Getting the Lead Out
Pitt Researchers Develop Lead-Free Steel

Robert Hayden, anthropologist and lawyer, has studied the Balkan region for nearly 20 years, looking at legal, constitutional, political and social questions in Yugoslavia. For six of those 20 years, Hayden lived in Serbia. Shortly after NATO began to bomb Serbia, Hayden, director of the University of Pittsburgh Center for Russian and East European Studies, talked about his research, his new book, and shared his views on the situation.

DeArdo and Garcia used tin to replace lead, a well-known pollutant added to steel to make it easier to machine. Machinists cut leaded steel bars into screws, cogs, flywheels and other parts for machines, most commonly for automobile parts. Their work was conducted through the Basic Metals Processing Research Institute (BAMPRI), affiliated with the School of Engineering’s Department of Materials Science and Engineering.

University of Pittsburgh Chancellor Mark A. Nordenberg noted that in addition to the scientific significance, the development has economic implications. “As the University of Pittsburgh seeks to advance fundamental knowledge through research, it develops technologies and other innovations that promise to fuel the region’s and the Commonwealth’s economies for many years to come. The development by our faculty members of this new type of steel and the steps that have been taken to translate the discovery into a thriving commercial venture are examples of our commitment to transfer new discoveries from the lab into the global marketplace,” Nordenberg said.

“In doing so, the University continues to play a key role in keeping Pittsburgh and Pennsylvania strong by contributing to the economic vitality of the communities we serve,” Nordenberg added.

A patent for the new steel was filed by the Office of Technology Management (OTM), which also created an international consortium of steel producers and manufacturers to produce the lead-free steel commercially, and may sublicense to others as market conditions warrant.

T hey call it “green” steel, and it could be one of the most important innovations in steel making in the past 30 years. Pitt researchers Anthony J. DeArdo and C. Isaac Garcia, professors of materials science and engineering, have developed a lead-free alternative to 12L14, a free machining steel which is not only more environmentally friendly, but can be machined more easily than leaded steel.

Kosovo:
A House Divided

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Author of Blueprints for a House Divided: The Constitutional Logic of the Yugoslav Conflict, published this month by

(Cont. on p. 2)
PITT FACULTY REAP
RESEARCH AWARDS

University of Pittsburgh faculty members were honored by dozens of foundations and professional societies during the past few months. Some highlights include:

Sloan Research Fellowships

Four University of Pittsburgh faculty members were among the 100 outstanding scientists to be awarded 1999 Sloan Research Fellowships by the Alfred P. Sloan Foundation.

Only four institutions won more awards than Pitt: the University of California at Berkeley (five); Massachusetts Institute of Technology (five); the University of Pennsylvania (five); and Stanford University (six).

The four Pitt professors are:
- Carson Chow, assistant professor of mathematics, who researches applied mathematics, with an emphasis on computational neuroscience.
- Julie Fiez, assistant professor of psychology, who is studying the neural basis of language processing, including mapping the brain regions involved in coordinating how words look and sound.
- Karl Kandler, assistant professor of neurobiology, who is examining auditory brain cells to discover the connections develop and change.
- Tara Meyer, assistant professor of chemistry, whose research is in inorganic polymer chemistry, with an emphasis on creating new polymers using metal-catalyzed reactions.

Fulbright Scholars

The Fulbright Program, the flagship program in international educational exchange, is sending two University of Pittsburgh professors to Europe and bringing three European scholars to Pitt for its 1999-99 program.

Pitt’s American Fulbright scholars are Frederick W. Clothey, professor and chair of Pitt’s Department of Religious Studies, who will visit Charles University in Prague, Czech Republic, and Steven J. C. Gaulin, a professor in Pitt’s Department of Anthropology, who will visit the University of Melbourne in Australia.

The scholars visiting Pitt are:
- Stephanie Breton from the Center for Anthropology of the Contemporary World, School for Advanced Study in the Social Sciences, Paris, France. Anne Daguerrre from the Department of Politics, Institute of Political Studies, Talence, France; and Rainer Stuhlman-Laeisz from the Department of Philosophy, Seminar for Logic and Foundation Research, University of Bonn, Germany.

Other Awards and Fellowships

Pitt Chemistry Professor David N. Beratan was awarded a 1999 Guggenheim Fellowship from the John Simon Guggenheim Memorial Foundation. Beratan’s research looks at how energy is stored and processed in biological systems. Beratan was one of 179 fellows, selected from nearly 2,800 applicants.

Chiho-“Jimmy” Hsieh, emeritus professor of geology, was awarded a Rockefeller Fellowship to create a “Cultural and Historical Atlas of China.”

KOSOVO (CONT. FROM P. 1)

the University of Michigan Press, Hayden said the book examines the rationale behind the Yugoslav conflicts.

Nothing that happened in Yugoslavia is surprising to me, because it all followed per-
factly the logic of the political platforms of the nationalist parties that were created in 1990 and the constitutions that those parties put into place,” he said.

Hayden said that the point of a constitution is to create a particular kind of state. “And the point of the Yugoslav constitutions is to create an ethnic state,” he explained. “This is pretty much uniform throughout the former Yugoslavia and through much of Eastern Europe, although this is covered up by a lot of references to democracy and human rights. But, the logic of the state structure is a logic in which the state belongs to one group, and nobody else should really be there. Ethnic cleans-
ing is a logical corollary.”

Because of his experience in Serbia, Hayden said, “I’ve never had any illusions about the Serbian regime being a bunch of good guys. I knew they were a bunch of brutal thugs.”

In spite of this view, Hayden says that there could have been a better way to resolve the crisis in Kosovo. He also said he feels that the United States has contrib-
uted to the problem in the region largely due to a lack of understanding and political motivation.

The constitutional crisis that resulted from political changes in the region makes no sense in American terms because “Americans don’t think in terms of an ethnic group getting the state,” Hayden said. “America was founded to be ‘not Europe, and the principles of American democracy were an experi-
ment consciously ‘not European.’”

According to Hayden, what’s going on in Kosovo and Serbia is the last stages of the construction of homogeneous nation-states in Europe. “You can look at much of the history of most of Europe in the last several hundred years in which the ethnic group oftentimes gets the state,” said Hayden. As an example, Hayden points to several NATO countries, Poland, Hungary and the Czech Republic. In each case, an ethnically pure state has been formed from what had been homogeneous territories at the start of the century.

“Milosevic is making sure that this is taking place in the worst possible way,” said Hayden. “On the other hand he’s gotten a lot of help from the international community, particularly from the United States, because by denying that multinational states and multietnic states of Yugoslavia are going to be reconstructed, the United States helps to ensure that it takes place in the worst possible way.”

Hayden summarized his view of the events: “We have a situation in which the Clinton administration launched the first aggressive war in Europe since 1945, completely contrary to the United Nations charter and to NATO. It did so suppos-
edly to prevent a humanitarian catastrophe and to stabilize the Balkans. What it has done is to provoke a humanitarian catast-
trophe and destabilize the Balkans. And, its response
has been to play the genocide card, to play the Hitler card. I’ve heard them describe Milosevic as a very brutal, evil guy. Well, guess what? This is the guy we were negotiating with. In fact, he was a guest of the United States in Dayton, Ohio, in October of 1995.”

Serious diplomacy by the United States was never attempted in regard to Kosovo, according to Hayden. “The Rambouillet, France, plan was written by the United States taking into account solely the desires of the Kosovo Albanians, and typically the most radical of the Kosovo Albanians, the Kosovo Liberation Army,” said Hayden. “It was then presented to the Serbs as an offer that they could not refuse, not realizing that instead it was an offer they could not accept. The plan gave off 20 percent of their territory. It’s very hard to find a political leader who could do that.”

Hayden’s knowledge of the region has its disadvantages. “I could look at the logic of the ethnic state and predict what’s going to happen,” said Hayden. “And I’ve been right much more often in my predictions than the Clinton administration has been. Part of the reason for that is that many people in social science and many people in politics base their analogies on what they would like to be true. Actually, I could say that I’d much rather have been wrong in the work I’ve done since 1989, but I haven’t been.” • PLW

Dennis P. Curran, Distinguished Service Professor of Chemistry and Bayer Professor, is internationally known for his seminal contributions to the design and application of free radical reactions in organic synthesis. In a 1997 paper published in *Science*, he introduced another new field—fluorous synthesis. “Fluorous chemistry uses highly fluorinated reagents, catalysts, reactants or substrates and capitalizes on the ready separation of fluorous components from standard organic and inorganic molecules.”

Nicole Constable, associate professor of anthropology, is a sociocultural anthropologist whose interests include transnational labor, the anthropology of work; ethnicity, nationalism, and history; gender in East Asia; folklore and ethnographic writing and power. She has conducted fieldwork in Hong Kong on constructions of Hakka Chinese Christian identity and on resistance and discipline among Filipino domestic workers. Constable earned special recognition for her studies of Filipino domestic workers and Asian mail-order brides.

Patrick J. Loughlin, Fulton C. Noss Faculty Fellow and associate professor in the Department of Electrical Engineering, won praise for his work on signal analysis, in particular those signals that vary with time. His new methods are of great theoretical interest and have practical applications in areas including biomedicine, sonar, radar, the automotive industry, seismology and machine fault analysis.

1999 Chancellor’s Distinguished Research Awards

In a university filled with internationally acclaimed researchers, cutting-edge work is expected. That’s what makes the 1999 Chancellor’s Distinguished Research Award winners so special—they’re shining in an already bright atmosphere of academic excellence. Congratulations to this year’s winners!

J. Thomas Rimer, professor and chair of the Department of East Asian Languages and Literatures, specializes in Japanese literature and theater. Rimer won special praise for introducing Japanese poetry, drama, fiction and art to the English-speaking world through his scholarship, translations and editing. He has created several successful theatrical and artistic exchange programs between Japan and the United States, including the first U.S. exhibition of modern Japanese painting and another celebrating the history of Japanese theater.

Savio L-Y. Woo, director of the Musculoskeletal Research Center, Albert B. Ferguson Jr. Professor and vice chairman for research, was honored for his pioneering role in the study of properties of soft tissues such as cartilage and ligaments. His research describing the fundamental properties of these tissues resulted in new mathematical models to describe their function and has led to significant advances in understanding the processes of injury to cartilage and ligaments, as well as improvements in the treatment and repair of joint injuries. • JF

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Stories Teachers Tell: 
Anecdotal textbook uses new approach to teach teachers

Even though Laura Flores and Tom Markham have been through many first days of school, they still get nervous. Like a lot of students who worry about acceptance or meeting the challenges set forth every new year, they find their stomachs fluttering each first day.

But they are not students. Flores and Markham are language teachers discussing their profession and their experiences and challenges in *Stories Teachers Tell: Reflecting on Professional Practice*, edited by Douglas K. Hartman and Richard Donato from the University of Pittsburgh’s Department of Instruction and Learning.

“The thump of my heart sped up, my stomach flip-flopping and gurgling, I wondered if I was ready to begin,” writes Flores in her chapter, “The Year.” “Even though it was the seventh time I had begun a new school year . . . I was still nervous. Each September brings new students, new challenges, and many surprises.”

In “Same Time Next Year: Same Year Next Time?” Markham writes, “The desire to be effective and build a vital classroom community is a powerful driving force every time I meet a new group of students. No matter how well prepared I feel, no matter how invitingly I’ve designed the classroom environment, no matter how many times I’ve previously enacted the lesson, the apprehension that I bring with me to the classroom is almost palpable.”

The book, conceived by Donato and edited by Hartman, grew from sharing their own stories as teachers and from the idea that a book by and for teachers could revive narrative as a way to instruct teachers. These 20 stories provide inspiring and useful anecdotes for teachers in training and in practice. These stories also capture the humanity of the teacher/writers, as well as the importance of storytelling in teaching.

“And as stories always do, they . . . entertain, edify, and instruct. Best of all, those moments could be told up close and personal,” wrote Hartman in the introduction.

As 1998 Chair of the Northeast Conference on the Teaching of Foreign Languages (NECTFL), Donato used his idea as a new approach to publishing a conference report. The NECTFL volume presented the perfect opportunity to create such a book in place of the usual academic essays.

At the conference, Donato substituted the keynote address with a reader’s theater that wove story selections into a dramatic reading by the teacher/writers. Attendees gave the performance a standing ovation and offered rave reviews.

Like an inspirational assortment of anecdotes, the book allows teachers to learn through their colleagues’ experiences. Organized thematically under headings like Passion, Hope, Transformation, Epiphany and Genesis, most of the stories crisscross into other categories, reflecting other themes and asserting similar realizations.

Almost all show ways in which teachers and students learn from each other. Frequently, teachers demonstrate the benefit of connecting with students and building a learning community in the classroom.

For Hartman, the most significant themes are the least commonly mentioned. For instance, in Yoko Morimoto’s “Be a Good Sport, Sensei!” she transforms from “a stuffy, humorless teacher babbling on in a mostly unintelligible foreign language” to a fun-loving, more mischievous Japanese instructor who connects with students through her changed approach and attitude.

“A lot of teaching is this willingness to experiment and try,” Hartman said.

Hartman, whose primary interest is in first-language learning, at first felt unsure about contributing to a project for second-language teachers. He found, though, that the book presented an opportunity to appeal to a wider teaching audience.

“Like many professional organizations these days, this would be another way in which the Northeast Conference could reach beyond its own organizational boundaries to link people together who share common interests and approaches to language learning—whether they be first or second languages,” Hartman writes.

To Hartman and Donato, this book presented an opportunity to return narrative, which shaped teacher development a century ago, to the teaching profession.

“We’ve had a shift historically from narrative to didactic and paradigmatic teaching,” Hartman said. “[But] there is so much variation and difference that we see from year to year and across the country, it’s hard to use that cookie-cutter approach. Using narrative, we can see the nuances.”

Donato added, “In research, we forget that the findings are provisional and need to be measured against teachers’ practices. There is a certain wisdom of practice embodied in teachers’ stories.”

A text like this, Hartman said, shifts focus away from the scientific approach to teaching, allowing teachers to reflect on their own practices and discover themselves in their teaching and learning.

“Told who teach come moments of absolute beauty unseen by the rest of the world,” he said. “In this book, the narrative tells that beauty.”
Fighting Fire
With Technology

MTAC Links Pitt, NASA and Business Community

“Visibility is zero, but I can see quite well,” said Pittsburgh Fire Captain Frank Large as he entered the smoky building on the corner of Washington Boulevard and Negley Run Road to rescue a plastic doll trapped inside.

Outside, dozens of firefighters, media and public officials gasped when they saw the images relayed from the prototype Long Wavelength Infrared (LWIR) imaging system attached to Large’s visor. They could clearly see Large’s two colleagues and details from inside the “burning” building, used as a training facility by the Pittsburgh Bureau of Fire.

In zero visibility, firefighters must crawl and grope their way around to find victims. Large said he could have easily walked through the building if safety protocol didn’t dictate he stay with his mates.

LWIR was developed by Zybron Inc. and the U.S. Air Force, with assistance of the Mid-Atlantic Technology Applications Center (MTAC), a NASA program based at the University of Pittsburgh for more than 30 years. MTAC is one of six regional technology transfer centers established to interface between NASA, businesses and academia.

The Firefighting Task Force (FFTF) is an example of one way MTAC works. After a fire in Brushton four years ago killed three firefighters, MTAC officials met with firefighters to explore ways to make their jobs safer and more effective.

The LWIR is the second innovation to come out of the FFTF. Last year, MTAC debuted a hands-free communications device which transmits sound using skull vibrations, eliminating the intense background noise that can hamper radio communications.

In addition to finding companies to solve problems such as those facing firefighters, MTAC provides assistance to other local companies. “Part of our mission is to provide a period of assistance to companies without a fee,” said Robert Saba, an MTAC business development specialist. “After that period, if they still desire our help, we enter into a contract.”

The other part of MTAC’s mission is to locate companies that might benefit from research conducted by NASA and other government agencies. Having access to the depth and breadth of talented researchers in the area is one of the reasons NASA selected Pitt as its host site.

“Pitt has given us sufficient freedom to pursue important projects that benefit the community,” said Lani Hummel, MTAC’s executive director. “This, in turn, has helped Pitt become known across the country for its work helping firefighters. I like that flexibility.”

— JF

USX Foundation Funds Engineering, Arts and Sciences Projects

The USX Foundation awarded the University of Pittsburgh $2.75 million to establish the USX Corporation Dean’s Chair in the School of Engineering, to create engineering fellowships in ferrous metallurgy, and to support the College of Arts and Sciences endowment.

Unlike traditional endowed chairs which support the work of one individual, the income from the Dean’s Chair endowment will develop and enhance programs and projects throughout the School of Engineering.

“We have a strong belief in the importance of the University of Pittsburgh to our company, our industry and our region,” said Thomas J. Usher, chairman and chief executive officer of USX.

“These funds will bolster an already strong program by providing resources that will help the University take advantage of new opportunities in the years ahead,” said Pitt Chancellor Mark A. Nordenberg.

“Dr. Schulz is ideally qualified to lead the development of the University Center for Social and Urban Research as it helps the University of Pittsburgh fulfill its aspirations,” said Pitt Provost James V. Maher.

Schulz is director of gerontology at Pitt’s School of Medicine and director of the Geriatric Education Center of Pennsylvania. Maher credits Schulz, a leader in the study of the social and behavioral aspects of aging, with playing an active role in shaping national policy on aging.

Schulz came to Pitt in 1984, following appointments at Portland State University and Carnegie Mellon University. Schulz also served as editor of Journal of Gerontology: Psychological Sciences, the leading journal on psychological aspects of aging.

Pitt Names Director of University Center for Social and Urban Research

Richard Schulz has been named director of the University Center for Social and Urban Research (UCSUR) at the University of Pittsburgh, effective April 1, 1999. Schulz has served as interim director of UCSUR since 1995.

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Two Pitt Student Inventions Featured at National Collegiate Invention Conference

Just as the best college basketball players gather at the Final Four in March, the best college inventors will gather at the Smithsonian this month.

Phil Weilerstein, program manager, NCIIA.

Imagine having not one, but two teams in the "sweet 16" quarterfinals. That's what the University of Pittsburgh's School of Engineering did when it contributed two of the 17 inventions selected for exhibition at the third annual National Collegiate Inventors and Innovators Alliance (NCIIA) conference in Washington, D.C.

The exhibition, "March Madness for the Mind," is administered by the Lemelson National Program at Hampshire College in Amherst, Mass., and features the most promising prototypes of 17 teams (although this year they had 17) of student inventors from 91 NCIIA member colleges across the country.

"The University of Pittsburgh's School of Engineering takes great pride in the creative success of these exceptionally talented students," said Gerald Holder, dean of Pitt's School of Engineering. "They represent the entrepreneurial spirit that we try to instill in all of our students. The fact that Pitt has two 'sweet 16' teams demonstrates an outstanding commitment by both faculty and students."

The two Pitt "E-teams" (for Excellence) are from Mechanical Engineering and Electrical Engineering.

The mechanical engineering students developed a Wear Simulator for Testing Ankle Joint Replacement, a machine to test the durability, strength and performance of ankle prostheses before they are implanted in patients.

The Active Remote Sensor, developed by electrical engineering students, is a device which provides power and eliminates the need for bulky, awkward wires or batteries for EKGs and other medical applications or for electronic inventory control.

Wear Simulator for Testing Ankle Joint Replacement

Encouraged by the successes of hip and knee replacements, and dissatisfied with conventional methods of treating degenerative ankle diseases, scientists have been developing artificial ankles for the past 25 years. The ankle, however, is a very complex joint: it bears the weight of the entire body, has a wide range of motion, and must endure repetitive stresses during the simplest activities.

While researchers have wrestled with these issues with varying degrees of success, the only way to test their designs has been by actually implanting their prostheses in patients.

The students realized that the wear simulator, nicknamed the "ankle buster," needed to replicate operating conditions as closely as possible for the replacement joint, with the loads and motion mimicking those that occur during human gait. To do this, the team first studied ankle load, range of motion and rotation during the gait cycle of approximately one second. They also determined the loads, or weights, being borne by the ankle at different points during the cycle.

The "ankle buster" student team consisted of Todd Bick, Gregory Bullwinkle, John Danhardt, Jun Jung and Jeremy Suggs and was assisted by advisors Patrick Smolinski, associate professor of mechanical engineering; Mark Miller, assistant professor of orthopaedic surgery at the UPMC Health System; Steven Conti, M.D., professor of orthopaedic surgery in the School of Medicine; and Richard Hake, laboratory director for the mechanical engineering department.

Active Remote Sensor

Anyone who has ever had an EKG is aware of the devices and wires that are connected to take readings of the heart. These attached devices are sensors, and the wires provide power to the sensor and transmit data to a base station. The Active Remote Sensor can take measurements and transmit the data without using cables.

"The ARS' primary advantages are no battery, no power supply, no cables and, in essence, an infinite shelf life," said faculty advisor Marlin H. Mickle, professor of electrical engineering.

The total system consists of a base station containing a transmitter, a receiver, electronics to activate the sensor, and electronics to read the sensor, a remote energy source for the ARS and the ARS.

The devices can form a network in which the base station provides both operating power and a data or communications link.

The ARS was created by a team consisting of Kevin W. Wells, Chad E. Emahizer, William Rooney and Ramprasad N. Rao. Mickle and Ronald G. Hoelzeman, associate professor of electrical engineering, served as advisors to the project.
demand increases. The consortium is officially organized as a limited liability company (LLC) of steel producers—the Nonleaded Free Machining Steel Consortium, LLC.

In addition to Pitt, the consortium includes United Alloys & Steel Corporation, of Buffalo, NY; MacSteel, a Division of Quanex Corporation, of Fort Smith, Arkansas; Curtis Screw Company of Buffalo, NY; Saarstahl Steel, AG, of Volklingen, Germany; and Laurel Steel, a Division of Harris Steel Ltd., of Ontario, Canada. Members of the consortium have helped finance the research at Pitt for the past four years. USS/KOBE Steel Company has also been supporting the research and has the option of joining the consortium by July 31.

Late last year, USS/KOBE melted a full production heat of 200 tons without problems. The new steel is presently being tested, and Milton Harris, chairman and CEO of Harris Steel, said the company is encouraged by the test results. The market for 12L14 steel is between two and three million tons per year, and the worldwide market is $1 billion-plus. Not only is the lead environmentally undesirable, but it adds production costs as companies need to implement environmental controls to the manufacturing process. Arthur A. Boni, Pitt’s director of technology management, estimates that the “green” steel has the potential to save on environmental and machining costs.

“Ever since governments began asking steel manufacturers to reduce their use of lead, researchers have been trying to come up with alternatives,” said DeArdo. Harris noted that automakers in the United States and Germany have indicated a desire to use lead-free steel if it were competitively available. While other researchers have experimented with different steel alloys, DeArdo and Garcia used another tack. “The key was asking the right question. We started with the scientific approach, asking, ‘What does the lead do, on an atomic level, that makes the steel more machinable?’” DeArdo said.

The researchers studied leaded steel using an atom probe field ion microscope to examine the ferrite grain boundaries. “Once we saw what the lead did, the answer was obvious to us,” DeArdo said. They decided that tin would be the most suitable replacement, then experimented with different ratios of tin to steel before coming up with the new product. Too much tin made the steel too brittle; too little tin made it harder to machine. The final tin content not only makes the steel more machinable than leaded steel, but could permit a substantial reduction in the machining cost of final components. Which makes the steel “green” in more ways than one. • JF

AWARD-WINNING BRIDGE NEEDS A HOME

Usually, people find a gully first, then build the bridge to cross it. The University of Pittsburgh engineering students did it the other way around and won three awards—including first place for “best design” in the National Timber Bridge Design Competition. The students, from Pitt’s Department of Civil and Environmental Engineering, designed and built the 11-foot bridge under the supervision of professors John Oyler and Clark Mangelsdorf. Now that it’s built, they need a place to put it.

The bridge finished second in the categories of “most aesthetic design” and “most innovative design.”

PITT CREW’S “SUPERCHARGER” WINS REGIONAL ROBOTICS COMPETITION

After six weeks of intense brainstorming, designing and testing, the “Pitt Crew,” from the University of Pittsburgh’s School of Health and Rehabilitation Sciences (SHRS) came home with a pleasant surprise: a first-place trophy in a regional robotics competition.

The Pitt Crew’s robot, “Supercharger,” beat 35 teams in the Johnson & Johnson Mid-Atlantic F.I.R.S.T (For Inspiration and Recognition of Science and Technology) Regional Robotics Competition at Rutgers University. “We are one of the smallest and lowest-budget teams in F.I.R.S.T., which makes this win especially nice,” said Rory Cooper, director of Pitt’s Human Engineering Research Lab and chairman of the Department of Rehabilitation Science and Technology. “We couldn’t be prouder of their accomplishment.”

The Pitt Crew is composed of faculty, staff and graduate students from SHRS, along with area high school students. Each team was given six weeks, a $425 budget and two crates filled with materials, such as windshield wiper motors, to create the robot.
A generation ago, names such as Tiara, Shaniqua, Raheem, Lashonda and Jazz were rarely heard on the playground. But now they seem to be the norm for African American children throughout America’s preschools and kindergartens, as more and more parents assign names to their children based on their African roots or culture.

A University of Pittsburgh husband-and-wife research team took a closer look at this phenomenon to determine what attributes and characteristics young children would assign to individuals—based on their names alone.

Jerlean Daniel, assistant professor in the Program of Child Development and Child Care in Pitt’s School of Social Work, and her husband Jack Daniel, vice-provost for Academic Affairs, interviewed 182 4- and 5-year-olds—52 black boys, 50 black girls, 42 white males and 38 white females. The researchers devised a “Guess Who” game—eight questions about situations the children might encounter in a make-believe new neighborhood.

Some examples:
In your new neighborhood, guess who is the smartest—Sarah or Shaniqua? Or, if the participant was a little boy—Maurice or Cody? The two-part questions, using positive and negative characteristics and behavioral traits, were asked of boys and girls of both races. The last question: In your new neighborhood, guess who looks most like you—Shante or Samantha? Or, if the participant was a little boy—Maurice or Cody? The names used were supplied by the Pennsylvania Department of Health, Division of Health Statistics, as the most popular white and African American names in the early 1990s. (One exception: the researchers omitted Michael, which was the most common name for both white and African American boys.)

For the “Who looks most like you?” question, 42 percent of the black children picked black names while 86 percent of the white children picked white names.

“The fact of the matter is that African American children know lots of children who look like them but have white names.” said Jerlean Daniel. “It doesn’t necessarily mean the child doesn’t think much of himself, because in their world, African American children could have either name. And so they know both sets of people, where it was highly unlikely that white children knew other white children with a name like Jamal. That just doesn’t happen—at least not in this region.”

“When we looked at how often and which children made positive and negative judgments, based on names, we found that among white children, there was a tendency to assign negative characteristics and behavior traits more often to African American girls’ names,” she explained.

Daniel has thought a lot about this finding and is wondering how much of it is tied to what children see in the media.

“What is beauty in a female in this country?” she questions. “There are lots of white girls and women who look at the terribly thin women on TV and feel they don’t fit in. Lots of brunettes feel that blondes are clearly more valued. And if you’re African American, where do you fit in? So you wonder what culture at large is saying to them about what is beauty or what is positive?”

Daniel cautions that there are “many more layers of this issue that have to be unpacked.” She admits that...
black girls’ names may simply sound more exotic and appealing to white children. “You can come at this research from lots of different directions, but you have to do it carefully with respect to all the aspects that go into a child’s decision-making,” she explained.

The Doll Studies done by Clark & Clark in the 1930s involved showing children a black doll and a white doll and asking them questions about the doll’s attributes, assuming they were real children. They found black children seemed to assign negative characteristics to black dolls, but more recent research indicates the Clarks went too far. “In fact,” said Daniel, “African American children can both comprehend the low status of their racial group, but as individual children, have high self-esteem.”

“It does say to us that kids are absorbing all of the attitudes they encounter every day,” she added. “Part of what they’re doing as young children is trying to figure this world out. What’s my place in it? What’s her place in it? How do we relate to each other? Who’s got the power? The influence?”

Daniel views the research as a wake-up call for parents. “If tolerance is what we want,” she said, “we have to be conscientious about how we talk to our children and the side conversations they may hear. What books do we read to them? What selections do we make about their playmates?” She acknowledges it’s a tricky line to walk—warning your child about the world but building his or her self-esteem as an individual. And she cautions against warning children so much they have little trust of people who are different than themselves.

“The best we can do is give our children a positive self-image and help them to grow beyond the negatives that are generally offered in our society about their race and culture,” she said. • SB
Family Violence and the Welfare-To-Work Transition

University of Pittsburgh sociologist Lisa D. Brush remembers well the moment that inspired her to investigate domestic violence as an obstacle to welfare reform. It was at a luncheon in the fall of 1997, when she was seated next to the head of the Allegheny County Public Assistance Office. Brush remarked that advocates were worried: Might battered women on welfare have trouble meeting the work requirements and time limits imposed by welfare reform? The administrator responded with the story of a client who was about to finish her computer training program when her boyfriend threatened that if she did indeed complete the training he would "break her fingers."

For Brush, that anecdote provided the impetus to form the University of Pittsburgh Family Violence and Self-Sufficiency Project. She launched a study on the employment training staff's awareness of battering as an obstacle to welfare-to-work transition. "Battering was clearly on the radar screen for administrators in welfare-to-work programs," said Brush. "But I wanted to know more about job readiness program staff perceptions and if their perceptions matched the actual experiences of the women enrolled in those programs." Brush interviewed 120 caseworkers at 15 sites in Allegheny County, as well as 122 welfare moms enrolled in short-term job readiness programs at six of these sites.

The good news in Brush's findings is that overall, job training staff make relatively accurate estimates of the prevalence of battering and control in the lives of their clients. Staff members overwhelmingly agree that battering is a problem for some women making the transition from welfare to work.

More disconcerting is Brush's finding that staff often perceive as very rare forms of battering that affect what Brush terms "non-trivial" percentages of clients. The interviews revealed that 11 percent of enrollees had been threatened or hurt by their partner with a knife or gun, 27 percent had been injured by physical abuse, 22 percent had been forced into sex, and 38 percent had been hit, kicked, or had something thrown at them by their partner. "Staff are especially reluctant to give estimates about physical abuse," Brush added.

Other results provide a mixed picture of staff perceptions. "Staff rely on direct observation and are less likely to give very low estimates of evidence they can see for themselves, which is fine as long as they pay attention to less obvious forms of control," noted Brush. "Unfortunately, some staff also rely on their clients making excuses and on negative stereotypes about poor people and their relationships."

Why the gap between low estimates and the reported prevalence of battering? In addition to the problem of stereotypes, not all abused women are forthcoming about battering. Brush said many women are reluctant to admit that someone they loved or trusted has hurt them.

SELL CELEBRATES 50TH YEAR AT PITT

The University of Pittsburgh School of Law recently honored W. Edward Sell's 50 years of teaching and leadership with a dinner that raised funds for the W. Edward Sell Endowed Faculty Chair, the school's first fully funded faculty chair. Sell, who joined Pitt in 1947, served as a full-time law professor longer than anyone in the school from his tenure at the school. He is a larger-than-life figure who is tremendously devoted to legal education and to Pitt. We have all benefited greatly from his tenure at the school.

His most notable students include former Governor Dick Thornburgh, U.S. Senator Orrin Hatch, Pennsylvania Supreme Court Justices John P. Flaherty and Ralph J. Cappy, Superior Court President Judge James E. Rowley and Commonwealth Court President Judge David W. Craig.

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Staff members overwhelmingly agree that battering is a problem for some women making the transition from welfare to work.
Besides, government agencies and job-related programs are the last places they want to disclose battering. Job readiness programs in particular train women to be “professional” and “employable,” which means leaving personal problems at home. “The problem is that for battered women, family life spills over into work life,” explained Brush.

Brush’s research showed that some women, however, do disclose battering to caseworkers. “Disclosure can make a very vivid impression on staff,” noted Brush, “and they tend to take the issue seriously.” One third of the staff respondents wrote in additional categories of abuse drawn from specific cases they had encountered, such as “boyfriend took the battery out of client’s car.” Those staff were much less likely to give extremely low estimates of the prevalence of battering among their clients.

But caseworkers who have never heard an account of abuse tend to be very skeptical of battered women’s claims. That’s one wrinkle in the implementation of the Family Violence Option (FVO), an amendment to the 1996 Welfare Reform Act that states can choose to adopt. It allows welfare administrators to screen for battering, refer battered women for services, and exempt up to 20 percent of clients from time limits and work requirements if they are battered.

“Staff have to be willing to take battering seriously in order to implement FVO properly,” said Brush. “But we know that some staff don’t perceive battering or think that their clients are making fraudulent battering claims as an excuse to avoid work.” More than one staff member told Brush if they could be exempt from work “just by getting beat up,” they would have someone give them a few well-placed bruises. “If we can show staff that battering is widespread, and counter the stereotypes some staff have with better information about battering and welfare-to-work transition,” Brush concluded, “then we can bridge the perception gap and improve welfare reform.”

Brush hopes her ongoing research can help policy makers and welfare administrators successfully implement FVO. With FVO, neither poor women nor the states are penalized for recognizing the reality of battering. Without FVO, battered women may be especially vulnerable to incurring sanctions, and states risk losing their block grants.

“Battering is not about fraud,” Brush commented. “It is about women’s well-being and successful transition from welfare to work.”

Research

State Funds Pitt Study of Technology in Schools

The Commonwealth of Pennsylvania has awarded a $253,000 grant to Pitt’s Department of Library and Information Science in the School of Information Sciences (SIS). The grant will allow Pitt to chronicle innovative uses of technology in educational settings across Pennsylvania and create a multimedia presentation over the World Wide Web on their project’s results. Funded through the state’s Link-to-Learn Educational Technology Impact Analysis, the project will produce case studies of at least 12 schools or districts that used technology to solve significant educational problems. Elizabeth Yakel, an assistant professor in SIS, is collaborating with Indiana University of Pennsylvania professor Richard Lammerski and Penn State University professor Dennis Roberts and Ho Suen on the project.

Said Yakel, “These case studies present a unique opportunity to do an in-depth analysis of how technology can be employed to solve a variety of educational problems in the K-12 environment by facilitating student learning and aiding teachers in curriculum development.”

More information about the project can be found through the World Wide Web at: http://www2.sis.pitt.edu/~etia2.

Three Mile Island – Twenty Years Later

Former Pennsylvania Governor Dick Thornburgh was preparing to present his first budget to freshman lawmakers on March 26, 1979, when word of the Three Mile Island nuclear accident reached his office. What followed were five days of US history in which Thornburgh, only 72 days in office, was thrust into the international spotlight—sorting fact from fiction, calming hysterical Pennsylvanians, issuing an evacuation order for pregnant women and children and continually updating 400 reporters from around the globe.

On March 26, 1999, Thornburgh, a graduate of the University of Pittsburgh School of Law, told listeners at a symposium sponsored by the University of Pittsburgh Library System that he learned valuable lessons from TMI, including: “Expect the unexpected, be prepared to adjust accordingly. Don’t try to manage an emergency away from the site. Search for and evaluate the facts and their sources again and again. Respect, but do not depend on the news media, forget partisanship and value and learn from history.”

On display at Pitt’s Hillman Library were Thornburgh’s papers and memorabilia from the event, including his log of daily developments and decisions, photos, wire service reports, newspaper clippings and memos. They are just part of the vast Dick Thornburgh Archival Collection, which the former governor donated to Pitt last year.

In Brief

Thornburgh Archival (Photo courtesy of Pitt’s Library)

University of Pittsburgh

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Johnstown Showcases Undergraduate Scientists

Jason Floyd and Sean Chelius didn’t have to go far to find a subject for the research project they presented at the 1999 Natural Sciences Undergraduate Research Symposium at the University of Pittsburgh at Johnstown (UPJ). The senior geology majors performed a water-quality analysis on the unnamed tributary of Little Paint Creek, located behind the Engineering and Science Building on Johnstown’s wooded campus. Their mission was to determine the extent and cause of the stream’s pollution.

Floyd and Chelius analyzed drill cores obtained when the Pasquerilla Performing Arts Center was built adjacent to the Engineering and Science Building. They also placed a weir, a small fence-like structure, in the stream to measure discharge. The water quality data, gathered between October 1998 and January 1999, included discharge, water temperature, pH, conductivity, hardness, alkalinity and metal concentrations. They concluded that the overburden, a layer of material through which the groundwater percolates, is responsible for the pollution. Their presentation also examined the effects of temperature on the wetlands in the area.

Floyd and Chelius are just two of 71 UPJ Natural Sciences Division students who presented work at the symposium. The students represented a variety of disciplines, including biology, chemistry, computer science, geology and psychology. Twenty-one teams, including Floyd and Chelius, reported on independent research work they completed under the tutelage of individual faculty mentors. The other students presented classroom work, ranging from literature surveys to research proposals, all of which are a major portion of the research experience.

Uldis Kaktins, associate professor of geology and planetary sciences at UPJ, was the faculty advisor and sponsor of the research by Floyd and Chelius. Floyd said that he and Chelius developed an interest in acid mine drainage through their studies in the geology program at UPJ.

The students’ study deals with the crucial problem of acid discharge into area streams brought on by construction and mining excavation in Cambria, Somerset and adjacent counties in Pennsylvania. “Jason’s and Sean’s research shows that the streams will eventually clean themselves up, given the necessary time and distance,” Kaktins explained. “Their research is helpful as we consider various wetland and other mitigation projects in the area.”

Research by another of Kaktins’ students, Kelly Brinker, in conjunction with Beth Dillon and Karen Lees of the college’s biology department, looks at the viability of crayfish habitat in acid water.

“The UPJ Natural Sciences Undergraduate Research Symposium is a celebration of the work accomplished by students in the college’s Natural Sciences Division,” symposium coordinator and assistant professor of chemistry Christopher Riegel said. “The original idea was to have a showcase for the fine work being done by students and faculty. It was also conceived as a way to interest more students in doing. It exposes them to the idea that they too can participate in scientific investigations.”

Steven E. Stern of the college’s psychology department called the symposium “a wonderful venue for our students to exhibit their highest achievements here at UPJ, as well as to see what others are doing. “As a social psychologist, I can assure you that there is a powerful effect in social comparison, the process by which we use others’ levels of performance to decide where we ourselves should be,” Stern said.