

## Outstanding Achievement in Research Innovation Award Nomination

Nominee: **Ajeet Rohatgi**, Regents' Professor

Nominator:

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**Gary S. May**, Steve W. Chaddick School Chair, Professor

### Nomination endorsed by the ECE Faculty Honors Committee:

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On behalf of the faculty of the School of Electrical and Computer Engineering, it is my pleasure to nominate Dr. Ajeet Rohatgi for the Outstanding Achievement in Research Innovation Award. Dr. Rohatgi is a Regents' Professor, Georgia Power Distinguished Professor, and the Founding Director of the University Center of Excellence in Photovoltaics Research and Education (UCEP) at Georgia Tech (GT). He is also the founder and CTO of Suniva Inc., a silicon solar cell manufacturing company in Norcross, Georgia.

Dr. Rohatgi joined the faculty of the School of ECE in 1985 to establish a program in photovoltaics (PV) research where there was none before. Seven years later, in 1992, the Department of Energy awarded the nation's first University Center of Excellence in Photovoltaics (UCEP) to Georgia Tech in recognition of Dr. Rohatgi's team's sustained contributions to the science and technology of photovoltaics. Under Dr. Rohatgi's leadership, the PV program at GT is getting closer to making solar electric power cost-effective through development and commercialization of low-cost, record-high-efficiency silicon cells. The innovative research program developed by Dr. Rohatgi has generated in excess of \$35 million of external support and has given GT a scholarly reputation in PV that is second to none. The program has also made GT the focal point for industry-relevant R&D in silicon PV in the U.S., through the production of world-record high-efficiency solar cells; the design and construction of the world's largest roof-top grid-connected PV system developed for the 1996 Olympic Games Natatorium on the GT campus, and the establishment of roadmaps for cost-effective silicon PV to attain grid parity. The research and technology innovations behind these accomplishments are well documented in Dr. Rohatgi's 11 patents and more than 370 technical publications.

UCEP has consistently proven to be a valuable resource to government and industrial partners, and has evolved from a purely academic research environment to a hands-on industry resource focused on practical solutions for commercial production of silicon solar cells. This led to the formation of Suniva,<sup>R</sup> Inc., a successful GT spin-off company founded by Dr. Rohatgi in 2007. Dr. Rohatgi's research at GT and the formation of Suniva have had significant economic, social and policy impacts. Suniva is the first silicon solar cell manufacturing company in the southeast and is known for producing the highest efficiency silicon solar cells in the U.S., using the low-cost technologies developed by Dr. Rohatgi, whose goal has always been to produce commercial-ready silicon solar cells that are uniquely situated at the right intersection of solar cell efficiency and cost to attain grid parity and compete with fossil fuels. Suniva's ARTisun<sup>R</sup> cells achieve superior performance, leveraging exclusive licenses to critical patents and intellectual property developed by Dr. Rohatgi at UCEP. Suniva's manufacturing processes optimize every layer of the cell for the highest conversion efficiency at low cost, making the cells ideal for widespread commercial use, providing strong technology and commercial market advantages, and helping to renew U.S. leadership in the energy economy.

Suniva's manufacturing facility in Norcross, Georgia – just twenty miles from the Georgia Tech campus – currently operates two production lines, with a solar cell manufacturing capacity of 100 MW. In just two years, Suniva has hired more than 100 employees, many from the military and auto industries, and growth is expected to continue. However, the company's impact on the local and state economy is rapidly growing. For example, Suniva purchases equipment from local companies for its manufacturing processes; it uses local logistics companies to move and ship products; the company requires specialized packaging and has worked with local packaging companies to support its needs; Suniva's employees wear uniforms that must be continually produced and cleaned for its staff; many of the materials necessary to produce Suniva

ARTisun cells are also procured from local companies. As a manufacturing company, Suniva has a significant impact on the economy at a local and state level. Suniva further provides an opportunity for the U.S. to move to the forefront of technology innovation in the crystalline silicon market and to significantly improve the country's ability to satisfy solar demand from U.S.-produced components. Suniva's advanced cell technology is currently being used in a variety of installations throughout the world, including a 1MW installation in West Bengal, India (the country's first large-scale project), a 3MW installation in Karnataka, India, 100kW to 1MW installation on the stadiums of the Atlanta Braves and the 2010 Commonwealth Games in Asia, and a 550kW solar farm in North Carolina. In addition, Suniva partnered with Jacoby Development earlier this year to plan to incorporate up to 10MW solar into Aerotropolis Atlanta, the redevelopment of a former Ford Plant adjacent to Atlanta Hartsfield International Airport. This project delivers environmental sustainability and drives economic development by attracting new jobs and opportunities in the area. Suniva is also participating in non-profit and educational projects, including partnering with OneWorld Sustainable, a Georgia-based renewable energy company that is installing solar panels powered by Suniva PV cells in schools across Georgia, as part of the *Sun Power for Schools* program, a non-profit educational program. This program showcases Suniva's leading solar cell technology and the potential of the solar industry to create jobs in Georgia and contribute to the economic development in the state. The company's collaborative projects in the United States and throughout the world will help shape the future of renewable energy. Its research, development and manufacturing have had a positive economic impact, and continue to reduce the cost of solar power while helping the U.S. retain leadership in renewable energy.

Even after the formation of Suniva, Dr. Rohatgi has continued his pioneering research in PV at GT, which attracts significant funding from industry and government. On March 23, 2009, Dr. Rohatgi was asked to join a delegation of clean technology entrepreneurs at the White House in support of President Obama's announcement to increase R&D funding to build and expand America's clean tech economy. The UCEP-Suniva combination is an example of how federal funding to universities can result in successful commercial enterprises. Suniva has also been recognized by Governor Sonny Perdue in his State-of-the-State address as a stand-out company in the renewable energy sector, bringing new technology and green jobs to Georgia..

Dr. Rohatgi is highly regarded as one of the world's leading research scientists in PV technology, and has been recognized for his research and development contributions, as well as Suniva's technological achievements. For his sustained contributions to innovative research and development in PV, Dr. Rohatgi received Georgia Tech's Sigma Xi Outstanding Sustained Research Award in 1994, Distinguished Professor Award in 1996, and Outstanding Research Program Development Award in 2007. In 2003 he received the prestigious IEEE PVSC William Cherry Award and the NREL/DOE Rappaport Award for his contributions to photovoltaics. In 2008, Dr. Rohatgi was recognized as one of the five most influential people in renewable energy by *Power Finance & Risk Magazine*, and also by the Georgia Sierra Club for his efforts to help move both Georgia and the U.S. into a clean energy economy through his solar energy research at GT. In 2009, Dr. Rohatgi received the Invention Award for conservation and pollution-curbing efforts, awarded by the *Atlanta Business Chronicle*; he also received the Climate Protection Award from the EPA for his dedication and technical innovation in photovoltaics, and the Hoyt Clark Hottel Award for outstanding educator and innovator in the field of photovoltaics awarded by the American Solar Energy Society (ASES). Suniva's recognition and awards include: Top 50 Green Technology Companies in the Eastern US (*Always On*), Top 10 Most Innovative Companies in 2008 and Most Likely to Succeed in creating job growth in GA in 2009 (*Technology Association of Georgia*) and Future Leader of the Southeast's Technology Community (*2009 Tech 50*).

Dr Rohatgi has built a globally recognized PV program at GT which continues to gain momentum and recognition. Using the innovative technologies he developed, Dr Rohatgi founded a top brand GT spin-out company Suniva Inc, which manufactures best in class silicon solar cells and employs over 100 people in Georgia. His contributions have given GT, GA and the US an enormous visibility and scholarly reputation in this renewable energy technology. For his leadership, strong commitment to innovative research and highly successful technology commercialization, Ajeet Rohatgi is an exceptionally deserving candidate for the 2010 Outstanding Achievement in Research Innovation Award. It is with immense enthusiasm and pleasure that I am nominating Professor Ajeet Rohatgi for this prestigious Award.