

Perot to Fund Scientist-Physicians

Multimillionaire H. Ross Perot, who has encouraged Texas educators to back a "no pass, no play" rule in state schools, has just agreed to pay for an expanded M.D.-Ph.D. program at the University of Texas Southwestern Medical Center at Dallas that will enable students to get a dual degree tuition-free, with a stipend large enough to live on while they're doing it.

Perot is giving Dallas \$20 million over 10 years to train physician-scientists, and to support basic research, particularly that of Nobel laureates Joseph Goldstein and Michael Brown, whose work on the genetics of cholesterol metabolism has led directly to the development of lovastatin, a new cholesterol-lowering drug.

Perot, who has said it is easier to make money than to give it away, agreed to give money to Dallas's M.D.-Ph.D. program after listening to Goldstein and Brown extol its value for more than a year. Now, Perot says he sees his gift as a way to create the next generation of Goldsteins and Browns.

As research in the biomedical sciences has become more complex, a lot of fundamental work is being done by Ph.D.'s who have skills in molecular technique that M.D.'s generally do not acquire. Among the country's biomedical leaders, there is increasing concern that vital insights between science and medicine will be lost unless more physicians are also well trained in basic research.

Neither Goldstein nor Brown has a Ph.D. But, as Goldstein says, they have the equivalent—"After medical school, we went to NIH." For many years, a stint at NIH was de rigueur for the country's brightest young M.D.'s, some of whom went for the training, some also to escape the draft. Today the lure of NIH is less compelling.

Currently, 28 medical schools have M.D.-Ph.D. programs, with 719 students who, after 6 or 7 years of study, will earn the joint degree. Last year, the National Institute of General Medical Sciences invested nearly \$14 million in those programs. But to the individual student, the cost can be prohibitive nevertheless. That's what makes Perot's gift so appealing. Perot will fully fund five students through their training. First-year students will receive a \$12,000 stipend, in addition to tuition. By the last 2 years, the stipend will be \$18,000. It is thought to be the only program in the country that will enable a student to become a debt-free M.D.-Ph.D.

In addition, Perot has also agreed to pay for the postdoctoral research training of two medical school graduates, offering tuition and stipends of \$25,000. Perot hopes that

the large stipends will attract students who might otherwise gravitate to the big medical centers on the East and West coasts. The University hopes to raise funds from other donors so that it can fully support additional trainees. Eventually, it hopes to have as many as 15 students entering every year. Goldstein hopes that attracting bright M.D.-Ph.D. candidates will have the added effect of attracting smart young faculty.

And Perot hopes to boost the intellectual fortunes of Texas. "UT Southwestern in Dallas is the only institution in this part of the country that has the capability of becoming the best of its kind in the world in the next few years," says Perot, who sees the school "teetering on the brink of world class status. It is my hope that these funds will help it achieve that potential." ■

BARBARA J. CULLITON



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Ross Perot. Donating \$20 million to UT.

August Shuttle Launch Set

The space shuttle came up for review in Congress last week, and it was clear that friends of the program are getting impatient with the preparations for the next launch. Congressmen gave conflicting signals, appearing annoyed by the number of technical glitches that have been discovered, and at the same time urging that the shuttle be inspected in yet finer detail before launch.

According to the National Aeronautics and Space Administration (NASA), the machinery is almost ready to fly. On 27 January, NASA officials told the House subcommittee on space science that an "internal target date" of 4 August has been set for the next launch, an 8-week delay beyond the previous target date in June.

Committee chairman Bill Nelson (D-FL) found the news encouraging. But some members, including the chairman of the full science committee—Representative Robert Roe (D-NJ)—seemed to be put off by NASA's upbeat presentation and wanted to know why so many mechanical flaws have been reported recently.

Admiral Richard Truly of NASA suggested that some problems may have been exaggerated. In his view, it was a mere "hiccup" that appeared a few weeks ago when a piece called the outer boot ring fell off a solid rocket during a test firing (*Science*, 8 January, p. 134). Truly and John Thirkill, a vice president of the manufacturer, Morton-Thiokol, said the boot ring is meant to protect a reusable steering gear and its failure would not have affected the shuttle's safety in

flight. However, under questioning, they conceded that if the boot ring had fallen off in the first 20 seconds of launch, it might have caused a catastrophe. They pointed out that the ring is manufactured in a way that makes rapid heating and disintegration almost impossible. From here, the experts got into a close analysis of adhesives, lamination, and heat transfer.

NASA officials said that during the post-Challenger hiatus, the boot ring was redesigned in two different ways. It was reassuring to see that tests were able to distinguish between good and bad designs. Unfortunately, they said, the bad design looked better on paper and was tested second. Because the shuttle is on a very tight schedule, this design was installed on the rockets before being tested. Now that it has failed, the rockets must be disassembled and fitted with the design that worked in the first test.

NASA officials also downplayed some welding flaws discovered recently. They turned up when NASA began using a new device, an ultrasonic scanner, that is more sensitive than the x-ray cameras used before. The flaws, which were caused by a misaligned electron beam welder, are not considered large enough to be of concern. Meanwhile, on another issue, NASA has concluded that a pinhole leak found in one of the shuttle main engines was not caused by a design or manufacturing mistake, but by a chance alignment of crystals. The engine has been put aside for more testing. ■

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