THE MAGAZINE OF TULANE UNIVERSITY SCHOOL OF MEDICINE | FALL 2009

TULANE MEDICINE



TULANE & CHARITY: A HEALING TEAM

SOLVING TOUGH GENETIC PUZZLES

WHITE COATS
FIT NEW CLASS



s we celebrate our 175th anniversary, Tulane School of Medicine honors a long and standing commitment to education, research and patient care. As a result, we continue to recruit top faculty, researchers and students from around the world. We are pleased to welcome four new department chairs to the school.

Dr. Tong Wu, most recently associate professor of pathology in the Division of Transplant and Liver Pathology at the University of Pittsburgh School of Medicine, is the new chair of the Department of Pathology and Marguerite Main Zimmerman Chair in Basic Cancer Research. You can read all about his background on page 23 of this magazine.

Dr. Marnin Merrick has been named the chair of the new Department of Radiation Oncology, joining Tulane from the University of Kentucky Medical Center and the Markey Cancer Center. His credentials are outlined on page 22.

Dr. Roger Kelley will become Chair of Neurology in January, marking an important milestone—the establishment of the school's first Department of Neurology. Historically, neurology has been partnered with the Department of Psychiatry. A 1976 Tulane School of Medicine graduate, Dr. Kelley is currently professor and chairman of neurology at Louisiana State University Health Sciences Center, Shreveport. He completed his medical residency at New England Deaconess Hospital, his neurology residency at the University of Miami and a cerebrovascular fellowship at Massachusetts General Hospital.

Dr. Roger Smith, who chairs the Department of Neurosurgery at Ochsner, will also be Academic Chair in the Department of Neurosurgery at Tulane. This joint academic program will bring together Tulane School of Medicine and Ochsner, a non-profit, multi-specialty, healthcare delivery system with seven hospitals and over 35 health centers throughout Southeast Louisiana. Dr. Smith completed his internship in general surgery at Tulane in 1973 and is the current president of the Louisiana State Medical Society.

As we reflect upon our rich history and significant relationship with the City of New Orleans, Tulane School of Medicine continues to push the boundaries of medicine. We are working diligently to equip the next generation of medical professionals with the tools to succeed in a rapidly changing world and shape the future of healthcare.

Ben

Benjamin P. Sachs, M.B., B.S., DPH, FACOG Senior Vice President of Tulane University Dean of the School of Medicine James R. Doty Distinguished Professor and Chair

TULANE | MEDICINE

VOLUME 35, ISSUE 2 2009

Senior Vice President and Dean Benjamin P. Sachs, M.B., DPH

Administrators

Mary Brown, MBA John D. Clements, Ph.D. Karen DeSalvo, M.D., MPH Lee Hamm, M.D. Marc Kahn, M.D. N. Kevin Krane, M.D.

Editor

Diana Pinckley

Contributors

Keith Brannon

Melanie Cross

Alicia Duplessis

Annemarie Havdel

Arthur Nead

Fran Simon

Mike Strecker

Zack Weaver

Photography

Sally Asher

Paula Burch-Celentano

Jewel Bush

Will Crocker

Cheryl Gerber

George Long

Matas Library

Cover Photography

Will Crocker

Illustration

Will Crocker Stuart Briers

Design

Zehno Cross Media Communications

President of the University

Scott S. Cowen

Vice President for University Communications and Marketing

Deborah L. Grant



Tulane Medicine magazine is published semiannually for Tulane University School of Medicine alumni, faculty, residents, students, staff and friends.

Letters and comments should be sent to: Tulane Medicine magazine c/o Tulane University Public Relations 215 Gibson Hall 6823 St. Charles Ave. New Orleans, LA 70118

Phone: 504-865-5210 Fax: 504-862-8777 E-mail: mednotes@tulane.edu Web site: www.som.tulane.edu

Published letters and comments may be edited for length.

Tulane University is an affirmative action, equal opportunity employer.
Contents © 2009 by Tulane University.
All rights reserved.

TULANE MEDICINE

FEATURES

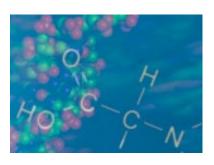
10 **PARTNERS IN CARING**

Tulane University School of Medicine was founded 175 years ago by young physicians who chose New Orleans because of Charity Hospital. The long and productive relationship between school and facility has continued across the centuries.



DIETS FIGHT FAULTY GENES

The Gulf South's only comprehensive clinical genetics center gives parents and children realistic approaches to difficult issues in metabolic diseases.



DEPARTMENTS

NEWS

- White Coats Symbolize New Responsibilities
- Community Clinics Continue to Grow
- Katrina Stress Increases Heart Attacks
- Two New Projects Take Aim at Obesity
- Internships Inspire Sci High Students
- Vaccine May Vanquish Ear Infections
- Plastic Surgery Expands Staff, Sites
- DeBakey Center Fosters New Learning Styles

20

NOTES

News about alumni and other members of the Tulane University School of Medicine community

ON THE COVER

lcons symbolizing the long and fruitful relationship between Tulane University School of Medicine and Charity Hospital include "lecture tickets" (lower left) and a photo of the Charity Ambulance Service in operation. The service, begun in 1885 and continuing into the 1960s, was staffed by Tulane interns, who were subject to 48 continuous hours of ambulance duty every eight days.







OUR NUMBERS NOT ONLY DID NOT GO DOWN AFTER HURRICANE KATRINA; THEY HAVE GONE UP AT 20 TO 22 PERCENT A YEAR.



-Dr. Marc Kahn

THE WHITE-COAT CONTRACT

n donning their white coats in a ceremony on Aug. 3, 177 first-year Tulane medical students got a taste of what awaits.

"The white coat welcomes incoming students into the medical profession and serves as a contract for the practice of medicine," said Dr. Marc Kahn, senior associate dean of admissions and student affairs at Tulane University School of Medicine. "Most medical school classwork emphasizes the science of medicine—this event recognizes the passion that is the center of medicine.

"The white coat indicates the responsibility that goes with the medical profession," Kahn continued. "People will listen to you, undress in front of you, heed your advice."

Featured speaker and internationally recognized expert in trauma care Dr. Norman McSwain was even more direct.

"As a college student, you might ask the instructor, 'What kind of grade do I have to have to pass this course or to pass this test?' That is not the question any longer. The question now is 'How much knowledge do I have to gain to save the lives of my patients, to make their lives more pleasant and to survive their illnesses?' Seventy-five percent is no longer a passing grade. The passing grade is the survival of your patients. Your patients trust you, they expect from you the very best.

"The coat represents that choice that you have made. It's the image to your patients that they can trust you and that you have devotion to them and their suffering. Let it represent to you the responsibility of becoming a physician."

The 177 students were chosen from 9,431 applicants, which Kahn called "an amazing ratio. Our [applicant] numbers not only did not go down after Hurricane Katrina; they have gone up at a rate of 20 to 22 percent a year."

Dr. Earnest J. Sneed, assistant dean for student affairs, placed a white coat on each student in turn. He also presented each with an embroidered badge with the medical school's seal to be worn on the coat, as well as a pin from the Arnold P. Gold Foundation for Humanism in Medicine. The students received their first stethoscopes, a gift from the Tulane Medical Alumni Association.







Left: The day of celebration featured Assistant Dean of Students Dr. Earnest J. Sneed helping students don their first white coats. Center: Dr. Joseph Sabatier (third from left, M '38) received the Centennial Alumnus Award during the ceremonies. (See story, page 24.) Right: Faculty member Dr. Elma LeDoux (M '81) and her new-med-student-daughter Katie.



The class includes at least three "legacies"—Katie LeDoux, the daughter of associate professor of medicine Dr. Elma LeDoux and the fourth generation of her family on both sides to attend Tulane; William "Devin" Seale, son of Dr. Kent Seale, president of the Tulane Medical Alumni Association; and John Yonge, whose grandfather, Dr. Charles Yonge, is a 1945 School of Medicine graduate.

Each newly white-coated student walked across the stage, pausing at the microphone to say the one word "that codifies what brought you here today." The most popular response was "family" or a family member, but the descriptive words ranged from "dedication," "luck," "determination," "service," "passion" and "faith" to "coffee," "humor," "lagniappe," "moxie" and, of course, "New Orleans."

Citing the strong pull of the city as it continues to rebuild after Hurricane Katrina, Dr. Benjamin Sachs, senior vice president and dean, said, "I continue to witness our medical school attracting not only some of the best and brightest young people that want to become physicians but also those who have a strong commitment to public service. Tulane University School of Medicine has become a magnet for young people that are attracted to the study of medicine and who want to make a difference in our community."

The members of the Class of 2013 got right to work. According to an e-mail from Dr. LeDoux, "the party was lively but short-lived. Now, just four days later, they have already begun dissecting their cadavers and have about six hours of study to accomplish each night."



William "Devin" Seale, a member of the Tulane School of Medicine Class of 2013, has long had a focus on a medical career. He's shown at left, above, with stethoscope, and then, several years later, at White Coat Day ceremonies with his father, Dr. Kent Seale, president of the Tulane Medical Alumni Association.

THE CLASS OF 2013

The Class of 2013 includes musicians, artists, cooks, athletes, world travelers, researchers, public health specialists and military scholars.

57% male

43% female

23 average age

33 states represented, with Louisiana (15%), California (13%) and New York (7%) having the greatest numbers

83 colleges represented, led by Tulane, University of California system, LSU, Cornell, University of Virginia, University of Michigan and Washington University

30.4 average overall MCAT

3.45 average overall GPA

45 advanced degrees

60% science majors

40% non-science majors, including foreign affairs, history, Spanish, international studies, philosophy, engineering, creative writing, computer science, business, economics, English, finance and art history

MEDICINE | NEWS

COMMUNITY CLINICS CONTINUE TO GROW

onverting the longtime flagship of Ruth's Chris Steak House to a neighborhood clinic and extending health care into additional schools are the latest initiatives in Tulane University School of Medicine's commitment to "heal communities."

The Ruth U. Fertel/Tulane
Community Health Center at 711 N.
Broad Street honors the late Ruth Fertel,
who worked as a lab technician at Tulane
University School of Medicine before she
founded the famed steak restaurant in
New Orleans' Mid-City neighborhood.
The building, which did not reopen after
it was flooded from the levee breaches that
followed Hurricane Katrina four years
ago, was donated by the Ruth's Hospitality
Group, a public company with more than
100 Ruth's Chris Steak Houses worldwide.

The Tulane Community Health Center at Covenant House will move to the new site, which is slated for completion in summer 2010. Support for the renovation comes in part from federal and state disaster recovery funds.

Tulane serves nearly 900 patients from the Treme, Mid-City and surrounding areas at the Covenant House site, which opened in September 2005. With more than double the space, the new health center can serve more than 1,200 patients per month and will offer primary care to all ages, mental and behavioral health services, geriatric care and reproductive health services.



Dr. Sue Ellen Abdalian, right, checks out student Keaton Anthony Williams at the Walter L. Cohen School-Based Health Center. Abdalian is medical director for the clinic, and Williams participates in Cohen's Academy of Health Sciences.

"Every aspect of the community and its leadership are involved to ensure that these patient-centered community 'medical homes' provide the services neighborhoods need to heal—both physically and mentally," said Dr. Karen DeSalvo, vice dean for community affairs and health policy at Tulane.

On May 12, the Tulane University School of Medicine pediatrics department and the Louisiana Recovery School District opened the Walter L. Cohen School-Based Health Center to provide high-quality medical and behavioral health services to high school students without regard to their ability to pay.

"School-based health centers offer the school community access to preventive healthcare service," said Dr. Sue Ellen Abdalian, medical director for the center. "Most often, adolescents do not receive

routine preventive health care even when it is available to them in other settings. This clinic can provide a medical home for students in a safe, approachable environment so they won't have to miss school, and their parents will not have to miss work for every needed healthcare visit."

The center's staff includes a doctor, nurse practitioner, medical office assistant, social worker and nurse.

Although the School of Medicine has helped open and has a presence in many other school-based health centers, the Cohen Health Center is the first Tulanesponsored school-based health center.

For more on Tulane University School of Medicine's current outreach and future plans, visit the website of the Office of Community Affairs and Health Policy at http://tulane.edu/som/cahp/.

4 TULANE | MEDICINE FALL 2009 www.som.tulane.edu

KATRINA STRESS BRINGS INCREASE IN HEART ATTACKS

hronic stress following Hurricane Katrina contributed to a three-fold increase in heart attacks in New Orleans more than two years after levee breaches flooded most of the city, according to researchers at Tulane University School of Medicine.

Those suffering heart attacks post-Katrina were also significantly more likely to receive coronary interventions, particularly angioplasty to re-open clogged coronary arteries, which suggests these patients may have more severe disease, according to new data presented at the American College of Cardiology's 58th Annual Scientific Session.



The analysis is one of the first to look at the long-term public health impact of major disasters like Hurricane Katrina. Previous studies have found short-term increases in heart attacks and other cardiac events occurring hours to weeks after stress-inducers including earthquakes or volcano eruptions.

"Our data show that the effects of an acute major disaster are not limited to its immediate aftermath, but can linger on for a prolonged duration," said lead researcher Dr. Anand Irimpen, associate professor of clinical medicine in Tulane's Heart and Vascular Institute.

The study used specific demographic and clinical data to analyze the number of heart attack patients admitted to Tulane Medical Center in downtown New Orleans two years before the storm and two years after the hospital reopened in February 2006.

In addition to a three-fold increase in heart attacks and a 120 percent increase in coronary interventions, the post-Katrina group had significantly higher prevalence of unemployment, lack of medical insurance, medication non-compliance, smoking, substance abuse, first-time hospitalization and people living in temporary housing. There were no significant differences in the racial, gender or age distribution of the two groups.

Based on these data, authors believe reduced access to preventive health services and chronic stress stemming from prolonged loss of employment, insurance coverage and housing played important roles in the development of heart attacks. In addition, chronic stress following Katrina appears to have fostered bad health practices, such as smoking and failure or refusal to adhere to treatment plans.

"After a major disaster, people generally tend to neglect their health because they have other priorities," Irimpen said. "That can lead to serious consequences."

Irimpen and his team plan to track the rates of heart attacks for another two years, including other area hospitals in the study.



AFTER A MAJOR DISASTER,
PEOPLE GENERALLY
TEND TO NEGLECT
THEIR HEALTH BECAUSE THEY
HAVE OTHER PRIORITIES.

77

-Dr. Anand Irimpen



LCRC LAUNCHES NEW WEBSITE

new Louisiana Cancer Research Consortium website, www.lcrc.info, promises to provide a user-friendly experience for the community—patients, referring physicians, legislators and other supporters—as well as LCRC faculty members. It features biographical information on all LCRC researchers, research updates, a calendar of events and information on clinical research trials. The site will soon include live-feed video coverage of the construction of the Louisiana Cancer Research Center at the corner of Tulane and South Claiborne Avenues.

MEDICINE | **NEWS**

TARGETING OBESITY

lmost two-thirds of Louisiana adults and one-third of the state's children are overweight or obese, according to statistics from the Louisiana Department of Health and Hospitals. The state ranks 7th in the nation in the rate of adult obesity and 8th in the proportion of overweight or obese children.

Two separate initiatives at Tulane University School of Medicine are designed to fight these dispiriting numbers.

■ ETHNICITY, GENES & WEIGHT

Dr. Tina Thethi, assistant professor of endocrinology, studies why some people become obese and others do not, exploring the genetic relationships between race, gender and obesity. She pays particular attention to the operations of the endocannabinoid system, a recently discovered endocrine system that has a role in regulating appetite.

"There is some preliminary data that obesity and the endocannabinoid system are different among ethnic groups," explains Dr. Vivian Fonseca, who holds the Tullis-Tulane Alumni Chair in Diabetes at Tulane. "Our varied population in New Orleans, with a lot of obesity, gives us a unique opportunity to study this."

Thethi and her colleagues work with 700 New Orleans area residents to look at two hormones that are high in people who are obese. "These hormones actually stimulate food intake, and we're looking at that part of the gene that is supposed to turn off these hormones," says Thethi.

"The main purpose in doing the study is to characterize the differences between men and women and African-Americans and Caucasians, because I'm not sure we know the differences between these groups."



Dr. Tina Thethi, assistant professor of endocrinology, is principal investigator of a study examining why some people become obese and others do not.

The study, supported by the Tulane Research Enhancement Fund, the Tulane/ Xavier National Center of Excellence in Women's Health and the National Institutes of Health, is a collaborative effort among specialists in the School of Science and Engineering, the School of Public Health and Tropical Medicine and the School of Medicine.

■ HEALTHY KIDS, HEALTHY LIVES

Dr. Alina Olteanu, assistant professor of clinical pediatrics, is launching a new program that will teach parents and their children how to create and sustain healthy habits.

"The medical part of obesity treatment is not that complicated, but the main part is behavioral change and that takes time," says Olteanu. "Lack of exercise and poor nutrition are the two main reasons for obesity in children, and we plan to address both issues."

The program's team includes a nurse, a therapist, a behavior modification

instructor, a social worker, a dietitian and an outreach coordinator-each representing important elements in the weight-management process.

"Studies have shown that children in poor neighborhoods are more at risk for obesity because they do not have access to fresh fruits and vegetables, and they do not have a safe neighborhood to play in," says Olteanu, citing New Orleans' relatively high rate of children living in poverty. "Also, many inner-city school cafeterias don't serve healthy food and the kids have access to soft drinks where they are drinking all of their calories."

The pediatric obesity program is being piloted onboard the New Orleans Children's Health Project pediatric mobile units.

It is the fourth project under the umbrella of the New Orleans Children's Health Project, which is now directed by Olteanu.



Dr. Alina Olteanu, right, director of a new program to combat obesity in children, and Maria Jones, behavioral therapist, plan to work with parents to change how New Orleans children eat and play.

LOCAL HIGH SCHOOL STUDENTS COMPLETE SUMMER INTERNSHIPS AT TULANE CANCER CENTER

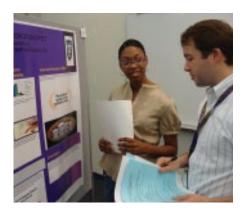
our students from the New Orleans Charter Science & Mathematics High School, an open-admission public school, were among 50 Louisiana high school, undergraduate and medical students who completed summer internships with Tulane Cancer Center faculty mentors this summer.

The Sci High interns worked in Tulane Cancer Center labs for eight weeks and completed research projects under their mentors' supervision. They also heard scientific presentations in weekly seminars and learned responsible research conduct.

In a poster session on Aug. 3, the students presented the results of their summer work to approximately 100 guests and judges. Top-scoring Sci High intern Jascione Christmas worked with

Dr. Radhika Pochampally and Dr. Patrice Penfornis of Tulane's Center for Gene Therapy on a project examining the effects of curcumin, a common spice traditionally used in Asian cooking, on the growth of breast cancer cells.

The primary goal of Tulane Cancer Center's summer internship program, now in its third year, is to expose promising young men and women to the possibility of a career in science. "Perhaps even more importantly, this program provides the students with the lifelong benefits of a mentor-mentee experience," said Dr. Roy S. Weiner, associate dean for clinical research and training at Tulane and president-elect of the New Orleans Charter Science & Mathematics High School Foundation Board.



Kesi Turner, left, a senior at Sci High in New Orleans who participated in a summer internship at Tulane Cancer Center, presents her research on the effect of vitamins, minerals and natural substances on infertility.

The program is supported by the Louisiana Cancer Research Consortium, the Louisiana Gene Therapy Research Consortium and the Louisiana Vaccine Center.



Dr. John Clements, director of the **Tulane Center for Infectious** Diseases, is collaborating in the vaccine development effort.

VACCINE MAY VANQUISH EAR INFECTIONS

promising pain-free vaccine that fights ear infections may be the result of work by researchers at Nationwide Children's Hospital and the Ohio State University School of Medicine, in collaboration with Dr. John Clements, director of the Tulane Center for Infectious Disease and chair of microbiology and immunology, according to a recent report in Infection Control Today.

The most commonly diagnosed illness in children younger than 15 in the U.S., ear infections are the primary cause for emergency room visits. More than 80 percent of children will have at least one ear infection before their third birthday.

The vaccine activates cells just under the surface of the skin, which deliver the vaccine to the local lymphoid tissues. There it can generate an immune response to rapidly reduce or eliminate non-typable Haemophilus influenzae (NTHI), one of the bacteria commonly responsible for ear infections, from the nose and ears.

When the vaccine was tested by placing a droplet of the material on the outer ears of chinchillas and rubbed into the skin, it was shown to be effective.

"These studies lay the foundation for an effective, yet simple, inexpensive and potentially transformative way to deliver vaccines," said Lauren Bakaletz, director of the Center for Microbial Pathogenesis, The Research Institute at Nationwide Children's Hospital and professor of pediatrics and otolaryngology at Ohio State.

"It's our hope the method of applying the vaccine to the skin will allow us to distribute it to some of the poorest children in the world."



THE RECONSTRUCTIVE **PROCESS ITSELF IS REWARDING, BUT EVEN MORE FULFILLING IS GIVING AN ADULT OR CHILD THE ABILITY** TO EAT AGAIN— OR EVEN THE OPPORTUNITY TO GO OUT IN PUBLIC AND LIVE A NORMAL LIFE.

-Dr. Ernest Chiu

TULANE PLASTIC SURGEONS RESTORE FORM AND FUNCTION, ENHANCE LOOKS

surgery, breast reduction and breast reconstructive surgery.

or patients looking to freshen up or enhance their appearances, the new Tulane Aesthetic Center on the corner of St. Charles Avenue and Second Street in New Orleans offers detailed consultations for all types of cosmetic surgery and skin care. Dr. Abigail Chaffin, assistant professor of clinical surgery, says, "I want my patients to look their best while enhancing their natural beauty. I also want them to look as young as they feel. It is so satisfying to me when my patients look into the mirror and smile at their results." Chaffin's interests include aesthetic surgery, body contouring after weight-loss

She is one of two new faculty members in the Division of Plastic Surgery. The other is Dr. Ernest Chiu, clinical associate professor of surgery and director of plastic surgery research, who has a special interest in cancer reconstruction.

Chiu has pioneered a novel, minimally invasive technique to restore swallowing and speech after head and neck cancer surgery.

"As plastic surgeons, it takes great creative effort to rebuild, mold and sculpt the body after trauma or cancer surgery," Chiu says. "The reconstructive process itself is rewarding, but even more fulfilling is giving an adult or child the ability to eat again—or even the opportunity to go out in public and live a normal life. That is what plastic surgery is all about."

Another member of the division is Dr. Gustavo Colon, who supervises the Tulane resident cosmetic clinic at Lakeside Hospital.

These physicians agree that it is an exciting time for plastic surgery at Tulane and in New Orleans, as the group pioneers new techniques in both reconstructive and aesthetic fields, offers those techniques to patients and teaches them to the next generation of plastic surgeons.

For an appointment with a doctor in the Division of Plastic Surgery, contact Caroline Barber at 504-988-4167.



Dr. Ernest Chiu, left, and Dr. Abigail Chaffin bring additional expertise in reconstructive and aesthetic surgery to the Tulane Division of Plastic Surgery.



The new DeBakey Educational Center offers first- and second-year medical students an environment for effective team-based learning, using tools that range from 65-inch LCD flat-screens to flash cards.

THE LEARNING ROOM

In some first- and second-year classes at Tulane University School of Medicine, "the sage on the stage" is giving way to "the guide on the side."

The DeBakey Educational Center, on the second floor of the Murphy Building on the medical school campus, is designed to focus the attention of students on active team-based learning and just-in-time teaching, which uses technology to direct an instructor's efforts where they are most needed.

The Center is filled with tables seating six students each—enough to hold the entire 177-member class. The walls feature 15 65-inch LCD flat-screens and two large SmartboardsTM.

The facility's mission is to "use technology and architecture to drive educational change," says Dr. Kevin Krane, professor of medicine and vice-dean of academic affairs at the medical school. "Creating a facility like this lets us pull off things educationally that we didn't even think of two years ago. The learning is really significant."

The goal, Krane says, is to get the students to learn the material either on their own or in teams and then use class time to assess what they've learned and focus on the things that may be confusing.

The Center is named in memory of Dr. Michael DeBakey (M '32) to recognize his help when Tulane medical faculty and students relocated to Baylor School of Medicine in Houston post-Katrina. "He was tremendously supportive and focused on students," says Krane. "It's an appropriate tribute, and it reminds students of the giants of medicine who have come from this institution."

Krane emphasizes that there's a huge difference between teaching and learning. "You can lecture all day without being sure that students understand the material," he says. "Here one can use new educational methods—this is learning. It's active. It emphasizes team-building skills and peer assessments because each student evaluates the contributions from team members."

Team-based learning works like this: Students are assigned to six-person table groups, developed with an eye to diversity of background—academic, geographic, cultural—and degree. When they enter the DeBakey classroom for a two-hour session of a first-year Foundations of Medicine course or a second-year Mechanisms of Disease class, they take an individual quiz on 25 pages or so of assigned reading, which counts toward the grade. Next, each group discusses their quiz responses and must agree on the best answer to each. Lively interaction is punctuated by groans, applause and comments like "I think we all agree that B is ridiculous." At the end of 20 minutes or so, the faculty member and students address issues that arise during that discussion.

Then the groups turn to a more complex series of case studies, most of which have no single clearly correct answer. The spirited table talk continues, with participants checking out Internet resources that may shed light, or even calling a "lifeline."

But in 20 minutes, each table must agree on an answer. Team leaders all over the room, when prompted, hold up a card with a letter on it ranging from A to E. Sometimes the agreement in the room is unanimous; other questions get a more divergent response.

Again, lively discussion ensues, involving the instructor and people throughout the room.

"These students are learning important skills that will make them better physicians," says Krane, his eyes scanning the 25 or so tables in the room.

"And everybody's awake."

l'INHK'



For 175 years, Tulane medical personnel have worked with Charity Hospital to fight diseases that plague the world while they heal the people of New Orleans—one patient at a time.

BY DIANA PINCKLEY



r. Warren Stone came from a poor Vermont family. He was on his way to New Orleans to seek his fortune when cholera and bad weather forced his ship into port in Charleston. There, he met Dr. Thomas Hunt, another young physician who was caring for the sick onboard. As they became close friends, Stone encouraged Hunt, who was from a wealthy South Carolina family, to come to New Orleans with him.



Stone continued on, arriving in the Crescent City with one picayune in his pocket—the Spanish coin worth six-and-a-half cents—and obtained a staff position at Charity Hospital. Hunt soon followed in his new friend's footsteps and became a Charity house surgeon.

From top to bottom: Dr. Warren Stone, Dr. Thomas Hunt and Dr. John Harrison

At the hospital—almost 100 years old at the time and in its fifth location, built in 1832 on the present Charity site—Hunt and Stone met Dr. John Harrison, from an old Maryland family with a tradition of medical practice, who was also caring for patients at Charity.

Each one of the three men was younger than 26, but their actions 175 years ago in writing The First Circular or Prospectus of the Medical College of Louisiana and establishing what would become Tulane University School of Medicine changed

medical education and patient care in New Orleans and across America.

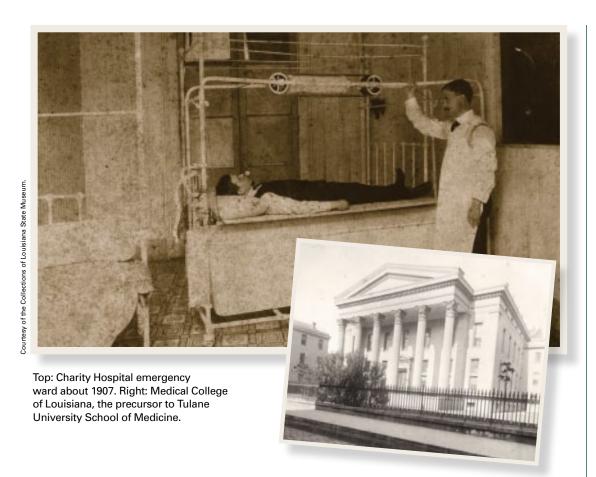
The trio recognized the need to study and treat "the peculiar diseases which prevail in this part of the Union," including yellow fever and malaria, in 1834 when there were only 14 medical schools in the United States.

According to New Orleans' Charity Hospital: A Story of Physicians, Politics and Poverty, written in 1992 by Tulane School of Medicine faculty member Dr. John Salvaggio and published by LSU Press, "The three founders realized that for the new medical school to function properly, it would need to be closely connected with Charity Hospital and its large and varied patient base."

The Medical College of Louisiana began in the lower story of the hospital; its students were trained in patient wards on the second and third levels.

A HOSPITAL FOR THE POOR

By this time in 1834, Charity Hospital had been in existence for nearly a century. It was established by Jean Louis, a wealthy French shipbuilder who took note of the fact that access to the city's only hospital was limited to military personnel and others in the service of the French king. He



devoted his estate to endow a hospital for the poor, which opened on May 10, 1736, at Chartres and Bienville streets in the French Quarter.

A "new" Charity was built in 1743 on the ship basin (now Basin Street), a third structure arose on that site in 1785 after the hospital was devastated by a hurricane a few years earlier and a fourth was constructed in 1815 on the site of the present-day Roosevelt Hotel.

Though it has historically had several different locations and a variety of names (at least in recent decades), Charity Hospital holds the record as the oldest continually operating hospital in the United States. At some points in its existence, it has also been the largest hospital under a single roof in the country.

Salvaggio writes that Charity has "survived the transfer of the Louisiana Territory from the French to the Spanish in 1762, a hurricane in 1779 that destroyed all but its kitchen and storehouse, a citywide fire in 1809, the stormy entrance of Louisiana into statehood in 1812, the hardships of the Civil War, the stresses of caring for today's

ever-expanding patient load and some of the worst political squabbles and political patronage problems in the United States."

THE FIRST MEDICAL DEGREES IN THE SOUTH

The young American physicians who founded the Medical College of Louisiana came on the scene just a year after the Daughters of Charity religious order had taken over management of Charity Hospital in the hopes of resolving political conflicts. It was a dozen years after Paul Tulane had moved to New Orleans from his New Jersey home to found a retail and wholesale dry goods and clothing business and invest in real estate. And it would be half a century before Tulane would bequeath \$1.25 million to found the university that bears his name, and the administrators of his fund would take control of the Medical College of Louisiana.

The first lecture at the new college was delivered in January 1835, by Dr. Hunt in the Strangers Unitarian Church; the initial class graduated in April, earning the first medical degrees to be conferred in the South.

1699

New Orleans settled.

1736

The first Charity Hospital opens.

1812

Louisiana becomes a state.



1834

Medical College of Louisiana founded, forerunner of Tulane.

1843

In return for land granted by Louisiana Legislature, Medical College of Louisiana faculty agree to provide free service for Charity patients for 10 years. Free service continues for more than a century.

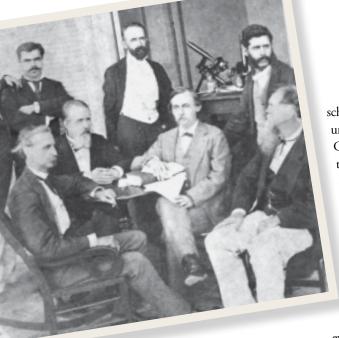
1859

Charity, one of the largest hospitals in the world, has more than 1,000 beds, served by students from the Medical College of Louisiana, the fourthlargest medical school in the U.S.

1884

Paul Tulane endows a university that bears his name and includes the Medical College of Louisiana.

www.som.tulane.edu TULANE | MEDICINE FALL 2009 11



Tulane doctors participating in the first Havana Yellow Fever Commission, 1879.

The actions of the school's founders did not go unnoticed by the French/ Creole practitioners in the New Orleans medical establishment. "Three young Americans, new to the city, had announced they would found a new medical college with lectures entirely in English," writes Douglas R. Lincoln, a then-fourthyear Tulane medical student who in 2007 explored the history of Tulane

and Charity for the Rudolph Matas Library. "In addition, Stone and Hunt became house surgeons at Charity, shaping medical practices during their tenure and giving more weight to the commonly held impression of Americans 'taking over' medical education in the city."

The Creoles fought back by establishing their own Francophone Medical School of New Orleans in 1835, though it was short-lived. Another effort, the New Orleans School of Medicine, was founded in 1856. "The presence of these medical schools in association with the new Charity Hospital undoubtedly went a long way toward making Charity one of the great medical institutions at that time, not only of the United States but also of the world," Salvaggio writes.

In 1840, the Medical College of Louisiana rented a house next to Charity Hospital, so all medical lectures could take place in one room. Lincoln cites a prospectus of the day that "brags a fact that has held true for all of Charity's history: 'In the Surgical Department, the advantages of this College rank those of all others in the Union. The number of wounds, fractures, dislocations, and other injuries, and disease requiring the frequent exercise of Operative Surgery, admitted into the Wards of the New Orleans Hospital, will be found on examination to exceed that of any other in America."

Three years later, when organizers decided the college needed its own building, they petitioned the Louisiana legislature for land on which to build it. In return, they promised that Medical College of Louisiana faculty would take care of patients at Charity for free for 10 years.



In The Beginning: The First Circular or Prospectus of the Medical College of Louisiana

The columns below replicate the exact language used by Medical College founders on 23 September 1834.

In selecting N. Orleans as a place for the location of their school, the undersigned have been governed by the following among other considerations:

st Because it is the largest and most populous town in the South West, and the most accessible

2d Because its Hospitals which will be open to the undersigned for the purpose of instruction are the largest in the Southern and Western States: so that practical Medicine and Surgery can be taught at the bedside of the patient—the only proper place for their study.

3d Because the study of Anatomy can be prosecuted with more advantage, and at a cheaper rate here than in any other city in the U.S.

4th Because N.O. is so healthy during eight months in the year. that students can remain in it, and study the different types of disease at different seasons.

5th Because it is a commercial town, and more surgical accidents occur to seamen than to any other class of individuals, and its is consequently the best field for the study of Surgery in the

Oth Because in consequence of its great population, its hospitals are always filled with patients.

th Because, as the undersigned pledge themselves, students can get board at \$25. a month.

The Lecture of the Medl. Col. of La. will commence on the 1st Monday of January 1835, and will continue for four months from that day-

Thos. Hunt, M.D. Prof of Anat. & Physiolgy & Dean of the Faculty Jno. Harrison, M.D. Adjunct Chas. A. Luzenberg, M.D. Prof. Surgery J. Munro Mackie, M.D. Prof. Theory Pract. Med. Thos. R. Ingalls, M.D. Prof. Chemistry Edwin Balhurst Smith, M.D. Prof. Mat. Med. Augustus H. Cenas, M.D. Prof. Obstet. & Dis. Women & Child.



Charity Hospital about 1940.

Even though the building itself cost only \$15,000, the free service lasted for more than a century, from 1843 until well into the 1960s. Salvaggio writes, "The medical school faculty have traditionally donated their services to Charity Hospital; this author has served 25 years as a professor at both medical schools and, like most other faculty members, has always made ward rounds at Charity, taught residents and students, and provided patient care in its clinics—with no payment for these services." He added that hundreds of other physicians have done the same.

In 1859, Charity Hospital had 1,000 beds, making it one of the largest hospitals in the world. It was served by students from the Medical College of Louisiana, which had grown to become the fourth-largest medical school in the nation, with an enrollment of more than 400. By the time the Civil War forced the school to close in 1863, it had over 1,084 graduates; an estimated 12 percent died or were seriously disabled as a result of the war.

The medical school reopened in 1865, when it played a significant role in advocating for the improvement of medical education and helped Louisiana become the first state to establish a board of health. Standards at Charity were also improving, in part due to the rising standards of

the School of Medicine. Medical students lived inside Charity, spending days and nights in bedside teaching and ward rounds.

In Abraham Flexner's landmark 1910 study of medical education, he rated Tulane as among the top seven schools in the nation. "It is unthinkable that Tulane could have received such a good rating had it not been for the wide variety of patients and the hands-on teaching provided by Charity Hospital," writes Salvaggio.

Tulane medical students and interns working in Charity Hospital got experience of a different kind in 1914, after bubonic plague was diagnosed in a Swedish sailor who landed in New Orleans. Rat patrols made up of Tulane medical students were sent out to check for evidence of rats and plague. Salvaggio writes: "Dr. George Hauser, one of the Tulane medical student 'rat inspectors,' recalled that his group received five or six 25-gallon garbage cans filled with dead rats every day. The rats were sterilized, dissected and checked for symptoms."

In less than two months, 80,000 rodents were trapped, killed and taken to the laboratory where Tulane medical students were waiting. This was estimated to be one-fourth of the total rodent population of New Orleans, and about 80 rats were found to be carrying the plague bacillus.



1894

Rudolph Matas, the father of vascular surgery, is named to the prestigious Chair of Surgery at Tulane. He came to New Orleans in 1878 to study medicine and work at Charity.

1910

Tulane ranks among the top seven medical schools in the nation.



The Tulane Rat Patrol hits the streets to fight bubonic plague.

1931

LSU School of Medicine founded.

1939

The new Charity Hospital is complete. In 1936, three years before the new building's opening, Charity's admission rate exceeded that of Cook County in Chicago, Bellevue in New York and Los Angeles County Hospitals.

www.som.tulane.edu TULANE | MEDICINE FALL 2009 13



Dr. Rudolph Matas lecturing on popliteal aneurysms, Miles Amphitheatre, Charity Hospital, 1917.

Despite rat patrols, living in colorful and sometimes dubious hospital circumstances and day-and-night duty riding ambulances through the streets of New Orleans, "an internship at Charity was extremely desirable—the goal of every student graduating from the Tulane or LSU medical schools," Salvaggio writes. "Almost all graduates wanted to intern at Charity because of its reputation."

Because the Charity interns earned only \$8 a month in 1932, they were exempt from the "deduct" policy of then-governor Huey Long, who required each state employee to pony up, in cash, five to 10 percent of his or her salary. Unfortunately, residents enjoyed no such exemption.

Long was instrumental in establishing the LSU School of Medicine in 1931, nearly a century after the founding of the Medical College of Louisiana. Because Long wasn't willing to accept federal funds from the Roosevelt administration, however, plans for the construction of the sixth Charity Hospital—on the familiar Tulane Avenue site where Charity had been since 1832—were not begun until after his death from an assassin's bullet in 1935.

The building we know today opened in 1939. It was sorely needed: in 1936, the daily patient census at Charity was 2,781 in a hospital with 1,814 beds. Only a year later, Charity Hospital began its first modern postgraduate residency program.

HOME TO MEDICAL BREAKTHROUGHS

Joint research ventures between Tulane and Charity, often involving residents and interns as well as senior faculty, have led to many significant developments in modern medicine.

Dr. Rudolph Matas, a professor of surgery at Tulane, was the first to use spinal anesthesia in the United States and the first to surgically repair aneurysms. He developed the intravenous drip, identified that appendicitis could be treated by surgery, and was essential in identifying mosquitos as the vectors of yellow fever. He was also known to deliver speeches sequentially in English, Spanish, French and Italian "without notes or manuscripts."

The blood samples that allowed Dr. Linus Pauling to pinpoint the cause of sickle cell anemia came from Charity Hospital, courtesy of famed Tulane cardiologist George Burch, a professional colleague.

14 TULANE | MEDICINE FALL 2009 www.som.tulane.edu

Among other Tulane service research projects at Charity identified by Salvaggio (in addition to his own work on the causes of epidemic asthma and bagassosis, a lung disease of sugarcane workers):

- The study of the effect of climate on cardiac disaease and of the causes and treatment of cardiomyopathy by Burch.
- Perfecting and expanding local perfusion chemotherapy for malignant melanoma by Dr. Edward Krementz and Dr. Oscar Creech.
- Brain-probe studies by Dr. Robert Heath that were the first to identify singular characteristics in the brains of schizophrenic subjects.
- Expanding on the role of niacin deficiency in pellagra by Dr. Grace Goldsmith, who also established minimum daily requirements for niacin and tryptophane.
- A study of the ability of glucan to enhance the body's defenses against infection, by Dr. Nicholas DiLuzio.
- The etiology, epidemiology and natural history of atherosclerotic heart disease by Dr. Gerald Berenson, culminating in the Bogalusa Heart Study which traces the long-term development of atherosclerosis from childhood to old age.

HEALING COMMUNITIES

The Tulane/Charity partnership continues. Tulane physicians and medical students worked to evacuate patients at Charity (now formally known as the Medical Center of Louisiana at New Orleans or MCLNO) through the trauma of Hurricane Katrina in 2005, which closed the hospital building on Tulane Avenue.

In 2008, almost 40 percent of the doctors treating patients at the Interim Public Hospital were Tulane University physicians, as were a similar proportion of the residents and fellows training there. (The Interim Public Hospital is the current

name used for University Hospital, a part of MCLNO. Prior to Katrina, MCLNO operated Charity and University Hospitals.) Tulane Internal Medicine admitted 4,283 patients to the internal medicine and medicine subspecialty services last year. That number represented 41 percent of all adult admissions to the interim hospital in 2008, accounting for more than 15,000 days of inpatient care.

A new public teaching hospital is deemed vital to the city of New Orleans. The new iteration, now in the planning stages, will be the primary training ground for the state's next generation of doctors and a major healthcare provider for uninsured or underinsured patients throughout New Orleans. It is also predicted to be an economic engine for the city as well as a major medical research center for area universities. Studies have called a strong, modern academic teaching hospital critical to the training of the state's future physician workforce.

In August 2009, Tulane and LSU agreed with other partners on the composition of a board and management system for the new hospital; construction funding is yet to be determined from the federal government, the Federal Emergency Management Agency, the state and other sources.

"What captivates people about Charity is not so much the building itself, which is already the sixth building to carry that name, but rather what Charity stands for," writes Lincoln in the online history of the relationship between the Tulane and the storied public hospital.

"The ideals of humanism and caring for the most vulnerable in our society has long been a driving force in both medicine as a whole and Tulane University School of Medicine specifically. How these laudable goals emerge in the changing political and economic landscape of the twentyfirst century is a story that is still unfolding."

1950

Charity has more than 3,000 beds.

1975

Tulane University opens Tulane Hospital and Clinic across from the School of Medicine and just down the street from Charity.



1990

Charity has about 500 residents on Tulane and LSU services.

Hurricane Katrina and its aftermath result in Charity's closure.



2009

Discussions on a new hospital continue; agreement reached on board composition.

■ READ MORE

Sources for this story include:

New Orleans' Charity Hospital: A Story of Physicians, Politics, and Poverty by Dr. John Salvaggio, LSU Press, 1992

Reflections: Looking Back on Our Past, Celebrating 170 Years, A Publication of the Office of Advancement, Tulane University Health Sciences Center, 2004

The History of Tulane University School of Medicine's Involvement with Charity Hospital www.tulane.edu/~matas/historical/charity/charity.htm

by Douglas R. Lincoln, Fourth-Year Medical Student, Tulane University School of Medicine, April 2007; History of Medicine Elective Service Project for the Rudolph Matas Library, Tulane University Health Sciences Center, Dr. Elma LeDoux, Faculty Advisor

TULANE | MEDICINE FALL 2009 15 www.som.tulane.edu



Amy Cunningham, the metabolic dietitian at Tulane's Hayward Genetics Center.

"WILL HE LIVE?" Kay Celeste Singletary remembers asking almost four years ago when she got the news that her newborn baby boy had tested positive for a rare metabolic disease called phenylketonuria. "Will he be disabled?"

Days earlier, her son's newborn screening tests had given indications of the genetic disorder which can cause brain damage, seizures and mental retardation if left untreated. She scoured the Internet for answers, finding terms like "institutionalization" and "permanent disability."

"I remember falling to my knees on the floor and thinking there is no way I'll get through this," Singletary says.

But the voice on the other end of the phone was calm. Amy Cunningham, the metabolic dietitian at Tulane's Hayward Genetics Center, reassured Singletary that her son would be fine and healthy, normal in every way except one. Throughout his life, he must follow a very restricted low-protein diet limiting the amino acid phenylalanine (Phe), which his body cannot fully metabolize.

"The Hayward Center's job—the phenomenal task ahead of them—is to take you from a point where you don't think you can function, which is the diagnosis of your child with an inborn error in metabolism, to where you are confident that you can handle it," Singletary says. "And they do it in a matter of days."

FINDING ANSWERS

Diagnosing and treating children with extremely rare conditions is just one mission of the Hayward Genetics Center at Tulane University School of Medicine. The center is the Gulf South's only comprehensive clinical genetics center and one of around only 40 in the country housed within a university. Doctors from across Louisiana, Mississippi and southern Alabama send patients to Hayward for answers to their most vexing cases. It was established in 1987 to study, treat and prevent genetic disorders and named after John T. Hayward, a successful inventor of offshore drilling equipment, whose foundation has provided funding to Tulane since the 1970s.

Hayward includes three clinical labs, four clinical geneticists, two board-certified genetic counselors and the only full-time metabolic dietitian in the state. The pedigree of the staff is just about as rare as some of the conditions they study. There are only two clinical geneticists in the entire state of Louisiana trained to manage inborn errors of metabolism, one of whom manages the metabolic patients at Tulane. There are only nine clinical geneticists in all of Louisiana.

About 95 percent of Hayward's patients are children under the age of 18. Many are referred through newborn screening programs. Some come due to developmental delays while others arrive with

Diets Fight Faulty Genes

The Hayward Genetics Center offers a window of hope to children born with metabolic disorders—and groundbreaking research that is leading the field.

BY KEITH BRANNON PHOTO ILLUSTRATION BY WILL CROCKER



severe and obvious birth defects such as congenital malformations and limb anomalies. "Patients find us through many different mechanisms," says Dr. Hans Andersson, Hayward Genetics Center director and the Karen Gore Professor of Human Genetics. "It's not concise in any way."

The center gives parents answers that, in some cases, have eluded them for years. "Most of these families have no understanding. Nobody has ever been able to tell them why does this child have this problem," Andersson says. "What's important for us is to be able to come to a diagnosis in these children and give the families some ideas of what to expect in the future."

In recent years, doctors have developed therapies for many genetic conditions. More severe cases caused by chromosome abnormalities often do not have available primary treatments, but doctors can use the genetic information to treat the child's symptoms or conditions they may develop.

"If we make a diagnosis of Down syndrome, we know those children are going to have certain types of problems in their lifetime," Andersson says. "We can address those issues before they become apparent or even significant. It doesn't mean we can fix their abnormality, but we can certainly impact that child's health and lifespan and make them a functional part of their family."

For more severe cases such as multiple malformations or birth

defects, parents want to know if future children will be affected by the condition. "If we identify the cause as a chromosome abnormality, we can test the parents for this chromosome abnormality and prove that they don't have it and give them a good reassurance—although it's never a guarantee—that it's very unlikely for this to reoccur," Andersson says. "This gives them the opportunity to have more children comfortably without this tremendous risk looming over them."

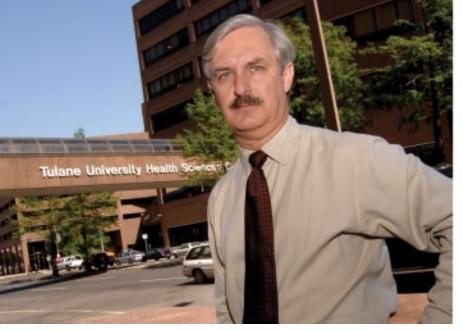
THE BEST MEDICINE—A DETAILED DIET

Hayward is the leading treatment center for genetic metabolic diseases in the state. Center staff counsel more than 200 patients, monitoring their diet and blood work each month to make sure their therapies are working. Metabolic dietitian Cunningham travels throughout Louisiana to meet with patients and their families to monitor their progress. For most, their diet is their medicine.

Kay and Michael Singletary's son Will, now almost four years old, has been on a low-Phe diet since birth and is a normal child. Prior to dietary management of PKU, all patients suffered brain damage, becoming mentally retarded.

Will can't eat meat, eggs, dairy products, nuts, breads or any high-protein foods. Instead, his diet includes fruits, vegetables, special low-Phe breads or pastas and a special Phe-free liquid formula with other essential amino acids designed to give him enough nutrients

www.som.tulane.edu TULANE | MEDICINE FALL 2009 17



Dr. Hans Andersson, director of the Hayward Genetics Center at Tulane.

and calories to stay healthy. "Everything that he eats is weighed and measured on a gram scale, and we've got a spreadsheet that we fill out each day with what he ate, the amount he ate and the value of phenylalanine in it," Singletary says. "At the end of the day, we add it all up and see what he ate and make sure that it reaches his goal of 400 milligrams a day. It's very regimented."

Hayward monitors more than PKU patients, although it's by far the most common of the rare diseases the center treats. Other metabolic diseases include galactosemia, an inability to metabolize one type of milk sugar properly; and three conditions caused by defects in the oxidation of amino acids—methylmalonic aciduria, maple syrup urine disease and isovaleric aciduria.

"The diets are different in the particular things that you restrict, but the principles are the same. And that's to restrict the substance a patient cannot tolerate (usually proteins) to the amount that the body needs to grow, but no more than that," Cunningham says.

She and other center staff work closely with parents from the onset of their child's diagnosis to make sure they understand an often-complex dietary regimen. Like Singletary, most of them are overwhelmed at first. "They are so worried and scared," says Cunningham. "The main thing I try to do up front is reassure them that they are not in this by themselves. We are going to help them. We're going to become their new best friends and together we will do this."

Cunningham was recently named president-elect of Genetic Metabolic Dietitians International, the first professional organization of metabolic dietitians and a group that she helped establish. There are only around 250 metabolic dietitians in the United States.

RESEARCH & DIAGNOSIS

Dietary counseling isn't the only unique specialization at Hayward. The center has the only lab in the state using microarray-based comparative genomic hybridization (CGH) to diagnose genetic disorders. The computer-based technology uses high-resolution digital imagery to analyze 44,000 short sequences on the

46 chromosomes to see if every one of those sequences is there in the right amount. The process compares the patient's DNA sample with what is known to be normal.

"So if you're missing certain one, two or 20 (DNA fragments), you know that region of the chromosome is deleted and then you start looking at the genes in that region," Andersson says.

The process also improves screenings for autism. Since the development of microarray CGH, geneticists have identified a substantial number of patients with autism who have a specific chromosome abnormality.

Because CGH can find anomalies on a minute scale, the technology has led to more accurate diagnoses and the discovery of even greater numbers of chromosome differences among children

with developmental delays. Using the new CGH method, the positive detection rate for chromosomal abnormalities spiked up to 30 percent; analysis using older technologies caught only up to five percent. "We were missing these others because they were too small, and we needed a better technology to find them," Andersson says.

The center's Dr. Marilyn Li is using the technology in cancer research to find early indicators of cells with chromosomal abnormalities associated with leukemia and lymphoma. "She has actually been able to find—in normal, healthy patients—the very low level of chromosome abnormality that she speculates may be involved in the development of a cancer," Andersson says.



Li is director and organizer of the Cancer Cytogenomics Microarray Consortium, a group of more than 50 of the nation's leading cancer genetics laboratories that works to create cancerspecific microarrays for clinical diagnosis, standards and guidelines for diagnostic laboratories, and a national database of cancer genetic abnormalities found through microarray technology. At Tulane, Li is director of three labs: Tulane Clinical Cytogenetics Laboratory, Clinical Molecular Genetics Laboratory and Tulane Matrix DNA Diagnostic Laboratory.

The epigenetics work of Dr. Melanie Ehrlich, a biochemistry professor, is a significant area of research at Hayward. The term refers to changes in cells due to gene expression rather than changes in the underlying DNA. For example, a skin cell and a brain cell have the same genetic code, but the cells are differentiated by which genes are expressed. Ehrlich studies the epigenetic basis for

18 TULANE | MEDICINE FALL 2009 www.som.tulane.edu

facioscapulohumeral muscular dystrophy and ICF syndrome, a very rare autosomal recessive immune disorder.

Andersson is a national expert in lysosomal storage disorders such as Fabry Disease and Gaucher Disease. Last year, he and researchers from Children's Hospital of Philadelphia and Genzyme Corp. published in the journal *Pediatrics* the results of a study that examined effective treatment options for Type 1 Gaucher Disease. The study culled treatment data for 884 patients during eight years, giving pediatricians a first-of-its-kind roadmap for treating children with the rare genetic disorder.

Hayward offers enzyme replacement therapy for Gaucher and for other lysosomal storage disorders. The disease is caused by a deficiency of an enzyme in the lysosomes, an organelle found within every cell of the body. The lysosomes need the enzyme to break down and dispose large molecules within the cell.

disaster like Hurricane Katrina. The project, funded by the Health Resources and Services Administration, is part of a larger \$5 million program between Tulane and Emory universities.

Andersson says that local researchers have invaluable lessons for other doctors on what works and what doesn't in the face of a real disaster. "We became smart by necessity about disaster preparedness," Andersson says.

During Katrina, the Hayward Genetics Center scrambled to locate patients who had scattered to the winds after the storm. Many were on very specific medications and had a limited supply. "All of a sudden we had a scenario where everyone was disconnected," says Andersson. "We didn't know where the patients were and they didn't know where we were."

"We follow patients who have genetic metabolic diseases who have a risk of getting catastrophically ill if they aren't on the right

> medicines or following a careful dietary protocol," Andersson says.

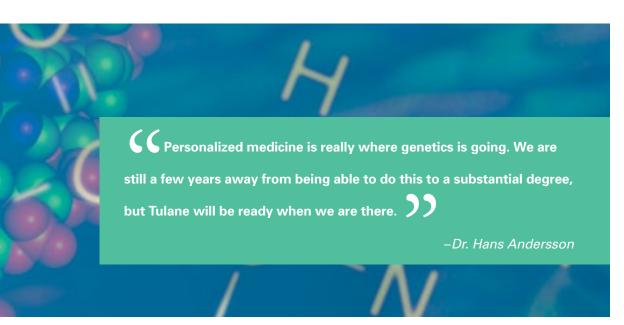
During the grant's third year, researchers are coming up with a plan to set up a robust telecommunications system that would allow Andersson and other geneticists to communicate in a disaster when most other forms of communication are down.

One scenario calls for a teleconferencing system comprised of a laptop, a webcam and a satellite modem. The system would allow doctors to plug

their laptops into their cars and set up a conferencing system from anywhere in the country or the globe. "In the middle of Katrina if we had this satellite hookup, we could have communicated consistently from any mobile setup that we wanted," Andersson says.

Andersson foresees a day when doctors will be able to screen people for many different disease susceptibilities. When researchers better understand the physiology behind the genetic code, doctors could analyze an individual's genome to determine the risks for any number of medical conditions. Doctors will even be able to tailor therapies to individuals based on their genes. But all this is mostly in the realm of possibility—for now.

"Personalized medicine is really where genetics is going," Andersson says. "But truthfully, we are still a few years away from being able to do this to a substantial degree. Tulane will be ready when we are there."



"Every two weeks, these kids are infused with the enzyme that they don't make and the enzyme is targeted into the cells to go into the lysosomes. This therapy is extremely effective," Andersson says.

Hayward is also involved in cancer treatment for adults through its genetic counseling program, which provides risk assessments for inheritable forms of breast and colon cancer. The process is intended for those who may have battled cancer at a young age or who have a family history of the disease. Patients seek the assessments to determine whether they should pursue aggressive treatments such as preventative surgeries to stop them from developing cancer in the future.

PLANNING FOR DISASTER

And the Center is a regional leader in genetics care and research. Andersson, the president of the Southeast Regional Genetics Group, is principal investigator on a \$1 million, five-year grant to come up with a plan to link geneticists and their patients in the event of a

www.som.tulane.edu TULANE | MEDICINE FALL 2009 19

MEDICINE NOTES

r. Tom Farley (M '81, PHTM '91) has been named New York City Health Commissioner. Farley, a pediatrician and epidemiologist, was previously head of the Department of Community Health Sciences in the Tulane School of Public Health and Tropical Medicine. His appointment was announced May 18 by Mayor Michael Bloomberg.



Serving more than eight million people and operating a public hospital

network with 11 facilities, the New York City health department is responsible for a population about twice the size of the state of Louisiana. The department has an annual budget of \$1.6 billion and more than 6,000 staff.

Farley is no stranger to its work, however. In 2007-2008, he was a senior adviser at the city's Department of Health and Mental Hygiene, working with Dr. Thomas Frieden, the former city health commissioner who was named by President Barack Obama to head the Centers for Disease Control and Prevention.

"The New York City health department has long been an innovator and has been recognized as such across the nation," Farley told Tulane's daily online newspaper New Wave in January when he returned from his advisory role. "The whole rest of the country looks to them for leadership. It was very exciting to be in a place where we felt like we were breaking new ground. My job was to be an all-purpose adviser. I was dealing with an incredibly broad range of issues."

During his temporary posting, he was involved in the implementation of the health department's new regulation requiring calorie labeling in fast food restaurants, improving blood pressure management in the city's hospitals, and helping Frieden think through a response to the rise in HIV in young gay men, among other issues.

Farley, a New Jersey native, also worked with the CDC to rebuild

New Orleans' public health and healthcare infrastructure following Hurricane Katrina.

"My goal as New York City Health Commissioner is to continue to make advances against the leading causes of death in New Yorkers today, such as smoking and obesity, while constantly improving the ways we carry out our traditional mission, such as protecting residents from the threats of infectious diseases like influenza," he said during the announcement of his new post.

Mayor Bloomberg lauded Farley's appointment. "He is a dynamic leader who time and time again has shown himself up to any challenge," said Bloomberg. "New York City has always been a pacesetter, as you know, in the realm of public health, and with his passion for innovation and cutting edge public health policy, I am confident that Dr. Farley will pick up the pace even further."

SEND NEWS

Tulane Medicine seeks news and notes about alumni of the medical school, as well as faculty members and "alumni" of the Tulane Residency programs. Please send your news to mednotes@tulane.edu.

Dr. George Schneider serves as honorary Consul of Honduras in New Orleans. He was appointed to the post several years ago, following considerable medical charity work there. He also received the Humanitarian of the Year award from the New Orleans YMCA, where he is a trustee of the board.

Dr. Williams McQuinn, a retired psychiatrist in Jackson, Miss., reports that, 61 years after he came to Tulane, his granddaughter Garland McQuinn is a third-year student at Tulane University School of Medicine.

Dr. Ronald Mitchell, retired from his Ob/Gyn practice and living in Akron, Ohio, is another proud grandfather.

Grandson Gregory Mitchell is in his second year at Tulane University School of Medicine.

Dr. Edward "Pete"
Phillips Jr. received the
2009 Community Service
Award from the Calcasieu Medical Society
Foundation. Phillips established his Lake
Charles practice in orthopaedic surgery in
1960, the same year he began his service to
the Crippled Children's Clinic, where the
retired physician continues to work.

Dr. Donn E. Bowers, a fellow in the Department of Medicine 1953-55, was elected Chief of Staff at Memorial Hospital at Gulfport. Memorial Hospital is the largest hospital on the Mississippi Gulf Coast. He is the medical director of the Wound Management and Hyperbaric Medicine Department there, the only 24/7 hyperbaric medicine facility on the Mississippi Gulf Coast.

Dr. Eve Fortson, a longtime psychiatric practitioner in New Orleans, has moved to Ann Arbor, Mich., where her son and his wife live. Both are on the faculty at the University of Michigan.

Dr. Ira Rothfeld has been appointed assistant clinical professor of otolaryngology, head and neck surgery at the Mount Sinai Medical School of New York. In 2008, he was presented with the New York City Police Department Service Achievement Award for 10 years as an Honorary Police Surgeon Society board member.

Dr. Robert Brumfeld Jr. continues working part-time with orthopaedics surgical residents in surgery and clinics at the University of Southern California.

Dr. Lewis Raney, an otolaryngologist in Temple, Texas, welcomes his son **Dr. Brannon Raney ('03)** into his medical group.

Dr. Robert L. Hewitt
was honored in May with
the Tulane Medical Alumni
Association's Lifetime Achievement Award
for exemplary accomplishments in the field
of medicine and outstanding leadership.
Hewitt, celebrating his 50th anniversary
of graduating from the medical school,
is also a Regents Professor of Surgery
and former chair of the Department of
Surgery at Tulane.



ZEANAH HONORED

Dr. Charles H. Zeanah Jr., professor of clinical pediatrics at Tulane, received the 2009 Blanche F. Ittleson Award for Research in Child Psychiatry at the 53rd Convocation of Distinguished Fellows of the American Psychiatric Association in May. It

is given for published results of research pertaining to the mental health of children. The Sellars-Polchow Professor of Psychiatry, Zeanah also is the director of child and adolescent psychiatry in the Department of Psychiatry and Neurology. His clinical and research efforts focus on early experiences and their effects, including infant mental health, abuse and neglect in young children, attachment and its disorders, psychopathology in early childhood and infant-parent relationships.

Dr. Eugene J. Dabezies has been named Professor Emeritus by the Texas Tech University System Board of Regents. The emeritus appointment recognizes long and distinguished service to the institution. From 1991 to 2004, Dabezies was professor and chairman of the Department of Orthopaedics at Texas Tech's Health Sciences Center. He published more than 90 scientific articles during his long career.

Dr. John McCuskey announces his retirement from 40 years of internal medicine practice in downtown San Francisco.

Dr. Martin Rapaport retired 10 years ago to Willis, Texas, 50 miles north of Houston.

Dr. Jack Hoover, who has an OB/GYN practice in Pascagoula, Miss., volunteered for three weeks this spring as medical missionary at Tenwick Hospital in Kenya, on a trip sponsored by World Medical Missions.

Dr. Roger Spark
reports that he is enjoying
retirement—playing golf,
tennis and softball in San Lasses, Ariz.
—while he is chairman of the caring
committee of his religious organization.

Dr. Harold Sherman has retired and lives on a lake in Western Massachusetts.

Dr. George Barnes is medical director of HCA Lakeview Medical Center in Covington, La., while maintaining an office practice doing venous and arterial surgery.

Dr. John Gregory retired in August 2008 after 36 years as a urologist, most recently practicing in Athens, Ga.

Dr. Patrick Breaux is section head of cardiology at Ochsner Hospital and Vascular Institute in New Orleans.

Dr. Peter Ganime is clinical assistant professor of psychiatry at UMDNJ Robert Wood Johnson School of Medicine and Medical Director of Children's Programs at Jersey Shore University Center in Neptune, N.J. He and his wife Regina celebrated their 41st wedding anniversary in October 2008. "We have 6 children and 7 grandchildren who keep us very busy!" he writes.

LEADING TULANE MEDICAL EDUCATION

Dr. Ben Sachs, senior vice president and dean of the School of Medicine, has announced the following changes in the school's administration as of July 1:

- Dr. Bruce Bunnell, professor of pharmacology and chair of the Division of Gene Therapy at the Tulane National Primate Research Center, has been named Director of the Tulane Center for Gene Therapy. His research interests include cell and gene therapies for lysosomal storage diseases, specifically Krabbe's and Sandhoff's disease.
- **Dr. John Clements** is the new director of the Tulane Center for Infectious Disease. He will continue to serve as chair of microbiology and immunology. Among his areas of research are bacterial pathogenesis, molecular aspects of the host-parasite relationship and vaccine development.
- Dr. Prescott Deininger, co-director of the Louisiana Cancer Research Consortium, has been appointed Director of the Tulane Cancer Center as well as the Joe W. and Dorothy Dorsett Brown Foundation Regents Distinguished Chair in Molecular Cancer Pharmacology. A professor of epidemiology and adjunct professor of biochemistry, pathology and human genetics, he had served as interim director of the Tulane Cancer Center since 2007. Deininger's research is focused on the genetic instability in the human genome.
- Dr. Byron Crawford, professor of pathology, has been named assistant dean for academic affairs, in addition to chairing the T2 curriculum advisory committee.
- Dr. Lee Hamm assumes responsibilities as vice president for research while continuing as executive vice dean of the School of Medicine and chair of the Department of Medicine.

Dr. Michael Brodsky retired after 33 years as a radiologist in the San Francisco East Bay area.

Dr. Patrick Schow, a semiretired gastroenterologist, spends a day and a half each week working at the VA Hospital in Boise, Idaho, and the rest of his time enjoying activities with his wife Jolene, five children and seven grandchildren. Dr. Martin Jones Jr., who practices internal medicine in Eugene, Ore., has been elected to the board of directors of Beyond War, an international nonprofit dedicated to eliminating war in the 21st century.

Dr. Robert Sparks, who served as dean of the Tulane School of Medicine from 1969-72, received a 2009 Distinguished Alumni Award from the University of Iowa Alumni Association on June 13. Spark has also been vice president of the University of Nebraska Health System. He served his internship, residency and fellowship at Tulane and has won many accolades for his contributions to the field of addiction sciences.

Dr. Robert J.
Freedman Jr. received the Enrique LopezCuenca Innovative and Humanitarian Cardiovascular Award in June for the ThermoSuit System and its use in rapid

RADIATION ONCOLOGY HEAD Dr. Marnin Merrick will chair the new Department of Radiation Oncology at the School of Medicine. Merrick comes from the University of Kentucky Medical Center and the Markey Cancer Center, where he was clinical director and head of quality assurance. He earned a B.S. from the Massachusetts Institute of Technology in 1980 and his M.D. in 1985 from Yale University School of Medicine. He completed a residency in internal medicine at The New York Hospital-Cornell Medical Center. He also trained in radiation oncology and hematology-oncology at the Hospital of the University of Pennsylvania Medical Center and completed a fellowship in radiation oncology at the U. Penn Fox Chase Cancer Center in Philadelphia. He is author of more than 20 abstracts, articles and book chapters. His research includes a randomized Phase III study of conventional whole-breast irradiation versus partial-breast irradiation for women with Stage 0, I or II breast cancer and a randomized Phase II/III study of TNFerade Biologic with 5-FU and radiation therapy for first-line treatment of unresectable locally advanced pancreatic cancer.

22 TULANE | MEDICINE FALL 2009 www.som.tulane.edu

body cooling. He is founder and managing partner of Freedman Memorial Cardiology in Alexandria, La., and founder/president of Life Recovery Systems.

Dr. Ronald Wender, professor of anesthesiology at Cedars-Sinai Medical Center in Los Angeles, is the academic chair of a new anesthesiology residency program there. Following eight years on the Medical Board of California, including the presidency of that board, Wender has been named to the board of the American Association for Accreditation of Ambulatory Surgery Facilities, Inc.

Dr. Ira Udell, who practices ophthalmology in Great Neck/Jamaica, N.Y., announces the birth of grandson Alexander Minsky.

Dr. Robert Flandry retired from the clinical practice of neurological surgery in August 2008 to become chief medical officer at Spartanburg Regional Medical Center, Spartanburg, S.C.

■ PATHOLOGY CHAIR IS CANCER RESEARCHER

Dr. Tong Wu is the new Chair of the Department of Pathology and Marguerite Main Zimmerman Chair in Basic Cancer Research. Most recently with the Department of Pathology at the University of Pittsburgh School of Medicine, Wu was associate professor of pathology in the Division of Transplant and Liver Pathology. He earned an M.D. in 1982 from Nantong Medical University in China, where he also completed his residency in pediatrics at Yanchen Hospital. In 1987, he received a second M.D. in immunology from Capital Medical University at Beijing Children's Hospital. He is author of more than 150 original abstracts and articles, as well as seven book chapters. He has current grants from the National Institutes of Health for three projects focused on liver-related cancers.

Dr. Michael Tooke is senior vice president and chief medical officer of Shore Health Systems/University of Maryland Medical Systems in Easton, Md., a position he has held since April 2007.

Dr. John Obi was 2007 president of the Florida Society of Plastic Surgeons and currently serves on its board. He practices in Jacksonville. Dr. Sarah Birss, who has a private practice in child and adult psychiatry and psychoanalysis, teaches child psychiatry fellows at The Cambridge Hospital and is on the faculty of the intent parent training institute at Jewish Family and Children's Service of Greater Boston. She lives in Concord, Mass., where she enjoys walking around a nearby pond with her husband and stepson.

Dr. Robert DeFraites,
a colonel in the Army
Medical Corps, was
recently appointed director of the Armed
Forces Health Surveillance Center in
Silver Spring, Md. He lives in Kensington,
Md. with his wife Colleen, daughter
Lindsey and son Travis.

Dr. Mary Puissegur Lupo (N '76) was elected to membership in the American Dermatological Association.

Dr. Rodney Davis is professor of urologic surgery at Vanderbilt University in Nashville.

LEVY SPEARHEADS RESEARCH

Laura Levy, professor of microbiology and immunology in the School of Medicine, has been reappointed for a second five-year term as the university's associate senior vice president for research. In this position since 2004, Dr. Levy has played a significant



role in the recovery of the university's research infrastructure by helping to create the Research Enhancement Program, which provided crucial aid for faculty research and scholarship after Hurricane Katrina. A Tulane faculty member since 1984, Levy has made substantial contributions to her own area of research into infection of the domestic cat by the natural feline leukemia retrovirus. Her work has been supported by the National Institutes of Health and other national agencies for more than 20 years and is represented by 60 research publications. She was elected a fellow of the American Association for the Advancement of Science in 2006.

www.som.tulane.edu TULANE | MEDICINE FALL 2009 23

CENTENNIAL ALUMNUS

Dr. Joseph M. Sabatier Jr. graduated from Tulane in 1938, one year before the opening of the "new" Charity Hospital. He had a full scholarship of \$1,000 a year, which paid tuition, room and board and expenses.

On Aug. 3, he was honored with the School of Medicine Centennial Alumnus Award during annual White Coat ceremonies. Sabatier, who turned



95 in 2009, is one of 10 surviving members of his med school class of 117. He attributes his longevity to "the careful selection of ancestors."

In 1935, the Crowley, La. native was assigned to work at Our Lady of the Lake Hospital in Baton Rouge. The young medical student did a little of everything—including acting as a scrub nurse for the surgery of Huey Long, who was killed by an assassin's bullet.

Sabatier did his residency training at Charity Hospital and, during the last year of his residency, joined the Tulane Unit of the U.S. Army as Chief of Neurosurgery. Following his service, Sabatier organized the first multi-specialty private group practice in Baton Rouge, which grew to more than 100 physicians.

Since his retirement some two decades ago, Sabatier has been active

on the boards of the New Orleans Council on Aging and Odyssey House. At Tulane, he is a class agent for the medical class of 1938 and a member of the Tulane Emeritus Board of Governors.

"As one of four consecutive generations in my family to become Tulane M.D.s, I can't help but have a bias in favor of decisions recommended by Tulane," said Sabatier as he received his award. "I encourage those of you who are actively associated with a Tulane education—giving education and receiving it—to recognize how valuable each day is and to avail yourself and those whom you treat of the benefits of Paul Tulane's gift to all of us."

A cake decorated to honor the 175th anniversary of the school's founding in 1834 was a highlight of the luncheon following the White Coat event.

Dr. Richard Deichmann (A&S '80)

spoke about his book, *Code Blue: A Katrina Physician's Memoir*, on July 2 in the Tulane Department of Health Systems Management. The book details his experiences at Memorial Medical Center (now Ochsner Baptist Medical Center) during Hurricane Katrina. Deichmann also discussed his work abroad, with disaster planners from the Netherlands and other countries.

Dr. Joseph Bavaria received the University Innovation of The Year Award for his work in thoracic aortic surgery and valvular heart surgery. He is vice-chair and Roberts-Measy Endowed Professor of Cardiac Surgery at the University of Pennsylvania.

Dr. Stephen Reich has been named the first Clair Zamoiski Segal and Thomas H Segal Professor of Parkinson's Disease at the University of Maryland. He recently published the book *Movement Disorders:* 100 Instructive Cases (Informa Press).

Dr. Elizabeth Schwarz has been a psychiatrist for the Veterans Administration Medical Center for 17 years. She currently works with Mental Health Intensive Case Management, a mobile team bringing care to chronically mentally ill veterans within a 50-mile radius of New Orleans. She has been married to Anthony Goodgion for 21 years; they have three children.

Dr. Richard Capiola has been named corporate medical director for Oglethorpe, Inc., a hospital company with treatment centers in Florida and Ohio focusing on psychiatry and chemical dependence. The Naples resident continues his work with the Joint Commission.

Dr. Rick Levy and his wife Lisa Levy announce the birth of their fourth child on May 1, 2008. Elliot Berke, their third daughter, checked in at just under 8 pounds. Levy, an orthopaedic surgeon in Dallas, comes from a multi-generation Tulane family. His father is Dr. Julius Levy Jr. ('57), a past chief of the pediatric surgery section at Tulane, who, having retired from his surgery practice, currently teaches anatomy to first-year students. He is a past president and current secretary of the Tulane Medical Alumni Association. Rick's grandfather Dr. Julius L. Levy ('28) was also a graduate of the Tulane School of Medicine.

Dr. Asha Vyas Devereaux became president of the California Thoracic Society in July. She is also Lead Physician-Advisor to the San Diego Medical Reserve Corps and is in private practice of pulmonary/critical care and internal medicine in Coronado, Calif. She is married to Dr. Christopher Devereaux and is the mother of two children.

AWARDS FOR TEACHING

r. Norman E. McSwain Jr., professor of surgery and a renowned trauma specialist, received the 2009 Teaching Scholar Award from the Tulane University School of Medicine in May ceremonies.



Associate professor of clinical medicine Dr. Elma LeDoux (M '81) was presented a finalist award during the event.

McSwain, a professor of surgery, served as trauma director at Charity Hospital in New Orleans, which, until closed by Hurricane Katrina, was considered one of the top five trauma centers in the United States.

The American College of Surgeons Committee on Trauma and the National Associates of Emergency Medical Technicians recruited McSwain to assist with development of the Pre-Hospital Trauma Life Support program. This program has since trained more than half a million people in 45 countries and is considered the world standard for pre-hospital trauma care.

McSwain also has worked with the U.S. Department of Defense to develop the Tactical Combat Casualty Care program for military medics, crucial for the care of wounded servicemen.

Dr. Kenneth Brewington was recently appointed administrator and chief medical officer of Mobile Infirmary Medical Center in Mobile, Ala.

Dr. Andrew Landers is serving his fourth deployment in the Middle East, as the 7th Group Special Forces (Green Berets) Surgeon in Afghanistan. In 2006, he received an award for actions during combat while serving with the 82nd Airborne I-325 unit.

Dr. Michelle Loftis has a private pediatric practice in Los Gatos, Calif.

Dr. Paul Garrett has joined Louisiana Cardiology Associates in Baton Rouge, moving back to Louisiana after 11 years in the Army Medical Corps.

Dr. Joseph Rheim and his wife welcomed daughter Olivia on July 10, 2008. Rheim is a dermatologist in Monterey, Calif.

Dr. Steven Davidoff has completed a fellowship in critical care and joined a private practice in Dallas.

Dr. Sarah Mowry and Dr. Pul Bommipanit were married in September 2007 in Los Angeles.

Dr. Justin Lafreniere and his wife Amy Lafreniere announce the birth of their son Jacques Walker on Sept. 5, 2008. They live in Portsmouth, Va.

Dr. Meisha Graham is a pediatrics resident at the University of Tennessee/ Memphis. "So far it is a sensational,

rewarding experience!" she writes.

In Memoriam

- '35 Dr. Stuart N. Nicholas
- '38 Dr. Joseph N. Levy
- '40 George I. Weatherly Jr.
- '41 Dr. H. Guy Riche Jr.
- '43 Dr. Buford J. Autin Dr. Walter C. Friday Jr.
- '44 Dr. DeiJing Chang
- '45 Dr. Richard D. Carter Dr. Alvin Cohen Dr. Henry T. Cook
- '46 Dr. Hubert L. Prevost Dr. Gene L. Usdin
- '47 Dr. Louis B. Gariepy Dr. Kenneth L. Jorns Dr. William C. Keating Jr.
- '49 Dr. John W. Roark
- '50 Dr. B. Holly Grimm
- '51 Dr. Robert F. Holdren Dr. Gaylord S. Knox
- '52 Dr. Andrew F. Giesen Jr. Dr. Donald E. Killelea Dr. Edward Leverich
- '53 Dr. L. K. Moss Sr.
- '54 Dr. William R. Giddens Dr. Lawrence Golodner
- '55 Dr. Morton A. Madoff Dr. F. Lawrence Rowley
- '56 Dr. Oliver B. Miles
- '57 Dr. S. Dale Coker Dr. Clayton J. Overton Jr.
- '59 Dr. Homer A. Jacobs
- '60 Dr. Paul A. Lea Sr.
- '61 Dr. Bertram J. Newman
- '62 Dr. Thomas F. Gilchrist
- '63 Dr. William A. Bloom Jr.
- '65 Dr. James M. McClurkan
- '67 Dr. John M. Filippone Jr. Dr. Daniel B. Terry Jr.
- '70 Dr. Kenneth C. Anderson
- '72 Dr. Louis O. Jeansonne III
- '74 Dr. Lawrence H. Vinis
- '75 Dr. John Drayton Conley
- '02 Dr. Eric D. Moore
- '04 Dr. Jon D. Dubois



1430 Tulane Avenue, SL-77 New Orleans, LA 70112



NON PROFIT ORG. US POSTAGE PAID PERMIT NO. 8048 HOUSTON, TEXAS