SCIENCESCOPE

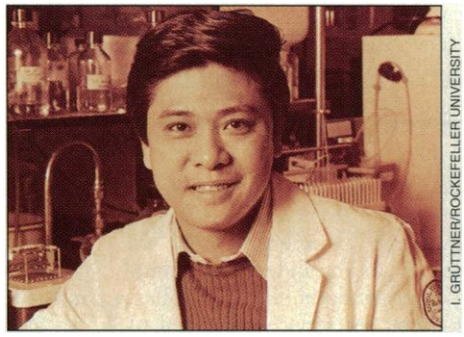
edited by RICHARD STONE

Genome Organization Tackles Gene Patents

The international Human Genome Organization (HUGO) is adding its voice to a swelling chorus of concern over efforts to patent gene fragments. It is circulating a statement arguing that patents on expressed sequence tags (ESTs)—gene fragments used to identify whole genes—would stymie innovation. The reason: Such patents would "penalize those who determine [a gene's] biological function." The statement was co-authored by HUGO President Thomas Caskey, head of genomic research at Merck, which is funding a public database of unpatented ESTs.

The U.S. Patent and Trademark Office issued a preliminary ruling in 1992 that gene fragments are not patentable, but several companies are pushing ahead with applications. William Haseltine, CEO of Human Genome Sciences, which has filed for patents on thousands of ESTs, says HUGO's statement misconstrues patent law. He says the law focuses on an invention's potential utility, rather than its biological role.

HUGO "is not trying to rewrite patent law," counters Caskey, who says the statement simply "speaks to the issue from a scientist's point of view."



I. GRÜTTNER/ROCKEFELLER UNIVERSITY

Aggie visionary. Rockefeller's Nam-Hai Chua is helping Singapore set up major biotech lab.

Singapore to Explore High-Tech Crops

Despite having barely enough acreage to plant its citizens, let alone crops, the tiny island nation of Singapore is making a bid to become a major player in an unlikely field: agricultural biotechnology.

Singapore plans to launch an Institute of Molecular Agrobiology (IMA) to track down genes involved in plant diseases and create transgenic lines of fish and other animals. Besides aiding Singapore's already healthy hydroponic farming industry, IMA officials hope to make a dent in agricultural problems elsewhere in Asia. "You read every other day in the newspaper about how China is losing farmland and farmers," says Nam-Hai Chua, a Rockefeller University molecular biologist who heads IMA's board. "They need a quantum leap in productivity. The Chinese are working on it themselves. But maybe we can help them do it faster."

Chua told *Science* that he hopes to see IMA blossom into a biotech brain center for the rest of Asia. To do this, Chua wants IMA to forge links with foreign researchers from the get-go. So far he has set up scientific exchanges with Swiss researchers and is discussing with the Chinese Academy of Science the possibility of creating a joint biotech center. Observers say IMA holds great promise, considering that a similar outfit—Singapore's Institute of Molecular and Cell Biology—has become one of Asia's premier research laboratories.

This September Singapore plans to set up temporary digs for some 50 IMA researchers and support staff in Singapore Science Park. The government has set aside an undisclosed amount of funds to build a permanent home for IMA on the National University of Singapore's campus. The institute, with room for 200 scientists, is expected to open by the end of 1997.

Columbia Shuns Profits From Gene Fragments

In a public-spirited gesture, Columbia University will forgo millions of dollars in profits from the possible sale of copies of human gene fragments churned out in a campus lab. Instead, Columbia is donating the clones to a public network run by the Lawrence Livermore National Laboratory—the IMAGE consortium—that will sort and distribute them to researchers at cost.

Many people are eager to get their hands on the clones, compiled by assistant professor of neurogenetics M. Bento Soares, because they will be useful in hunting for human genes and possibly developing medicines. Indeed, some biotech companies hoard their clones like gold.

Columbia originally wanted to license the clones to a private firm, says Vice Provost Michael Crow. Merck & Co. officials began lobbying Columbia late last year to put the clones in the public domain; Columbia was skeptical of Merck's appeal because the company has a commercial stake in biotechnology and stood to lose if the clones were licensed to another company. Columbia changed its stance, however, after hearing an appeal from Francis Collins, director of the National Center for Human Genome Research. Collins convinced university officials that the clones should be released, says Crow, because "some things are important for the national interest."

Columbia and IMAGE have joined forces with a sequencing team at Washington University in St. Louis, funded by Merck and led by Robert Waterston. The Washington group is sequencing the clones—which contain stretches of complementary human DNA—and generating "sequence tags" at a rate of about 5000 per week. The data are being funneled into the GenBank at the National Center for Biotechnology Information, where anyone can obtain them over the Internet.

NASA Conscripts Navy Into Oceanography Effort

If you can't beat 'em, join 'em. That's what the U.S. Navy plans to do after failing to convince the National Aeronautics and Space Administration (NASA) to jilt the French and embrace it as its sole partner in building an advanced oceanographic satellite.

For months, NASA and the French space agency CNES have been planning a sequel to their successful Topex-Poseidon spacecraft, which has spent 3 years collecting data on El Niño and other ocean weather events. Recently, however, the Navy began lobbying NASA to team up with it instead on an upgraded version of the Navy's Geosat satellite (*Science*, 21 April, p. 355).

Last week, NASA Administrator Daniel Goldin found a way to meld the incongruous elements: He convinced Navy officials to join the U.S.–French team. Moreover, the Navy has pledged to kick in about $6 million to cover the cost of installing encryption and transmission devices to protect data—such as wave height—that the service wants to gather for its fleets without having to build its own satellite. Beams one NASA official, "Everyone wins."

Well, not everybody. The deal cuts out Ball Aerospace and Communications Group, which built Geosat but would not participate in the Topex-Poseidon venture. A Ball spokesperson declined to comment, saying the firm had not received official word of the decision. It's also unclear if Congress will bless the union. Last year, House and Senate defense committees expressed concern that a joint program may give away valuable U.S. technology to the French. In a 24 April letter, Goldin assured Congress that safeguards in place would prevent unintended technology transfer.

The decision, meanwhile, comes just in time for CNES. The French government had needed a firm commitment from the United States by the end of April to ensure funding is included for Topex in its 1996 budget. Now it appears to have it.