



# Scoop

Dec. 3, 2004

THE UNIVERSITY OF TEXAS MEDICAL SCHOOL AT HOUSTON

## Events to Know

### December

- 3 Medical School Bookstore is closed through Jan. 2.** Scheduled to reopen **Mon., Jan. 3**, in a temporary space in the Leather Lounge.
- 3-4 Holiday Book Fair at Barnes & Noble**, 3003 W. Holcombe Blvd. (at Buffalo Speedway). 25 percent of proceeds go to student scholarships.
- 7 Effective E-mail Systems Seminar**, 11:30 a.m.-1 p.m., MSB 2.135. RSVP <Sam.Hester@uth.tmc.edu>. Limited seating.
- 8 Dean's Lecturer, Dr. Allen W. Cowley**, 4 p.m., MSB 3.001. Reception to follow presentation.
- 10 Dean's Cookie & Punch Holiday Reception**, 11:30 a.m. - 1 p.m., Leather Lounge. Also tour Medical School's newly relocated offices.

## UTMost Interest

**Rishi Agrawal**, a third-year Medical School student, was elected president of the Asian and Pacific American Medical Student Association at the organization's recent national meeting in Houston...**Dr. Heinrich Taegtmeier**, Internal Medicine/Cardiology, was quoted concerning the nature of obesity and its burden on the heart (*Houston Chronicle*, 11/2/2004).

## ELVES SEW FOR A CAUSE



(L. to R.), Second-year medical students Katie Roberts, Carey Lindemann, and Carly Bosworth, representing the American Medical Women's Association, gathered with nearly 80 other students recently to sew 200 stockings for Memorial Hermann's December newborns and their parents.

## SKYBRIDGE TO UTPB TO BE TEMPORARILY INTERRUPTED

The western part of the skybridge that connects Memorial Hermann Hospital to the UT Professional Building will be removed due to the construction of the new building that is being built at the corner of Fannin and MacGregor. Memorial Hermann's building and its 2,400-car garage will cover the entire north lot.



"The new building will extend south from MacGregor to the UTPB loading dock and actually be cantilevered over a portion of the dock," said **Diana Browning**, assistant vice president for clinical affairs. "The portion of the skybridge within the building footprint will be demolished in January after a stairway and elevator are installed to allow skybridge users access down to the sidewalk."

**Construction of stairs and an elevator will temporarily close the skybridge for one month.**

Crews are now working to build supports for the skybridge on the west side of Fannin. Patients, staff, faculty, and students will be able to access the skybridge from the UT Professional Building via a staircase and an elevator, which are being built on Fannin as a temporary measure expected to last approximately one year. The skybridge will be closed completely between **Dec. 8, 2004** and **Jan. 8, 2005**, (four weeks) while the staircase and elevator are built.

"There will be a covered walkway to the elevator and staircase from the UT Professional Building," Browning added. During the projected four-week duration of the installation of the elevator and stairway, the skybridge will be closed. Pedestrians will be asked to cross Fannin Street beneath the skybridge.

Police officers will be on site daily to assist those who need help to cross safely. "We want to make sure that patients walking across Fannin can do so safely, and have the assistance they need," Browning said.

The skybridge will be reconnected to the west side of Fannin once the parking structure is constructed to a level that is high enough to enable reconnection to the UT Professional Building.

## NARRATIVE MEDICINE ETHICS IS LECTURER'S FOCUS DEC. 7

The John P. McGovern, M.D., Center for Health, Humanities, and the Human Spirit Lecture Series will sponsor **Rita Charon, M.D., Ph.D.**, at noon Tues., **Dec. 7**, in MSB 3.001. Charon will address "The Ethicality of Narrative Medicine." She is a professor of clinical medicine and managed the Program in Narrative Medicine at the College of Physicians and Surgeons of Columbia University. Charon directs the humanities and medicine curriculum and teaches literature, narrative ethics, and medical interviewing. She is the principal investigator on research projects studying patient-physician communication and the outcomes of narrative training for medical students and health professionals.

Lunch will be provided for the first 100 attendees.



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*A Key to the Molecule's Crucial Role in Human Cell Signaling*

## BOTULISM BUG SAYS NO TO NITRIC OXIDE

"For the first time, our work provides structural insights into a three-decade-old puzzle – how nitric oxide activates soluble guanylyl cyclase to trigger cGMP production in humans," said senior author **C. S. Raman, Ph.D.**, assistant professor and director of the Structural Biology Research Center in the Department of Biochemistry and Molecular Biology.

A deadly bacterium's defense against a mortal molecular enemy illuminates the origins and structure of a vital protein involved in human cell signaling, Raman and colleagues reported in *Science* (November 2004).

The article also details how evolution transformed one of nature's simplest molecules, nitric oxide (NO), from a toxin to anaerobic bacteria – the planet's oldest life form – into a beneficial signaling molecule in higher animals. Additionally, it offers an explanation for how the decades-old practice of treating meat with sodium nitrite prevents life-threatening food poisoning known as botulism.

Discovering how botulism-causing *Clostridium botulinum* detects nitric oxide (NO) sheds light on how NO connects with its receptor protein in humans to govern crucial processes in the cardiovascular, neurological and immunological systems, said **Raman**.

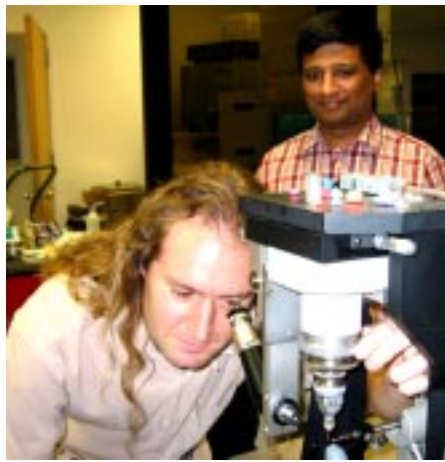
"We started by identifying the protein that the botulism bug uses to detect and evade NO," the researcher noted. "What we have ultimately shown is how this protein evolved from being part of a protective mechanism into a system that learned to use the toxin to benefit the organism."

In human beings, nitric oxide binds to a receptor called soluble guanylyl cyclase to make cyclic GMP, a molecule that improves blood flow by relaxing blood vessel walls. **Ferid Murad, M.D., Ph.D.**, professor and chairman of the Department of Integrative Biology and Pharmacology, discovered this signaling process in 1977 when he found that NO is the ingredient that makes nitroglycerine beneficial to heart patients by activating guanylyl cyclase and dilating blood vessels. That research earned him the 1998 Nobel Prize for Medicine or Physiology. Since Murad's early work, NO has been found to govern many other vital biological functions and became the basis for medications that treat erectile dysfunction, pulmonary hypertension, and shock.

However, the structural details of soluble guanylyl cyclase have remained elusive, Murad and Raman said. The protein is difficult to crystallize for structural analysis. "Raman's approach has been that while we are still trying to get the human enzyme crystallized, let's go to lower forms and make crystals and collect information that can help us someday with the mammalian enzyme," Murad said. "He has succeeded with these important findings."

How meat is protected with NO use also was explained. "It's a strange topic for a strict vegetarian who has never touched meat in his life," Raman said. The research team showed that *C. botulinum* uses SONO to detect nitric oxide and then to flee its presence.

Co-authors are: first author **Pierre Nioche, Ph.D.**, research fellow in the Structural Biology Research Center; **Vladimir Berka, Ph.D.**, senior research associate, Division of Hematology; **Ah-Lim Tsai, Ph.D.**, professor, Division of Hematology; and, from the United Kingdom, **Julia Vipond** of the Health Protection Agency in Salisbury; and **Nigel Minton** of the Center of Biomolecular Sciences and Institute of Infection, Immunity and Inflammation, University of Nottingham.



(L. to R.), **Pierre Nioche, Ph.D.**, and **C. S. Raman, Ph.D.**, examine their findings through an X-ray diffractor in Raman's lab.

## IN MEMORIAM

**Bob Tuttle, M.D.**, the second dean of the Medical School (1975 - 1981), died in Lee, N.H. Fri., Nov. 26. He was 82. Tuttle was recruited by **Dean Cheves Smythe** in 1971 as an associate dean. With Smythe, Tuttle oversaw the building of the John Freeman Building and, as dean, supervised the completion of the Medical School Building.

Tuttle will always be remembered as an outstanding administrative leader who loved working with people and taking on challenges, no matter how big.

A special tribute to Tuttle's many contributions will be planned and announced in the near future.

In memory of his love of students and this School, the Robert L. Tuttle, M.D. Student Scholarship Fund has been established.

Contributions should be directed to the UT Health Science Center Office of Development, 7000 Fannin, Ste. 1200, Houston, TX, 77030, c/o **Regina Wheeler**.



**Dean Bob Tuttle, M.D., June, 1976.**

- S. Merville

## TOTAL SECC TALLY ROUNDS UP TO OVER \$171,000

The total UTHSC-H State Employee Charitable Campaign Tally for 2004 was \$171,067.18. There were 311 leadership contributors, an increase from 304 last year. The participation rate was 27 percent this year, up from 22 percent last year; and total contributors were 1,206, up from 1,120 last year.

The Medical School's contribution was \$66,970.27, with 18 percent participation. The Medical School collected 39 percent of the total UTHSC-H monies pledged.

Medical School departments that exceeded last year's contributions are: the Dean's Office (Administration and Finance, Community Affairs, Academic Affairs, Faculty Affairs, Graphics Communications, Student Affairs); Dermatology; Integrative Biology and Pharmacology; Neurobiology and Anatomy; Obstetrics, Gynecology and Reproductive Sciences; Ophthalmology and Visual Science; Orthopaedic Surgery, Pathology and Laboratory Medicine; Pediatrics; Physical Medicine and Rehabilitation; and Surgery. Thanks again to all who donated to the campaign.



The Department of Integrative Biology & Pharmacology's fourth and fifth floors had some friendly competition to raise SECC funds this year. Good sports participating in the "getting creamed" efforts were (l. to r.) **Dr. Ferid Murad**, **Dr. David Loose**, **Dr. Greg Shipley**, and **Dr. Vicki Knutson**.