antonio Feltrinelli International Prize for Biology, awarded to distinguished scholars, and the Brinker International Award for Breast Cancer Research. He also was elected to the U.S. National Academy of Sciences and the Royal Academy of Medicine in Ireland.

O’Malley joins distinguished Pitt-affiliated National Medal of Science winners Herbert W. Boyer (Arts and Sciences ’60G, ’63G), a former Pitt trustee, cofounder of Genentech, Inc., and biotechnology pioneer; Donald A. Henderson, a University Distinguished Service Professor and Resident Scholar at the UPMC Center for Biosecurity; Paul C. Lauterbur (Arts and Sciences ’62G), who shared the 2003 Nobel Prize in Physiology or Medicine for his part in developing magnetic resonance imaging; and Thomas E. Starzl, transplant pioneer and Distinguished Service Professor of Surgery. The first National Medal of Science was awarded in 1963, and past honorees include renowned behavioral psychologist B.F. Skinner and artificial heart pioneer Michael E. DeBakey.

Louis Gomez Named Inaugural Holder of Faison Chair, First Director Of Center for Urban Education

Kimberly Gomez to join School of Education, LRDC faculty

By Patricia Lamanda White

Pitt’s School of Education has announced that Louis M. Gomez, Aon Professor of Learning Sciences and head of the Department of Computer Science at Northwestern University, will be the inaugural holder of the Dr. Helen S. Faison Chair in Urban Education at Pitt and the first director of Pitt’s Center for Urban Education.

In addition, Gomez, who will join the University in January 2009, will serve as senior scientist in Pitt’s Learning Research and Development Center (LRDC).

Kimberly Gomez, associate professor in the University of Illinois at Chicago’s College of Education and a researcher in its Learning Sciences Research Institute, also will join the Pitt faculty in the School of Education’s Department of Instruction and Learning and Learning Policy Center and as a research scientist in LRDC.

“The challenge of filling a chair named for Helen Faison was daunting,” said Alan Lesgold, dean of Pitt’s School of Education. “She is a giant, and we very much wanted to find someone who was both a strong scholar and dedicated to assuring that every child who goes to school in a district like Pittsburgh can become a full and successful member of our global world. We have found such a person in Louis Gomez, and we are doubly blessed by having both Louis and Kimberly Gomez join our faculty.”

Louis M. Gomez, who also serves as Learning Sciences Program coordinator at Northwestern, works with school communities to create a social and curricula that support school improvement. He was a codirector of the National Science Foundation-sponsored Center for Learning Technologies in Urban Schools (LeTUS), a partnership comprising the Chicago Public Schools, the Detroit Public Schools, the University of Michigan, and Northwestern. Working with colleagues, Gomez has been dedicated to collaborative research to bring state-of-the-art computing and networking technologies into use in urban schools. Along with several colleagues, he was a founding member of the MacArthur Network on Teaching and Learning, which sought to understand and explore the relationship between research and practice in education. His ultimate goal is to transform instruction in urban schools while supporting the formation of communities within schools. He has worked extensively in Chicago-area schools for more than a decade.

Kimberly Gomez is a learning-sciences researcher whose work focuses on helping children of color experience more equitable opportunities to learn in underserved middle and high schools. At the center of her research and design efforts is the support of literacy to achieve equity. Current projects include a study of the relationship between reading achievement and science achievement with 9th through 11th graders in seven Chicago high schools and a study of technology-rich urban after-school programs, with a particular focus on the development of new media literacies.
Long-term HIV Treatment May Cut Risk For Atherosclerosis, Pitt Study Suggests

By Clare Collins

Antiretroviral drugs for HIV do not increase the risk for coronary atherosclerosis, a central risk factor for heart disease, according to a study led by the University of Pittsburgh Graduate School of Public Health (GSPH) and published in a recent issue of the journal AIDS. The results further suggest that antiretroviral therapy may offer men with HIV some protection against atherosclerosis—hardening of the arteries, caused in part by high levels of cholesterol, smoking, and other lifestyle factors.

The study, part of the Multicenter AIDS Cohort Study (MACS) initiated in 1983, measured levels of coronary artery calcification (CAC) in nearly 950 HIV-positive and HIV-negative men by CT scanning completed between 2004 and 2006. Controlling for traditional atherosclerosis risk factors such as age, family history, smoking, and blood pressure, the study team found that CAC scores were almost 60 percent lower in HIV-positive men who received highly active antiretroviral therapy (HAART) for more than eight years compared to HIV-negative men.

HAART, a course of treatment that involves the combination of three or more antiretrovirals, has been associated with an increase in cholesterol and other factors associated with atherosclerosis, leading some to question whether long-term use increases the risk of heart attack. “When we first prescribed highly active antiretroviral therapy for HIV in 1995, we were concerned about how these drugs changed lipid levels in patients and whether they would increase atherosclerosis and ultimately lead to serious heart disease,” said Lawrence Kingsley, study lead author and a professor in GSPH’s Departments of Infectious Diseases and Microbiology and Epidemiology. “While some studies have found an association between these antiretroviral treatments and increased risk of cardiovascular disease, we believe our findings should reassure clinicians that using antiretroviral therapy over time does not appear to put patients at greater risk for coronary atherosclerosis and may, in fact, be more beneficial than we had initially thought.” The study also found that for both HIV-positive and HIV-negative men, older age was most strongly associated with the presence of coronary atherosclerosis. Smoking, lipid abnormalities, and family history also played a role.

“This was not surprising, since these are the major risk factors for atherosclerosis in the general population,” said Kingsley. “The purpose of our study, however, was to investigate whether long-term HAART usage was a major risk factor.” “These results could be due, in part, to lower lipid values of HIV-infected men prior to beginning antiretroviral therapy and high use of lipid-lowering drugs. The key is that controlling risk factors for atherosclerosis should be a priority,” added Lewis Kuller, study coauthor and professor of epidemiology in Pitt’s GSPH.

Kingsley said what remains to be determined “is whether use of the newest antiretroviral therapies confers an even better outcome and whether lipid-lowering therapies will further improve cardiovascular risk in the HIV-infected population. Our future research will address these questions.” The study was funded by the National Institute of Allergy and Infectious Diseases; the National Cancer Institute; and the National Heart, Lung, and Blood Institute.

Pitt Team Receives $2.5 Million to Simulate And Analyze Brain, Immune System Activity And Apply Math to Medical Problems

By Morgan Kelly

In an effort to promote the application of mathematics to medical treatment, researchers in the University of Pittsburgh’s Department of Mathematics will undertake a $2.5 million project to create models of how the brain and immune system function and change over time in response to certain illnesses, infections, and treatments. The models are intended to help doctors better understand and predict the possible short- and long-term responses of their patients’ bodies to treatments.

The National Science Foundation awarded University professors G. Bard Ermentrout, Beatrice Riviere, Jonathan Rubin, assistant professor David Swigon, and Ivan Yotov, interim chair, a nearly $1.8 million Research Training Group (RTG) award. The RTG includes resources for creating training programs for mathematics students to work with physicians and biologists on helping to resolve complicated medical problems through mathemat- ics—which houses the mathematics depart ment—provided additional funds. The team will create a variety of computer models based on differential equations—which predict how systems evolve over time—with the medical guidance of scientists and doctors in Pitt’s Departments of Biological Sciences and Neuroscience, the Pitt School of Medicine, and UPMC. Ultimately, Rubin explained, the researchers want to pinpoint the origin of such conditions as multiple organ dysfunction syndrome (mul- tiple organ failure), a potentially deadly, uncontrollable inflammation that usually strikes failing patients with compromised immune systems. “Infection and inflammation kill patients in the intensive care unit,” Rubin said. “We hope that by building this model and calculating how to control the system, we can help doctors design a clinical strategy for intervention based on a condition’s progression.”

The neurological models will outline the typical course of activity in various brain regions, communications between brain cells, and time-dependent changes in the synapses—the small gaps between cells through which they communicate. The team will look how electrical signals and brain waves transmit between brain cells and, in turn, the manner in which those impulses alter the cells.

One clinical application, Rubin said, would be for improving therapies for neurological conditions such as deep brain stimulation (DBS), which manipulates brain activity via a surgically implanted device that emits electric pulses.
T he University of Pittsburgh has received a $10 million grant from the National Institute of Mental Health to support the new Center for the Neuroscience of Mental Disorders (CCNMD). The center will focus on developing new treatments for schizophrenia, a disease that affects more than two million adults in the United States alone. The grant will enable Pitt researchers to gain a better understanding of the disease process and to identify pathophysiology-based molecular targets for novel therapeutic interventions for this devastating mental illness.

“Our goal is to understand how schizophrenia affects brain function, to identify new treatments, and to develop better ways to assess the effectiveness of those treatments,” said David A. Levene, head of Pennoni neuroscience and psychiatry and UPMC Endowed Professor of Translational Neuroscience.

The CCNMD will adopt a multidisciplinary approach to understanding the neurobiology of schizophrenia and includes specialists in molecular neurobiology, systems and computational neuroscience, brain imaging, and clinical psychiatry,” he added.

Schizophrenia is a complex and challenging mental illness with chronic features that include difficulty thinking logically, an inability to recognize and express emotions, relate to others, and interpret reality. It is a chronic condition that can be difficult to manage with medication. Schizophrenia has been identified by the World Health Organization as one of the leading causes of years of life lost to disability and premature mortality.

The center’s research is based on the widely replicated observation that expression of a gene that synthesizes the neurotransmitter GABA is reduced in the brains of individuals with schizophrenia. GABA, or gamma-aminobutyric acid, is an important neurotransmitter essential for core cognitive processes such as working memory. CCNMD investigators are working to understand how reduced GABA could lead to impairments in brain function that are typical of schizophrenia.

The CCNMD offers a highly interactive scientific environment linking investigators from Pitt’s Schools of Medicine and Sciences as well as the Pitt-Carnegie Mellon University Center for the Neural Basis of Cognition.

Project and core leaders on the grant include Raymond Cho, Guillermo Gonzalez-Burgos, Gordon Frankle, Mary Phillips, Department of Psychiatry; Chester Mathis, Department of Radiology; Allan Sampson, Department of Statistics; and G. Bard Ermentrout, Department of Mathematics, all of the University of Pittsburgh; and Carl Olson, Center for the Neural Basis of Cognition, Carnegie Mellon University.

Barry London, the Harry S. Tack Professor of Medicine and chief of the Division of Cardiology in Pitt’s School of Medicine, was named one of 16 NIH (National Institutes of Health) Director’s Pioneer Award recipients at the 2008 Pioneer Award Symposium on NIH’s Bethesda, Md., campus. London is the first Pitt faculty member to receive the distinction.

The award gives London, who also is director of the UPMC Cardiovascular Institute, $2.5 million in direct costs from the NIH to experiment to better identify patients at high risk for sudden cardiac arrest, for which no reliable drugs currently exist.

London and colleagues will develop two revolutionary techniques to image electrical activity in the heart. In the first project, London will adapt the most common clinical imaging technique, which is two-dimensional echocardiography (ultrasound imaging of the heart), to detect electrical activity of the heart in real time. London’s project, London and his colleagues will develop a modified adult stem cell implant to detect nervous system activity affecting the heart.

He will collaborate with Floridelda Villanueva, a Pitt professor of medicine and director of invasive cardiac imaging and the Center for Ultrasound Molecular Imaging and Therapeutics at the UPMC Cardiovascular Institute. Villanueva and her colleagues at the center will develop an electrically sensitive microbubble contrast agent, which is a tiny, inert gaseous bubble injected into the bloodstream. When it is applied to ultrasound imaging, the microbubble will visualize electrical activity within the heart muscle. “London’s concept of using microbubbles to noninvasively see pathways of electrical conduction in the beating heart is an ingenious idea,” Villanueva said. “This project truly embodies the spirit of the Pioneer Award to support high-impact, innovative work,” she added. If successful, the research will then be applied to humans.

The NIH Director Elias A. Zerhouni said the Pioneer Awards, given to scientists at any career level, and New Innovator Awards, aimed at early-career scientists, “are central elements of NIH efforts to encourage and fund especially novel investigator-initiated research, even if it might carry a greater than usual degree of risk of not succeeding.”

In 2007, Pitt assistant professor of psychiatry and pediatrics Eva M. Szigethy was one of the 29 initial recipients of the NIH Director’s New Innovation Awards, which carry a $1.5 million grant in direct costs. Her project was titled “Understanding and Treating Neuropsychiatric Symptoms of Pediatric Physical Illness.”

This year’s 15 other Pioneer Award recipients are faculty researchers at the California Institute of Technology, Harvard, Northwestern, Princeton, and Stanford universities; the Massachusetts Institute of Technology; Santa Fe Institute; and the University of Pennsylvania.

“Highly creative biomedical research, such as London plans to conduct with his well-deserved Pioneer Award, not only exemplifies the kind of great science that we value so much here at the University of Pittsburgh but also, in this case, holds tremendous promise for clinical advances,” said Arthur S. Levine, senior vice chancellor for the health sciences and dean of the School of Medicine. “Developing novel and innovative tools to study arrhythmias and better identify those patients who are at risk of unexpected cardiac death holds the potential to save countless lives.”

Arrhythmias are a major cause of morbidity and mortality, with more than 250,000 people dying from sudden death each year in the United States. If successful, both techniques will increase understanding of arrhythmias, improve better identification of patients at risk for sudden death, and guide therapeutic interventions. Thus, identifying novel tools to study arrhythmias in vivo and stratify arrhythmic risk would represent a major advance in cardiovascular care.

**Pitt Cardiologist Barry London Receives NIH Pioneer Award**

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By Sharon S. Blake

Hands-on History

Brendan Froeschl remembers being amazed when he first set foot in the Waldorf School of Pittsburgh, housed in a stately post-Civil War mansion in Bloomfield. Froeschl is the school’s building manager and an alumnus of Belmont Technical College in Ohio, a nationally renowned school for building-preservation technology. He recognized a treasure when he saw it. The Waldorf School is an independent, not-for-profit school with an arts-based curriculum for children in preschool with an arts-based curriculum for children in preschool through fifth grade.

“This place just has to be a laboratory for some sort of architectural research,” Froeschl remembers thinking as he gazed at the mansion’s 14-foot high tin ceilings, carved corbels, stained-glass windows, moldings, and etched glass panels on the front doors.

Propelled by his impressions, Froeschl contacted Drew Armstrong, director of Pitt’s Architectural Studies Program, and expressed interest in pursuing a partnership with Pitt. The result: two course offerings where Pitt students use the Waldorf School as a hands-on classroom, with the promise of more courses to come.

This past summer, Froeschl used the school to teach a three-credit class on window restoration. It allowed students to document the condition of some of the mansion’s 130 windows—to remove them, learn how to restore them, and understand how restoration functions in a building.

Art of Historic Documentation

In the second course, Pitt Instructor Jeff Slack, a historic preservation specialist at Pfaffmann + Associates PC, Downtown, had the students trace the architectural history of the 21-room house at 201 S. Winebiddle St., built for Henry J. Lynch around 1867. While currently housing the Waldorf School, the building also has been known as Victoria Hall, a venue for weddings and parties (1993-2001), and the Ursuline Academy for Young Women, (1895-1905), an exclusive college preparatory school administered by the Ursuline Sisters.

Slack’s students pore over old documents and photos, conduct deed searches at the Allegheny County Real Estate Office, scrutinize old city maps, and reviewed census records. They heard from guest lecturers on masonry, wood, and methods for documenting old buildings. But, most importantly, they interacted with the building itself—studying its condition right down to the bricks and mortar, in an effort to determine whether the structure had been altered—and, if so, when and why.

After 11 weeks of carefully directed research, the students compiled their historical documentation findings into a substantial Historic Structure Report. Submitting the report is a step toward having the house ultimately placed on the National Register of Historic Places.

“It was rewarding to see young people so excited about old buildings,” said Slack, who has a master’s degree in historic preservation from Cornell University. “I enjoyed watching them make their discoveries.”

To give the students a taste of the real world of historic preservationists, Slack began each class with a project meeting to review progress and discuss the next steps. There were weekly assignments in addition to the task of drafting the final report. An old physics lab in Pitt’s Thaw Hall was converted into a studio, to place the students in the actual environment of an architect. According to Slack, these students now have skills they could use in the preservation of historic buildings.

More Courses Ahead

This delving into the past is actually propelling Pitt’s history of art and architecture department forward. The history, preservation and documentation course will be offered every summer, and two other six-credit architectural studio courses are on the schedule for the spring and fall terms. The hope is to have more students back at the Waldorf School in summer 2009, studying and documenting the carriage house, chapel, and auditorium.

Armstrong hopes to expand historic preservation as a component in the School of Arts and Sciences. This would help position Pitt undergaduate students for master’s degree programs in historic preservation. Indeed, a number of the students who graduated from the Architectural Studies Program this past year will continue their studies at the master’s level at Penn State, Cornell, and Columbia universities.

In fact, Pitt is laying the groundwork for what could be a Master of Historic Preservation program. According to Armstrong, he envisions a unique interdisciplinary degree program that would capitalize on the strengths of the University as well as the wealth of on-site study opportunities in Pittsburgh that could attract students from across the country.

“This is trailblazing—to offer these courses at the undergraduate level,” said Armstrong, referring to the new courses taught this past summer. He added that the window-restoration class is a model for future hands-on courses in materials conservation. It is his hope that similar joint ventures could be formed with other institutions.

Studying historic preservation seems a natural for students in Pittsburgh, with its real-life textbook of historic homes and churches, grand architecture, and three active preservation organizations, including the nationally renowned Pittsburgh History and Landmarks Foundation.

Keeping Site Memories Alive

“Sites are more than just property,” said Armstrong. “Since the late 1960s and early ’70s, we’ve had an awareness that a building needs to be thought about in a more complex way. Documentation is a big part of that. Without it, the significance of the building disappears.” Documentation keeps the memory of a site alive, according to Armstrong, and provides information to the public and scholars.

“It’s the real cornerstone of proper preservation,” he said. “It helps us understand what to preserve and why.”

On July 31, the nine students taking the course presented their findings to a group of 50 Bloomfield residents, preservationists, and reporters. They discovered that Lynch, a dry goods merchant with a business on Downtown, had paid $11,150 in 1865 to buy seven acres of land at the Waldorf School site from Harriet Winebiddle. In 1872, after the Second Empire-style mansion had been built, Lynch sold the mansion along with one acre to William Smith for $22,500. The property would eventually change hands eight more times.

The student team had researched each architect of the home’s separate additions, and they solved the puzzle that the unknown architect of the main house may have been Isaac Hobbs, architect of the Dollar Savings Bank on Fourth Avenue, Downtown. The students’ research showed that Hobbs and Lynch worked closely together when Lynch sat on the bank’s board of directors, from 1864 to 1906. Pitt student Denise Duruye said finding long-lost information about the house and its owners was “very exciting.” The course was extremely informative and very effective at imparting a practical understanding of the field, said Duruye, who has applied to a number of Master of Architecture programs, with a focus on sustainable architecture and preservation.

“Jeff promised that by the end of the course we would be employable as preservation assistants,” she smiled. “And he delivered.”

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U niversity of Pittsburgh researchers will take part in a five-year, $18.5 million project designed to develop implantable devices made from biodegradable metals. The Pitt researchers will help lead dozens of engineers and doctors from universities and industries across the world in creating devices designed to adapt to physical changes in a patient’s body and dissolve once healing has occurred. The project’s goal is to reduce the follow-up surgeries and potential complications of major orthopaedic, craniofacial, and cardiovascular procedures, and spare millions of patients worldwide added pain and medical expense.

Pitt belongs to the project’s central partnership along with the University of Cincinnati (UC) and the project’s lead institution, North Carolina Agricultural and Technical State University (NCAT). Serving as deputy director is William Wagner, deputy director of the Pitt-UPMC McGowan Institute for Regenerative Medicine and professor of surgery, bioengineering, and chemical engineering in the Swanson School of Engineering. “The treatment of diseased and traumatized tissues is evolving as medical technologies increasingly harness the body’s regenerative powers,” Wagner said. “This effort will extend this approach by combining the mechanical attributes of metals with biologically active agents that together will further encourage the natural healing process.”

Jagannathan Sankar, NCAT’s Distinguished University Professor of mechanical engineering and director of the Center for Advanced Materials and Smart Structures, will direct the project. UC professor Mark Schulz, codirector of the UC Nanoworld and Smart Materials and Devices Laboratories, will join Wagner as a deputy director.

The project stems from a five-year Engineering Research Center (ERC) grant NCAT received from the National Science Foundation (NSF) in collaboration with Pitt and UC. The highly competitive ERC grant supports large-scale university and industry collaborations, a feature also beneficial in the cardiovascular realm. Magnesium stents and other supports would restore cardiovascular function without having to be removed and without exposing the patient to the potential complications of having devices left inside the body.

The project pools Pitt’s strengths in biomaterials and regenerative medicine stemming from the work conducted in the Swanson School’s Departments of Bioengineering, Mechanical Engineering and Material Sciences; the McGowan Institute for Regenerative Medicine; and UC. The NCAT department will offer bachelor’s, master’s, and PhD degrees.

The ERC project will focus primarily on producing three technologies: bio-degradable and self-adapting devices and smart constructs for craniofacial and orthopaedic reconstructive procedures, similarly behaving cardiovascular devices such as stents, and miniaturized sensing systems that monitor and control the safety and effectiveness of biodegradable metals inside the body (a technology that could lead to responsive biosensors that help doctors determine when and where diseases occur in the body).

The biodegradable devices and smart structures are intended to reduce complications and spare patients with conditions ranging from cleft palate and bone fractures to coronary heart disease from undergoing multiple surgeries. For instance, children born with a cleft palate are fitted with hard metal devices that must be removed and refitted over time. Devices the ERC researchers will explore—crafted from magnesium alloys and other biodegradable metals—would adapt to the body without refitting. Plus, magnesium alloys dissolve after their work is done with no clinical side effects, a feature also beneficial in the cardiovascular realm. Magnesium stents and other supports would restore

**Pitt Part of $18.5 Million Project to Design Biodegradable Implantable Devices**

By Morgan Kelly

R esveratrol, the natural antioxidant commonly found in red wine and many plants, may offer protection against radiation exposure, according to a study by the University of Pittsburgh School of Medicine. When altered with acetyl, resveratrol administered before radiation exposure proved to protect cells from radiation in mouse models. The results of the research was presented during the American Society for Therapeutic Radiology and Oncology’s (ASTRO) 50th Annual Meeting in September.

The study, led by Joel Greenberger, professor and chair of the Department of Radiation Oncology, Pitt’s School of Medicine, is overseen by Pitt’s Center for Medical Countermeasures Against Radiation. The center is dedicated to identifying and developing small molecule radiation protectors and mitigators that easily can be accessed and administered in the event of a large-scale radiological or nuclear emergency.

“New, small molecules with radioprotective capacity will be required for treatment in case of radiation spills or even as countermeasures against radiological terrorism,” said Greenberger. “Small molecules which can be easily stored, transported, and administered are optimal for this, and so far acetylated resveratrol fits these requirements well.”

Currently, there are no drugs on the market that protect against or counteract radiation exposure,” he added. “Our goal is to develop treatments for the general population that are effective and nontoxic.”

Greenberger and his team are conducting further studies to determine whether acetylated resveratrol eventually can be translated into clinical use as a radioprotective agent. In 2004, this same team of researchers identified the drug JP4-039, which can be delivered directly to the mitochondria, the energy-producing areas of cells. When this occurs, the drug assists the mitochondria in combating radiation-induced cell death.

The study was funded by a $10 million grant from the National Institute of Allergy and Infectious Diseases to establish the Center for Medical Countermeasures Against Radiation at Pitt.

**Antioxidant Found in Red Wine May Protect Against Radiation Exposure, Pitt Study Finds**

By Courtney McCrimmon

**University of Pittsburgh**
Post-traumatic Stress Endures Over Time in Family Members of ICU Patients, Pitt Study Finds

By Clare Collins

Family members may experience post-traumatic stress as many as six months after a loved one’s stay in the intensive care unit (ICU), according to a study by researchers at the University of Pittsburgh School of Medicine and the University of California, San Francisco. The study, published online in the Journal of General Internal Medicine, found that symptoms of anxiety and depression in family members of ICU patients diminished over time, but high rates of post-traumatic stress and complicated grief remained.

“Our findings suggest that family members of patients in the intensive care unit are at risk for serious psychological disorders that may require treatment,” said Cindy L. Bryce, a professor of medicine and health policy and management in Pitt’s School of Medicine.

“Unfortunately, it may be difficult to identify these family members while their loved one is in the hospital because the symptoms that we can observe and measure early—anxiety and depression—do not seem to be associated with the longer-term outcomes like post-traumatic stress disorder and complicated grief. This tells us that screening family members after hospitalization is crucial.”

The study included 50 family members of patients who were admitted to the ICU. Researchers measured family members’ level of anxiety and depression in the ICU and at one- and six-month follow-ups. They also measured symptoms of post-traumatic stress disorder and complicated grief during the six-month follow-up interview.

Forty-two percent of family members exhibited symptoms of anxiety in the ICU. This percentage dropped to 15 percent at six-month follow-up. Likewise, 16 percent of family members displayed depression in the ICU that dropped to six percent at six months.

At six-month follow-up, 35 percent of all family members had post-traumatic stress, while 46 percent of family members of patients who died had complicated grief. Surprisingly, post-traumatic stress was not more common in bereaved than nonbereaved family members.

“Our findings suggest that family members of patients in the intensive care unit are at risk for serious psychological disorders that may require treatment.”

—Cindy L. Bryce

Hookah Smoking More Popular Than Expected Among College Students

By Amy Dugas Rose

More than 40 percent of college students at a large university have smoked tobacco from a waterpipe, or hookah, according to a Pitt School of Medicine study published online in the Annals of Behavioral Medicine. The study represents the first random sample of U.S. university students to address waterpipe smoking.

“Our study showed that more than one-third of those who used waterpipes to smoke tobacco over the past year had never smoked a cigarette,” said Brian Primack, assistant professor of medicine and pediatrics in Pitt’s School of Medicine and lead author of the study. “Clearly young people believe hookah smoking is somehow different than smoking cigarettes, but waterpipe smoke has many of the same chemicals as cigarette smoke and likely poses many of the same health risks.”

A waterpipe is used to inhale tobacco that usually is flavored and sweetened. The opening of more than 200 waterpipe cafés in the United States over the past decade demonstrates the popularity of waterpipe smoking. Although the aesthetic appeal of the practice suggests to many users that it is not harmful, studies show that waterpipe tobacco smoke contains many of the same toxins as cigarettes and has been associated with substantial harm and addictiveness.

Researchers received survey responses from 647 undergraduate, graduate and graduate students from a large U.S. university. Slightly more than 40 percent of respondents reported having smoked tobacco from a waterpipe, a little higher than the 39.6 percent who said they had smoked cigarettes. In addition, the study found that 30.5 percent had smoked tobacco from a hookah in the past year and that 9.5 percent had done so in the past 30 days. The results are worrisome, because hookah smoking engaged many young students in tobacco use who would otherwise have been tobacco free, noted Primack.

“We were surprised that the percentage of students who reported ever engaging in waterpipe smoking was actually higher than the percentage of those who have ever smoked cigarettes,” said Primack. “Waterpipe smoking may become even more popular in the near future, since many of the new smoke-free ordinances being passed by local governments exempt waterpipe cafés. Waterpipe smoking is going to be a crucial public-health issue that will require increased surveillance and study.”

Coauthors of the study are J. Sidani, A.A. Agarwal and E.C. Donny of the University of Pittsburgh; T.E. Eissenberg of Virginia Commonwealth University; and W.G. Shadel from the RAND Corporation. The research was supported with funding from the National Cancer Institute, the Robert Wood Johnson Foundation, and the Maurice Falk Foundation.
Historic Photos of Pittsburgh Captures City’s Past in Rare B&W Photos From Pitt Collections

By Sharon S. Blake

Just in time for the commemoration of Pittsburgh’s 250th birthday comes Historic Photos of Pittsburgh (Turner Publishing) by Miriam Meislik, archivist and photo curator for the University of Pittsburgh Archives Service Center, part of the University Library System.

With fact-filled photo captions and chapter introductions by Meislik, the new book presents nearly 200 rare black-and-white photographs, selected from Pitt’s photographic archives, to tell the story of Pittsburgh’s fascinating past. Historic photos include images from the 1860s to the present, pulled from collections as diverse as the Darlington Family Papers, the Pittsburgh City Photographer Collection, Smoke Control Lantern Slides, the Pittsburgh Railways Company Collection, and many others.

“My goal was to present Pittsburgh as a city of change, a city that is constantly trying to improve itself, and to show more of the people who lived here,” said Meislik. “Many of the books published focus on the architecture. Those types of images are in my book, but I also wanted to show play-grounds and shops and people in their daily lives,” she said.

Book chapters include “A Growing City,” “Moving Forward,” “Hard Times and Other Challenges,” and “Era of Renewal.”

In her position at Pitt, Meislik works with rare photos on a daily basis. She often receives requests from individuals for photographs of old buildings in their efforts to restore facades, verify the purpose of a building, and apply for historic landmark status.

Historic Photos of Pittsburgh is part of Turner Publishing’s Historic Photos series. These books, highlighting the history of the great cities, pivotal events, and legendary figures across America, have been acclaimed as a staple in the collection of anyone who loves history.