

Briefings

edited by CONSTANCE HOLDEN

New Obstacle for Foreign Scientists?

Is Congress about to make it tougher for U.S. universities to get the foreign scientific talent they need? So says the Association of International Educators, a group still referred to by the acronym NAFSA from a prior name, National Association for Foreign Student Affairs. The association claims that new regulations, proposed by the Labor Department to implement last year's revised Immigration Act, could impede efforts to hire foreign scientists and other scholars.

The law contains a new requirement for a "labor condition application" that requires employers to state that they will pay all foreign employees in the United States on an H-1B visa "prevailing wages" (the average in the field) or "actual wages" (the average for similar workers at the institution), whichever is higher.

That, according to NAFSA's Lisa Jacobson Treacy, amounts to "federally mandated wage

inflation." In a three-person department, for example, where one professor is getting a salary of \$75,000 and the other two are getting \$45,000, the entry of a foreign professor would force the minimum wage to be raised to \$55,000.

A number of officials from large universities have expressed concern that the regulations will crimp their efforts to fill posts for which no qualified Americans are available. Catheryn Cotten, international adviser at the Duke University Medical Center, says the regulations would raise "significant and unintended roadblocks for U.S. colleges and universities engaging in scientific and technical research.... Without the H-1B we will not have access to the people worldwide who can perform [and teach] complex medical procedures." Amy Yenkin of NAFSA says, "Universities have come to rely heavily on H-1B [visa holders]," but no figures are available on the number of scientists who would be affected.

The new "interim final" regulations were published on 22 October. Higher education groups are working with members of Congress during the 60-

day comment period to try to get them altered.

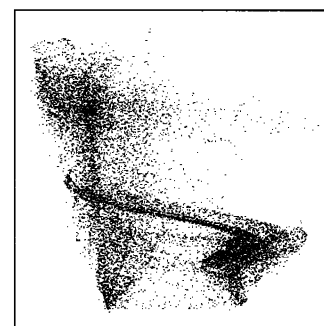
Science Gamesmanship

Say you possess a computer—anything from a PC right on up to a Cray—and say you're a fierce competitor who loves novel games. The Santa Fe Institute, a New Mexico think tank, is staging the contest for you—a "Time Series Prediction and Analysis Competition." Can you resist?

Time series problems involve analyzing the behavior of systems, ranging from the stock market to the weather to heartbeats (see *Science*, 1 March, p. 1011). A great variety of disciplines have been addressing such problems with new techniques, such as neural networks and differential topology, according to competition co-organizer Neil Gershenfeld, a Harvard physicist. But so far the results are largely "anecdotal." So in order to explore and test the reliability of these techniques, the institute has set up a contest in which entrants are supplied with data on particular problems and invited to see what they can make

of them. Problems are in three areas: forecasting, inferring properties of the system, and model-building. "It's very much a meta-experiment," says Gershenfeld.

Gershenfeld, who is being assisted by Andreas Weigend of the Xerox Palo Alto labs, goes on to say that since the competition was launched in August, there have been 5 to 10 computer log-ins a day from South America, Europe (including Eastern Europe, which has recently been connected to international computer networks), and Asia,



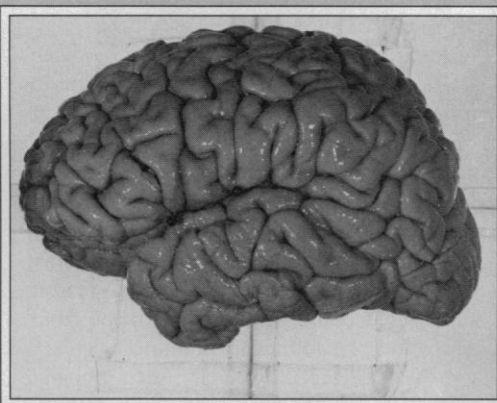
PAUL LINSAY (MIT)

Data plot. A two-dimensional representation of signals from coupled diode oscillators, produced by time-delay embedding. The oscillators are a simple electrical circuit that behaves in complicated and apparently noisy ways.

Oh, for a Normal Brain!

As research on brain diseases and the biology of mental disorders has progressed, so have the needs of researchers for preserved samples of human brains—both from people with diseases such as Huntington's, schizophrenia, and Alzheimer's, and from normal subjects. Normal brains in particular are needed both for anatomical studies and as controls in research on the effects of drugs, diet, and stress, as well as disease, on the brain. But in recent years scientists have had difficulty obtaining normal brains, partly because of a sharp decline in autopsies. Take the brain drain encountered by researchers at the McLean Hospital Brain Bank in Belmont, Massachusetts. There the proportion of normal brains among donations dropped from 20% 5 years ago to 3% in early 1990. What's more, anonymous brains aren't much help to researchers—the more information they have on the psychological functioning of the donors, the more valuable the specimens are.

Enter behavioral neuroscientist Sandra Witelson of McMaster University in Hamilton, Ontario. Witelson and colleagues, who study structure-function relationships in the human brain, began a collection of normal brains, accompanied by a wealth of pre- and post-mortem data, back in 1977. She



Rare commodity. Left brain hemisphere of an intelligent 58-year-old woman with known medical and social history.

D. KIGAR

now says she has about 70 brains—enough to make the collection available to other scientists.

Witelson gets her specimens by recruiting cancer patients with poor prognoses from local hospitals. She emphasizes that it's not easy to find patients who meet all the criteria: The team reviews about 2500 patient charts a year, but only 2% of these patients are approached, and only one in four agrees to participate. All the volunteers are under 70, ambulatory, and have no history of neurologic or psychiatric disorder. Subjects' oncologists have to ascertain that a request for their brains won't upset them or family members; families have to concur in the decision to ask patients; and patients have to be aware of the seriousness of their disease. So far,

more than 120 subjects have agreed to participate. They are given detailed tests assessing cognitive abilities and personality, as well as tests of handedness and hemispheric asymmetry. Extensive medical, educational, social, work, and drug histories are also taken.

Witelson, who says hers is the only project of its kind in the world, describes the project in the fall issue of the *Schizophrenia Bulletin*.