Computer Graphics and Vision Expert Appointed to Endowed Faculty Chair

University of California San Diego professor Ravi Ramamoorthi is the inaugural holder of a new endowed faculty chair in the university's Department of Computer Science and Engineering (CSE).

The university has appointed Ramamoorthi to the Ronald L. Graham Chair of Computer Science. The chair is named in honor of fellow CSE professor Ron Graham, who assumes an emeritus faculty position later this year. Graham is also Chief Scientist of the California Institute for Telecommunications and Information Technology (Calit2), a position he has held since the institute was created in 2001.

"This distinguished appointment is a direct reflection of the high regard in which Professor Ramamoorthi (pictured at left) is held by the UC San Diego academic community," said CSE Chair Rajesh Gupta. "As the director of our new Center for Visual Computing, he plays an important role in bringing together the fields of computer graphics and computer vision as well as the pioneering work done by organizations such as the Qualcomm Institute in visualization and virtual reality."

Funds allocated through the endowed chair will be used at Prof. Ramamoorthi's discretion for research, teaching and service activities, including support for students working in his lab or research center.

Prof. Ramamoorthi's research has focused on theoretical foundations, mathematical representations and computational models for the visual appearance of objects – all in service to understanding, re-creating and rendering digitally the complexity of natural appearance.

The graphics and vision expert received a Presidential Early Career Award at the White House in 2008 for his work in computer vision, and the ACM SIGGRAPH Significant New Researcher Award, the highest early-career recognition in computer graphics (in 2007). He was honored with an Okawa Foundation Award in 2011. Earlier Ramamoorthi logged both an Alfred P. Sloan Foundation Fellowship and an NSF CAREER Award in 2005, and a Young Investigator Award from the Office of Naval Research in 2007. Most recently, in early 2016, Ramamoorthi received a Google Faculty Research Award, his second in three years.

Ramamoorthi's research has had significant impact on industry. His work on spherical harmonic lighting and irradiance environment maps is now widely included in games (such as the Halo series), and is increasingly adopted in movie productions (such as Avatar) as a standard component of the industry-standard Renderman rendering software since mid-2011. For three years he was a consultant to Pixar, and his work inspired a sampling and image-based lighting pipeline that is now standard for production rendering at Pixar and other special-effects and animation studios.

"My goal is to build a world-leading computer graphics and computer vision group at UC San Diego," said Ramamoorthi. "I have published in both communities, and I am happy to report that we are making real gains in our efforts to build a cohesive group at the intersection of what have been (until now) two distinct fields of academic scholarship."

With support from lead sponsor Sony and other industry partners, including Qualcomm, Google, Autodesk, Samsung, Cubic, Adobe, Nokia, and Pixar, Ramamoorthi succeeded in creating the Center for Visual Computing to bring together faculty from CSE, ECE, Cognitive Science, the Qualcomm Institute, and other units on campus. The department also hopes to hire more faculty at both senior and junior levels to allow Ramamoorthi and his colleagues to develop the combined field of visual computing into "the best group in the world," as he stated upon joining the CSE faculty.

In addition to launching new courses at both the graduate and undergraduate level, Ramamoorthi recently launched CSE 167x, an introductory massive, open online course (MOOC) on Computer Graphics over the EdX network. It was his first MOOC produced at UC San Diego, and the first offering from UC San Diego's new channel on EdX. Ramamoorthi also created an EdX course, the first on computer graphics, as one of the first nine courses on the EdX platform in 2012 while he was still on the faculty at UC Berkeley. The course has also been licensed and translated, including into Mandarin, as of Fall 2014.

Prof. Ramamoorthi started at UC San Diego in July 2014 as a Professor of Computer Science and Engineering, with an affiliate appointment in Electrical and Computer Engineering. He joined the university from a tenured faculty appointment in Electrical Engineering and Computer Science at UC Berkeley, where he was a key participant in the new Visual Computing Lab there. Prior to joining UC Berkeley in January 2009, Ramamoorthi and colleagues built a successful Vision and Graphics Center at Columbia University, where he worked from August 2002 through 2008. Before that, he earned his Ph.D. at Stanford University in 2002, following undergraduate studies at Caltech. While at Stanford, he worked in the same computer graphics lab as postdoctoral researcher Henrik Wann Jensen, who joined the UC San Diego faculty directly from Stanford in 2002. While Prof. Ramamoorthi was at UC Berkeley, his first postdoctoral scholar was Manmohan Chandraker, a 2009 Ph.D. graduate in computer vision at UC San Diego advised by CSE Prof. David Kriegman. Chandraker will be rejoining UC San Diego as an assistant professor in CSE this fall, with affiliations in both the Center for Visual Computing and the Contextual Robotics Institute.

This is the first in a series of faculty chairs established as a part of the Inspiring Imaginations development campaign by the department over a three-year period starting in 2011. In addition to faculty chairs, proceeds of the campaign are extending support for graduate students, renovations to and expansion of the CSE building, as well as tutoring and mentoring programs for undergraduates.

Two additional endowed chairs in the CSE department funded by the campaign will be announced shortly, according to CSE's Gupta.

"The department is at an important juncture and one of our priorities is to retain our best faculty and attract distinguished professors from other universities," noted Gupta. "Professor Ramamoorthi was already one of the top experts in computer graphics and computer vision when he opted to leave UC Berkeley for the UC San Diego faculty. A recruitment at that level becomes a critical building-block as we grow to become not just the largest, but also one of the best computer science programs in the country."

Related Links

Ravi Ramamoorthi's CSE website
Center for Visual Computing