

2010 Board of Trustees' Award for Outstanding Teaching Recipient

Satya Shivkumar

According to one WPI senior, Professor Shivkumar is the professor "who stands out," the one whom she "raves about to others and recommends with high regard" to her peers.

Satya Shivkumar of Mechanical Engineering has research interests that include biomedical materials, polymer properties and materials science. His passion for his field and its teaching is noted by students at all levels, undergraduate and graduate, who express their appreciation of his sharing that passion in the classroom. One student professes: "Without his enthusiasm and encouragement, I would have a more difficult time accomplishing my goals."



Professor Shivkumar's successes as a teacher can be attributed to a variety of factors. Some students point to his application of the latest technologies to keep students engaged in class. He uses the SMART Board system to draw on slides, providing an audio-visual record of the class for students to review. He incorporates CPS clickers at the end of class to review the topics covered. Other students point to more traditional practices of good teaching, such as beginning each class with questions on the previous day's material. In addition, he draws upon "interesting anecdotes that help his students remember tidbits of information." Students comment on his "exceptional skill in clarifying concepts," adding: "He is able to explain the complexities of the chemistry of materials in building blocks down to how they act on a molecular level to the processing techniques of these materials and why they are chosen." Also appreciated is Professor Shivkumar's "willingness to help any student at any time." Professor Shivkumar is considered an exceptional teacher for reasons that go beyond using the right tools, applying basic pedagogical principles, communicating well and being helpful. His nominators describe him in glowing terms as being "enthusiastic," "stimulating," "creative" and "amazing."

Professor Shivkumar integrates current research into his courses so that projects and assignments are often based on recent applications and journal articles. One student writes: "I was amazed at how he explained these topics and chose articles to seamlessly bolster his teachings and show what we were learning and how it is actually being applied in labs and the industry today." Another student suggests: "It could just be that he teaches a fascinating science, but I personally think that he is so well-learned and up-to-date in his field, he can share all the cool, fun, and exciting

aspects ...and therefore his students become as excited about the topic as he is." Professor Shivkumar's blending of research and fun can be seen by some of the steps he takes to demonstrate concepts, such as bringing rice pudding to a biomaterials class to explain heterogeneous substances and submerging cooked spaghetti into liquid nitrogen to see the effect on polymers.

A nominator's simple comment: "He makes his students excited about learning." is perhaps the ultimate accolade for a teacher.

In recognition of his strong interest in education, his creativity in the classroom and his commitment to students, we are pleased to present the 2010 Trustees Award for Outstanding Teaching to Professor Satya Shivkumar.