Schwarz Inducted into Medical and Biological Engineering Elite

Edward Schwarz, Ph.D., director of the Center for Musculoskeletal Research at the University of Rochester Medical Center, joined the top two percent of medical and biological engineers as he was inducted into the American Institute for Medical and Biological Engineering (AIMBE) College of Fellows on April 9. Schwarz received this honor for his efforts to prevent inflammatory bone loss, a common consequence of rheumatoid arthritis, infections, tumors, and wear and tear on prosthetic implants.

Schwarz, who is also the Richard and Margaret Burton Distinguished Professor in Orthopaedics at URMC, is a leader in orthopaedic biologic therapy and stem cell research. His lab is working on several approaches to develop living bone implants to repair large areas of bone damage caused by trauma or bone cancers. They use recombinant adeno-associated virus (rAAV) to revitalize allografts (donated cadaver bone) and stem cells to generate a patients' own living bone tissue on 3D-printed bone implants.

Schwarz's lab also developed a novel passive immunization for a devastating bone infection, caused by an antibiotic resistant “superbug,” methicillin-resistant *Staphylococcus aureus* (MRSA), which is now increasingly seen outside hospitals. The team also made the breakthrough discovery that these bacteria can crawl deep into tiny channels in bones, where they may evade the immune system. In 2017, the CMSR was awarded nearly $6 million to study deadly MRSA bone infections.

Under Schwarz's direction, the CMSR has consistently ranked as one of the top NIH-funded orthopaedic research programs in the country, with Schwarz himself receiving the highest amount of NIH funds for an individual investigator from 2014 to 2016. Schwarz attributes this success largely to the quality of the faculty in the CMSR and the center’s focus on promoting the next generation of scientists and national leaders.

Election to the AIMBE College of Fellows is among the highest professional distinctions accorded to a medical and biological engineer. College membership honors those who have made outstanding contributions to "engineering and medicine research, practice, or education” and to "the pioneering of new and developing fields of technology, making major advancements in traditional fields of medical and biological engineering, or developing/implementing innovative approaches to bioengineering education."

Schwarz was inducted at a formal ceremony during the AIMBE Annual Meeting at the National Academy of Sciences in Washington, DC on April 9, 2018.