

# Engineering - Chemical

**Speaker: Ganesh Balgi**

Dr. Ganesh Balgi obtained his bachelor's degree in Chemical Engineering from the Indian Institute of Technology in Mumbai India. He teamed up with a classmate for completing multiple non-credit & for-credit projects such as building a boot-strap temperature controller for a research lab, and developing a computer simulation model of a distillation column. Their efforts began with a first-of-its-kind internship during their sophomore summer break.

After graduation, he completed his doctoral thesis research (PhD) from the Chemical Engineering department at the University of Buffalo, NY. For his research, he used fluid dynamics and transport phenomena principles to solve problems in cellular electrophysiology as well as biosensors almost two decades ago, when the field of biological engineering was in its infancy.

As part of his post-doctoral training at Purdue University's department of Chemical Engineering, he led efforts to commercialize a novel optical spectroscopic technique to automate pharmaceutical processes. The technique was originally developed for breast cancer diagnosis through interdisciplinary efforts of physicists and chemical engineers at Princeton University.

Over the last decade, Ganesh has combined his experience in process control, modeling & simulation, and software programming to create computer simulation models of human disease physiology. These simulation models are utilized to help pharmaceutical companies with their research in developing better and safer drugs faster.