

# Shekhar Garde

Dean, School of Engineering & Elaine S. and Jack S. Parker Professor, Engineering at Rensselaer Polytechnic Institute

Troy, NY, US

Leads the largest of the five schools at Rensselaer and conducts research in statistical mechanical theory and molecular modeling

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## Biography

Dr. Shekhar Garde is the Dean of Engineering and the Elaine and Jack Parker Chaired Professor at Rensselaer Polytechnic Institute. Garde received his B. Chem. Eng. (University of Bombay, 1992) and Ph.D. (U. Delaware, 1997) in Chemical Engineering. He was a Director's post-doctoral fellow at Los Alamos National Laboratory from 1997 to 1999. He joined Rensselaer in 1999 as an Assistant Professor, and was promoted to Associate in 2004, and to Full Professor in 2006. He was appointed the Parker Chaired Professor in 2006, and as the Head of Chemical and Biological Engineering Department in 2007 and served in that role for seven years before becoming the Dean of Engineering. Dr. Garde's research employs statistical mechanical theory and molecular modeling and simulation tools to understand the role of water in biological interactions. He has published ~100 peer-reviewed papers in leading scientific journals, which have been cited over 8300 times (H=46, per Google Scholar). He has given over 140 invited talks at leading universities, industries, and international conferences, including many keynote lectures. He has received several awards including the CAREER Award by the US National Science Foundation (2001), School of Engineering Research Award (2003), Rensselaer Early Career Award (2004), and the 2011 Robert W. Vaughan Lecturer-ship at California Institute of Technology. He was elected a Fellow of the American Institute of Medical and Biological Engineers (2014) and of American Association for Advancement of Science (2015). Dr. Garde co-leads the Molecularium Project, which aims to excite children about the world of atoms and molecules. He has pioneered integration of data from large-scale molecular dynamics simulations into Disney-Pixar style animations. He is a co-executive producer of the Molecularium movie "Molecules to the MAX" 2D and 3D IMAX as well as DVD versions of which are currently being distributed nationwide. In 2011 Garde was honored with the Explore~Imagine~Discover Award by the Children's Museum of Science and Technology, in the Capital District, NY. The Nanospace portal of the Molecularium project received "Best of the Web" award in Education by Center for Digital Education in 2013.

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## Areas of Expertise

Engineering, Thermodynamics, Simulations of Biological Systems, Molecular Theory, Hydration Phenomena at Interfaces and Nanosystems, Protein Hydration, Hydrophobicity

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## Affiliations

American Institute of Medical and Biological Engineers : Fellow, American Association for Advancement of Science : Fellow

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## **Education**

**University of Delaware**  
Ph.D. Chemical Engineering

**University of Bombay**  
B.Chem.Eng. Chemical Engineering

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## **Accomplishments**

**Rensselaer Early Career Award**  
2004

**School of Engineering Research Award**  
2003

**CAREER Award**  
2001 The US National Science Foundation

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