



Purdue

researcher receives NSF award recognizing innovation

Suresh Garimella



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WEST LAFAYETTE, Ind. - A Purdue University professor has received the National Science Foundation's Industry/University Cooperative Research Centers Program 2011 Alexander Schwarzkopf Prize for Technological Innovation in recognition for his research to develop advanced cooling technologies for electronics and cars.

Suresh V. Garimella, Purdue's R. Eugene and Susie E. Goodson Distinguished Professor of Mechanical Engineering, received the award last week during an I/UCRC meeting. One award is issued annually.

The prize specifically recognizes his team's work to develop "two-phase microchannel heat sinks" to cool high-power electronics in electric and hybrid cars, computers and telecommunications systems. Indiana's 21st Century Research and Technology Fund provided \$3.8 million to help commercialize the advanced cooling system for hybrid and electric cars.

Garimella founded the Purdue-based I/UCRC Cooling Technologies Research Center, a consortium of corporations and government laboratories working to overcome heat-generation problems in electronic systems by developing new compact cooling technologies.

"Suresh's center is one of the strongest in the Industry/University Cooperative Research Center Program," said program director Rathindra DasGupta. "It has consistently grown and produced industrially relevant research results that have been utilized by its members to make them more competitive. I am proud of the I/UCRC Program's accomplishments."

The center's approach is "pre-competitive," meaning partners pool their resources and work together to solve major technological hurdles, Garimella said.

"The enduring support of our industry members for this pre-competitive paradigm of research has had a highly beneficial impact on the development of thermal management technologies," he said.

Garimella has co-authored more than 450 refereed journal and conference publications, edited or contributed to several books and has been recognized with various research and teaching awards.

"The industry-university cooperation facilitated by the NSF I/UCRC Program is a phenomenal opportunity for true collaboration between universities and companies," Garimella said. "The program provides an excellent vehicle for technology transfer and for students to be trained in problems of fundamental interest but with practical applications. Alex Schwarzkopf has pursued this vision and tirelessly worked at nurturing the program through NSF over many years, and we all owe him a debt of gratitude for his service. I am honored that our Cooling Technologies Research Center, its faculty, staff and students, have been recognized in this manner."

Last year Garimella received a Jefferson Science Fellowship from the U.S. Department of State, where his expertise and insights are helping guide U.S. foreign policy.

He is a fellow of the American Society of Mechanical Engineers, and recipient of the ASME's Heat Transfer Memorial Award in 2010. Garimella earned a bachelor's degree in mechanical engineering in 1985 from the Indian Institute of Technology Madras, a master's degree in mechanical engineering from Ohio State University in 1986 and a doctorate in mechanical engineering from the University of California at Berkeley in 1989.

Recipients receive a plaque commemorating the award.

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