"fatal weakness," according to Morrison. Kligman filed for the contested patent in 1981, an event so old that it cannot be litigated unless the statute of limitations is suspended. And that, says Morrison, would require the university to prove that Kligman "fraudulently concealed the invention and the arrangement with Johnson & Johnson, which is preposterous."

Penn claims in its legal briefs that Kligman did not inform the university of his plans for Retin-A as an anti-wrinkle cream. Instead, the university contends, Johnson & Johnson "induced" him to sign an exclusive license agreement. The suit, which was originally filed by Penn's agent, University Patents, was joined by the university itself last month. Johnson & Johnson's "willful, wanton, outrageous" and "reckless" conduct, in Penn's view, threatens to rob the university of its property. Penn is asking the court for more than $75,000 in compensation on each of six counts of injury.

Meanwhile, Kligman has broken his silence just once. His office released a note saying, "I regret that the University which I have served faithfully for more than 40 years has joined with University Patents to prosecute these false and unfair charges."

■ ELIOT MARSHALL

Feud Flares Over Thallium Superconductor

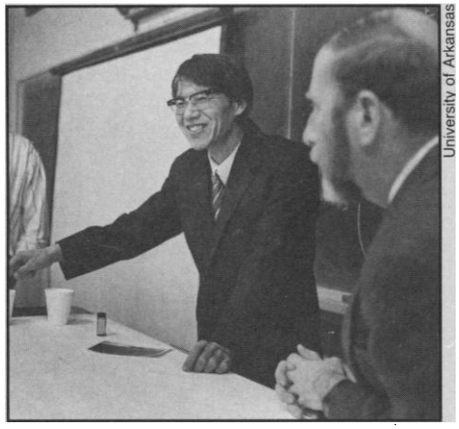
For the second time in less than 2 years, a dispute over credit for a high-temperature superconductor has roiled a team of researchers. Zhengzhi Sheng, a chemist at the University of Arkansas, has charged that his former supervisor Allen Hermann unfairly received credit for work that he—Sheng—actually did by himself. At issue is the discovery of the family of thallium compounds that includes the highest temperature superconductor known.

The dispute comes at a ticklish time. The U.S. Patent Office is now reviewing joint applications from the two scientists and the University of Arkansas for patents on the superconductors. So far the only patent on thallium superconductors has gone to IBM researchers who first isolated and characterized the 120 K material that Hermann and Sheng discovered (*Science*, 20 October, p. 320). University officials are hoping the current squabble will not damage their chances to get broad patent rights to those compounds, which could be worth millions of dollars.

Sheng ignited the controversy after learning Hermann had been named Person of the Year by the readers of the newsletter *Superconductor Week*. In response, Sheng sent the newsletter's editors a manuscript, "How I discovered the 120 K Tl-Ca-Ba-Cu-O superconducting system," that gives a detailed account of his research from the time the first high-temperature superconductors were announced in 1987 until the discovery of the thallium compounds in early 1988. According to an article in the 19 February issue of *Superconductor Week*, Hermann's name is not even mentioned in the narrative until the acknowledgements section. In an interview with *Science*, Sheng repeated his claim that he did all of the work. "[Hermann] actually never made a sample or measured a resistance curve," he said.

Hermann's version is somewhat different. The former chairman of Arkansas's physics department recalls that he set up a small superconductivity team in the spring of 1987 after the "Woodstock of Physics"—that meeting of the American Physical Society at which thousands of physicists got their first exposure to the revolutionary high-temperature superconductors. Shortly afterward Sheng, who had just completed a doctorate in nuclear chemistry, joined the group as a postdoctoral fellow. "[Sheng] had no experience in superconductivity or condensed matter physics," Hermann says.

Indeed, Sheng was not even familiar with the standard way to measure the vanishing resistance in a superconductor, Hermann says. "I helped him set up the resistivity measurements." Hermann acknowledges that Sheng did most of the work in the lab. "After a point, I was a roadblock runner," he says. But he remembers that the two "talked frequently about direction" and says it is hard to pinpoint which of them first came up with the idea of using thallium.



Happier days. *Sheng, left, speaks at a press conference as Hermann looks on.*

When they announced their discovery of the thallium compounds in February 1988, Hermann was the natural spokesman. He was the team leader and was comfortable in front of a crowd; Sheng was a postdoc with poor English skills. Although Sheng's name often appeared first on papers and patent applications, and although Hermann always gave Sheng credit when speaking at meetings or press conferences, the two were not viewed as equals by the scientific community or the press, both of which normally assign the lion's share of the credit to the team leader. Hermann became a fixture at superconductivity meetings and was recruited to a highly paid position at the University of Colorado at Boulder, where he moved in January.

The last straw for Sheng apparently was Hermann's selection as Person of the Year. Ironically, Hermann had written to *Superconductor Week* that he accepted the award "in the spirit in which it was given, i.e., as leader of the team that discovered the Tl-based compounds." He added, "I would appreciate it if, in your report on this award in *Superconductor Week*, you would give special mention to my brilliant colleague at the University of Arkansas, Dr. Zhengzhi Sheng." Hermann sent a copy of that letter to Sheng, which is how Sheng learned of the award.

The details of the Hermann-Sheng conflict echo an earlier controversy between Paul Chu and Maw-Kuen Wu over who discovered the revolutionary Y-Ba-Cu-O superconductor in early 1987 (*Science*, 5 August 1988, p. 655). After team leader Chu at the University of Houston got most of the credit as well as a National Medal of Science, Wu at the University of Alabama in Huntsville pointed out that he had been the one who actually fabricated the material. Wu eventually did receive recognition for his contribution and is now a tenured professor at Columbia University in New York City.

Sheng may not fare as well as Wu. He has been promoted to a nonteaching research professor position at Arkansas but he has not been granted tenure. And by all indications, the university was not pleased with Sheng's public bid for credit. They asked him to retrieve his manuscript from *Superconductor Week* and not release it to anyone else, and also requested he not speak to the press until they decide how to respond to the controversy.

■ ROBERT POOL