2007 ACM SIGGRAPH Awards

Significant New Researcher Award

Ravi Ramamoorthi

ACM SIGGRAPH is proud to recognize Ravi Ramamoorthi as this year's recipient of the Significant New Researcher Award for his groundbreaking work on mathematical representations and computational models for the visual appearance of objects.

Ravi's work has had enormous impact in areas ranging from real-time rendering to acquisition and representation of visual appearance. In the tradition of the best graphics researchers, Ravi combines foundational mathematical analyses with novel practical algorithms. His discoveries have not only led to a deeper understanding of appearance: a number of them are being adopted by industry.

Ravi obtained his B.S. and M.S. degrees in computer science and physics from Caltech in 1998, publishing two SIGGRAPH papers from his work there with Al Barr and Jim Arvo. He then received his Ph.D. in Computer Science from Stanford University in 2002, under Pat Hanrahan. He joined the faculty at Columbia University in August 2002, where he is now an associate professor of computer science.

He is well known for his seminal SIGGRAPH 2001 paper and Ph.D. dissertation that used ideas from signal processing to establish a firm mathematical framework to describe reflection in terms of convolution, where the incident radiance plays the role of the signal, and the bidirectional reflectance distribution function of the surface plays the role of a filter. He went on to derive an explicit convolution product formula in the frequency domain using spherical harmonics. This work represents a mathematical tour de force, addressing long standing problems in graphics and computer vision.

His SIGGRAPH 2004 paper with Ren Ng and Pat Hanrahan on triple product integrals continued his study of the reflection operator, a theme that has continued with several subsequent papers, two of which appear in this year's proceedings.

Much of Ravi's recent work has turned to data-driven methods, including five papers with a wide array of collaborators in SIGGRAPH 2006 that deal with a variety of issues, from the measurement and representation of complex time varying phenomena, to real-time editing of BRDFs.

In summary, Ravi has made deep and broad contributions to the twin fields of graphics and computer vision. He has shown exceptional levels of productivity, being one of the most prolific recent contributors to SIGGRAPH. Indeed, his research accomplishments make it easy to forget that he is only at the beginning of his career, having received his doctorate just five years ago. With such a quick start to his career, we look forward to many more productive years to come.

Previous Award Recipients

2006 Takeo Igarashi
2005 Ron Fedkiw
2004 Zoran Popović
2003 Mathieu Desbrun
2002 Steven J. Gortler
2001 Paul Debevec