

physics from Yale. In 2004, the couple had their first child, a daughter they named Rachel.

As for the immediate future, Yang has opened multiple avenues down which he might go, but photonic systems (technology based on the manipulation of light) would seem to be the logical destination for him and his research group.

"Over the past couple of years, we've worked heavily towards using nanowires as building blocks for the purpose of photonic applications," he said. "Ultimately, we want to integrate all these individual components together into a photonic system-on-a-chip that could be used to perform instant and detailed analyses for studies in chemistry, biology and medicine."

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Lab Wins Three R&D 100 Awards

It was another good haul for Berkeley Lab. Earlier this month, three of R&D Magazine's R&D 100 Awards for 2007, which recognize the 100 most significant technological advances of the year, went to Lab scientists.

The prestigious awards, known informally as the Oscars of invention, showcase the best ideas in technical innovation that were brought to market or were available for licensing during the past year. This year's trio brings the total of Berkeley Lab's R&D 100 Awards to 44, including two Editors' Choice Awards, over the years. They are:

Laser-Detected MRI — a major breakthrough in the Magnetic Resonance Imaging (MRI) field that eliminates the need for a high-field magnet, making the technology accessible to new users and applications. The system uses an optical atomic magnetometer to provide much more sensitive detection. It was developed under a collaborative effort between the groups of Alexander Pines of the Materials Sciences Division and Dmitry Budker of the Nuclear Science Division. Other Lab scientists involved in developing the technology include Marcus Donaldson, Simon Rochester, Shoujun Xu, and Valeriy Yashchuk. The nomination writer was Jim Miller.



Low-swirl injector

Low Swirl Injector for Fuel-Flexible Near-Zero-Emission Gas Turbines — a technology that significantly reduces greenhouse gas emissions and pollution from gas turbines used to produce electricity, or from any stationary heating system. It was developed by Robert Cheng and David Littlejohn of the Environmental Energy Technologies Division, along with scientists from San Diego-based Solar Turbines. The nomination writer was Allan Chen.

Berkeley Unexploded Ordnance Discriminator — an electromagnetic system that can determine the location, size, and shape of unexploded buried explosives. The technology brings unprecedented speed and accuracy to the task, and could greatly reduce the time and cost of remediation and provide a valuable humanitarian service throughout the world. It was developed by several scientists and engineers from the Earth Sciences Division and the Engineering Division, including Jean-Francois Beche,

Alex Becker, Larry Doolittle, Erika Gasperikova, Jim Greer, Robin Lafever, Frank Morrison, Alessandro Ratti, J. Torquil Smith, and Harold Yaver. The nomination writer was Dan Krotz.

Cheryl Fragiadakis, who heads Berkeley Lab's Technology Transfer and Intellectual Property Management Department, says, "Winning three awards is a tremendous achievement that speaks very highly of the strength of our science and its relevance to solving complex global problems. I am particularly pleased to note that some of this year's winners are already being further developed by partners in the private and the government sectors."

"The Lab's Technology Transfer and Intellectual Property Management Department, and the nomination writers, do a spectacular job and deserve to be featured prominently in the accolades," says Pines. "The investigators are important, but these other groups make it happen, and I can testify that without these groups the awards would not be possible. The awards are a tribute not to only to Lab scientists, but to the entire Lab and to the role they play in galvanizing the interface between the Lab and the outside world."