learning: The species is among the shortest lived of all birds. More than half the population dies each year, making blue tits "just about the closest thing you get to an annual bird," quips University of Oxford behavioral ecologist Ben Sheldon. Long-lived species are thought to be more likely to evolve the capacity for learning, says Oxford ornithologist Christopher Perrins. Thus, if the blue tit shows this ability, Sheldon and Perrins reason, then long-lived species might well possess it in spades.

The birds' ability to adjust their reproductive timing implies a certain degree of resistance to the ill effects of climate change, note Sheldon, Nager, and others. Recent data have shown that global warming can lead to mismatches between phenomena that once were synchronous, such as leaf emergence, caterpillar hatching, and bird breeding. Although the study suggests that birds can deal with some environmental variation, ecophysiologist Donald Thomas of the University of Sherbrooke, Quebec, points out that it merely "provides the mechanism for fine-tuning." But "major climate change over decades," he says, "probably will overcome the birds' ability to learn."

–JAY WITHGOTT

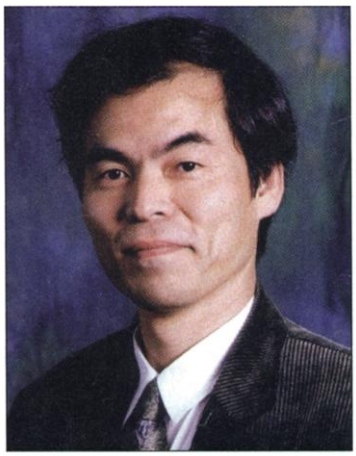
Jay Withgott writes from San Francisco.

PATENT LAW

Judge Casts Doubt On Scientist's Account

Materials scientist Shuji Nakamura is getting an unpleasant lesson in the take-no-prisoners style of the U.S. legal system. A federal judge last month accused the prominent University of California, Santa Barbara, researcher of lying in a high-stakes patent lawsuit and recommended that he be prosecuted for perjury, a charge that he and his lawyer strongly contest. The accusation comes just weeks before Nakamura is to receive one of his field's highest honors.

The Japanese-born Nakamura won acclaim in the 1990s as the inventor of a blue light–emitting diode (LED) that could lead to cheaper, more efficient lighting. But in 1999 he left Nichia Corp. and moved to the United States, saying that Japanese companies don't do enough to reward their inventors. Last year, Nakamura sued Nichia in a Japanese court, seeking a $16 million share of the firm's profits from his discoveries (*Science*, 31 August 2001, p. 1575). He now works as a consultant to a U.S.-based LED maker, Cree Inc. in Durham, North Carolina, which is embroiled in a patent fight with Nichia over the multibillion-dollar LED market.



Legal twist. Shuji Nakamura is caught up in a patent fight over his profitable blue LED invention.

CREDITS: (TOP TO BOTTOM) LYNNE FIELDING/BOSTON UNIVERSITY; UC SANTA BARBARA

As part of Cree's legal struggle, Nakamura last November answered questions from attorneys about the history of the firm's patents. At least one of his answers caught the attention of the judge hearing the case, James Fox of the U.S. District Court for the Eastern District of North Carolina. In a 15 March letter to federal prosecutors, Fox said that Nakamura admitted that he had "intentionally submitted false data in conjunction with the applications for [Nichia's U.S.] patents."

Nakamura's words are still sealed in court documents. But Fox said in his letter that Nakamura either broke laws against submitting false information to the U.S. Patent and Trademark Office or lied about the accuracy of Nichia's patent filings as part of Cree's bid to invalidate them. Either way, Fox recommended that the government prosecute Nakamura for perjury—a crime that can be punished by a jail term. Prosecutors have several years to decide whether they will follow the judge's recommendation.

Nakamura was stunned by the letter, which was publicized last week by the electronic newsletter *Internet Patent News Service*. "Perjury? I don't understand," he told *Science* after being informed of the judge's complaint. Nakamura's attorney, William McLean of Thoits, Love, Hershberger, and McLean in Palo Alto, California, says Nakamura is not responsible for any allegedly false statements in Nichia's patent applications. "The judge has just a glimmer of all the pertinent information," McLean says.

Attorneys for Nichia and Cree declined to comment on the letter, and prosecutors and the judge did not return calls. But lawyers familiar with the case say the letter may reflect the judge's unhappiness about courtroom behavior by both sides. "The judge is signaling that he'll be tough on anyone who misbehaves," says one, who asked to remain anonymous.

In the meantime, Nakamura expects to be in Philadelphia on 25 April to receive the Benjamin Franklin Medal in Engineering. Some winners have gone on to receive a Nobel Prize.

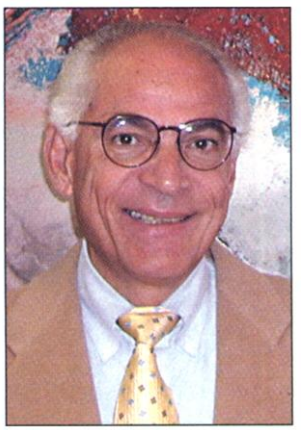
–DAVID MALAKOFF

MIDDLE EAST

Science Foundation Sets Priority Areas

A unique grantmaking foundation for Arab scientists, modeled on the U.S. National Science Foundation (NSF), hopes to award its first research grants next year.

The private 2-year-old Arab Science and Technology Foundation, which held its first international conference last week in Abu Dhabi and Sharjah, United Arab Emirates, is expecting a contribution of almost $20 million from a private donor in the next few months, says Farouk El-Baz, director of the Center for Remote Sensing at Boston University and one of the conference leaders. The foundation currently has about $1 million in cash—a gift from Sharjah's ruler. El-Baz says the foundation needs at least $10 million before it can begin to make grants.



Rich concept. Farouk El-Baz hopes that Arab philanthropy will bolster fledgling foundation.

The 900 participants at last week's meeting combined research presentations with discussions of how to run a scientific enterprise based on open peer review rather than top-down directives. The foundation has already recruited four Arab-born, U.S.-based scientists to lead panels that will manage grants competitions in the fields of water and energy, biotechnology, new materials, and information technology.

El-Baz says the foundation will be breaking new ground simply by following NSF-style procedures: "The whole concept of submitting proposals, and then being held accountable for how the money is spent, is alien to most Arab scientists, who are used to getting a budget from the government and then just spending it." The foundation would also welcome financial help from NSF, he adds.

That's unlikely to happen, says Osman Shinaishin, who oversees NSF's research programs in the Middle East. NSF "can't make that type of commitment" to a private organization, explains Shinaishin. But he says Arab scientists would do well to seek foreign collaborators, including those with NSF grants, to ensure that the research is high quality.

–JEFFREY MERVIS

With reporting by Adam Bostanci in Cambridge, U.K.