INTELLECTUAL PROPERTY

Blue LED Inventor Sues Former Company

TOKYO—The Japanese engineer whose breakthrough research led to a blue light–emitting diode (LED) and a blue semiconductor laser has sued his former employer for a share of the profits from his invention. Shuji Nakamura, now a professor of materials science at the University of California, Santa Barbara, is seeking $16 million from Nichia Corp. of Anan, Tokushima. Observers here say it reflects a trend among scientists to gain greater recognition for their achievements.

Fired up. Shuji Nakamura thinks researchers deserve more credit —and cash.

Nakamura stunned the materials science community in 1993 with his blue LED and built on that work to produce a blue semiconductor laser (*Science*, 21 March 1997, p. 1734). Because of its short wavelength, a blue laser promises to quadruple the amount of data that can be stored on compact discs. Blue LEDs, when combined with red and green LEDs to produce white light, could eventually supplant conventional light bulbs. Nakamura worked at Nichia for 20 years before leaving for the United States in 1999.

Japanese patents are granted to the researchers who made the discovery. But a clause in the law allows individuals to transfer their patent rights to a corporation in exchange for undefined—and typically nominal—compensation. Although Nakamura was awarded more than 80 patents related to blue LEDs and lasers, his suit focuses on one patent covering a new method of chemical vapor deposition used in making the LEDs and lasers. Nakamura says he received $170 for transferring the rights to this patent, the basis for the company's sales of gallium nitride–based LEDs, which he estimates at $400 million last year. Privately held Nichia does not release financial details.

Since leaving Nichia, Nakamura has repeatedly criticized the low level of recognition and poor salaries of researchers in Japan. "What I want to say with this lawsuit is that Japanese researchers should get reasonable compensation," he says. Last December, Nichia sued Nakamura, North Carolina State University, and Cree Inc., a rival maker of blue LEDs for whom Nakamura was consulting, in U.S. court, claiming patent infringement and trade secret theft.

Nakamura's suit, filed 23 August in Tokyo District Court, is one of half a dozen or so filed in the last several years by researchers seeking greater compensation for their efforts. Katsuya Tamai, a professor of intellectual property law at the University of Tokyo, says that the suits reflect a gradual breakdown of Japan's traditional lifetime employment system and a shift toward basing pay and promotions on performance rather than seniority. In turn, employees are increasingly going to court if they feel they've been treated unfairly. Although researchers have won all of the suits, the awards have been small.

Still, the legal battles have not gone unnoticed by leading companies, which have responded by creating incentive programs. Sony Corp. researchers, for example, can earn up to $16,000 in bonus payments for key patents. Eisai Co., a pharmaceutical firm, pays researchers 0.05% of sales for the first 5 years a drug is on the market. "Companies will have to put such programs in place or see their best researchers leave for the competition," Tamai says. **–DENNIS NORMILE**

CREDIT: (TOP) D. NORMILE

DRUG PRICING

NIH Report Knocks Tax On Blockbusters

Trying to recoup profits from big-money drugs that it helped to develop is a bad idea that would hinder drug innovation, according to a new report* from the National Institutes of Health (NIH). The public is already getting a fair return on its investment, say NIH officials, who nevertheless have proposed a better way to track the agency's initial investment in such drugs.

Under current laws, researchers and their institutions may collect royalties on patents derived from federally funded research as an incentive to commercialize discoveries. Last year, amid growing concern over the high price of drugs, the Senate asked NIH to reexamine its role in the development of "blockbuster" drugs with annual sales topping $500 million (*Science*, 27 April, p. 614; 8 June, p. 1797). One of the most vocal critics, Senator Ron Wyden (D–OR), asked NIH to come up with a plan "to ensure that taxpayers' interests are protected."

Probing a list of the 47 Food and Drug Administration (FDA)–approved blockbuster drugs, NIH's Office of Intramural Research found four that were developed with NIH support—the cancer drug Taxol; Epogen and Procrit, used to treat anemia; and Neupogen, a chemotherapy drug (see table). But when NIH floated the idea of taking a cut of royalties on these drugs, it "met with strong resistance from the academic community," which viewed it as "a tax" that "would undermine the research enterprise," the report says, by discouraging inventors and reducing support for tech transfer offices. Most of the money that universities collect from licenses goes to pay inventors and operate these offices.

The 20-page NIH report, issued last month, echoes the views of academic research chiefs, who say that it's critical to keep this private income flowing. "NIH did a very careful and thoughtful job [on the report]," says David Korn of the Association of American Medical Colleges, one of several academic and industry groups that provided NIH with input.

Any attempt to recoup royalties could also stifle industry interest in federally funded technologies, the report finds. It points to the checkered history of NIH-industry cooperative agreements known as CRADAs, whose popularity with companies in the 1980s plummeted after NIH added a "reasonable pricing" clause in 1989 requiring profits to be shared with the public. The number of agreements rebounded after 1995, when then–NIH director Harold Varmus agreed to drop the clause.

Although NIH is making an important contribution to drug development, the report suggests several ways to inform the public better about its investments. The authors found it difficult, for example, to assemble a paper trail from various agencies on the four blockbuster drugs. The report recommends a new Web database with information from grantees on any FDA-approved drugs they have helped to develop. It also proposes a gathering of government, industry, and academic experts for a "thoughtful dialogue on the appropriate returns to the public."

Wyden, who is chair of the science subcommittee of the Commerce, Science, and Space Committee, hopes to hold a hearing on the report as soon as next month and is seeking input from other groups, including consumers. An aide says the senator agrees with NIH on the need for more data.

–JOCELYN KAISER

* www.nih.gov/news/070101wyden.htm

Blockbuster Drugs Developed With NIH Support

Name	*Use*	*1999 sales (billion)*	*Company*	*NIH grantee*
Epogen	anemia	$1.83	Amgen	Columbia U.
Procrit	anemia	$1.26	Johnson & Johnson	Columbia U.
Neupogen	neutropenia	$0.99	Amgen	Mem. Sloan-Kettering Cancer Center
Taxol	cancer	$0.85	Bristol-Myers Squibb (BMS)	Florida State U., BMS