

UT News

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***American Heart Association and Bugher Foundation award funding for heart research at molecular level

DALLAS--The American Heart Association designated The University of Texas Health Science Center at Dallas and two other nationally prominent institutions to receive \$1,125,000 each from the Henrietta B. and Frederick H. Bugher Foundation in New York City. It was the largest single research award in AHA history.

The AHA-Bugher Centers for Molecular Biology in the Cardiovascular System will be interdisciplinary research centers that seek underlying molecular answers to cardiovascular disease.

Dr. Joseph Sambrook, chairman of the Department of Biochemistry, will direct the AHA-Bugher Center at UTHSCD. Dr. James Willerson, head of the Ischemic Heart Center, will be co-director.

Associate directors are Nobel Laureates Drs. Joseph Goldstein and Michael Brown and Dr. Alfred Gilman, chairman of the Department of Pharmacology. Designated principal scientists are Dr. James Stull, chairman of the Department of Physiology, and Dr. Mary-Jane Gething, associate professor of biochemistry and an investigator of the Howard Hughes Medical Institute.

Two other AHA-Bugher Centers will be located at the Children's Hospital of Harvard University in Boston and at Baylor College of Medicine in Houston. Each will receive more than \$1 million spread over five years, beginning July 1.

The three were chosen from a field of 24 institutions that applied for the funding to establish centers that would train clinical cardiologists in the latest research methods of cell and molecular biology.

"The American Heart Association and the Bugher Foundation together believe there is a great opportunity for molecular biology to contribute to cardiology," says Sambrook. "There is virtually nothing in cardiology, neither health nor disease, that is understood at the molecular level.

"By contrast to most other places in the country, our labs are already doing molecular biology on cardiology. There is very, very little that goes on in the country, but there is a lot that goes on here, as it turns out."

Over the five year period, the AHA-Bugher Center here hopes to train nine to 14 young physicians in the program. Everyone selected will already have a medical degree, and some will have specialized in cardiology or will have received Ph.D. degrees. The training will involve one or two years in clinical cardiology and two or three years in molecular biology, for a total of three to five years of interdisciplinary training.

Sambrook sees it as an opportunity to formalize something that has been happening at the school for a long time. "The cardiology division has been quite aggressive in placing its people in existing molecular biology labs. Now we have an opportunity to get people from all over the country, and we'll have a proper program for them to come into."

(More)

Among the basic science research programs that will incorporate AHA-Bugher trainees are:

- o Sambrook and Gething's investigations of tissue plasminogen activator, a protein that dissolves clots;
- o Brown and Goldstein's research on LDL receptor mutations in persons with familial hypercholesterolemia and their studies of the protein HMG CoA reductase;
- o Gilman and Dr. Elliott Ross's work on the mechanisms by which signals are transduced from the outside to the inside of the cell;
- o Stull and Dr. Marc Mumby's research on cardiac and vascular smooth muscle contraction.

Some ongoing projects in clinical cardiology which will involve the AHA-Bugher trainees are:

- o Willerson's search for the factors that cause the change from chronic to acute coronary artery disease;
- o Dr. Jere Mitchell's research on cardiovascular control during exercise;
- o Dr. Maximilian Buja's investigation of the roles of membrane, electrolyte and adrenergic receptor changes in irreversible heart damage.
- o Dr. Kenneth Chien's research into the molecular mechanisms involved when a heart becomes enlarged.

Sambrook says he hopes the program will grow to include people who are not funded solely by the AHA-Bugher award but also by the departments involved or other grants. "The object basically is to liven up and increase the flow of good cardiologists who get training in molecular biology. I hope we do some good research while we're doing it."

Willerson believes the program reflects one of the health science center's strengths. "I think it is just another manifestation of the cooperation that exists between very talented basic scientists and the clinical sciences, including cardiology, at this institution--their willingness to cooperate, their desire to train young people both basically and clinically and their desire to work together to achieve those goals. That's one of the very nice things about being at this institution."

The research center will put most of its funds into salaries, but some are earmarked for supplies for research projects, for visiting professors and lecturers and, possibly, retreats that would allow close interchange between the basic and clinical scientists. Sambrook foresees none of the money going into high-tech equipment or "real estate."

He says, "All of the labs are well established; they are functioning well, they're world class labs and they do research on the cutting edge already. And that's the idea. The worst thing would be to take good cardiologists and teach them bad molecular biology."

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