CITATION OF

Ahmet Can Sabuncu

FOR THE

Romeo L. Moruzzi Young Faculty Award for Innovation in Undergraduate Education

Professor Sabuncu's role in the collaborative design of a project-based engineering experimentation course and his study of its educational efficacy, emphasizes accessibility and skills for the future of work by turning away from high-end equipment in favor of low-cost experimental materials that are widely available to any student in any location. Through skillfully sequenced modules with a gradual increase in cognitive complexity, students learn the necessities of careful measurements and analyses as they utilize sensors for temperature, strain, pressure, vibrations, and motor-control. The course's main attraction is a truly open-ended, integrative final project with a substantial element of choice that gives students agency and purpose. Students are challenged to construct a device that uses a minimum of three sensors or controllers to perform some objective. A colleague noted how Professor Sabuncu works individually with students to keep their projects "realistic, on track, and fun. Students have continually commented that the open-ended project was something that 'really brought it together' for them."

He not only designed the course, he assessed student learning in ways that have advanced knowledge and practice about project-based learning in the engineering education community. Using an NSF-approved instrument, he determined that his students made strong gains during virtual and hybrid learning in all areas of his student learning objectives. Students largely attributed their strong learning to the project-based components of the course. Further, comparative data and analyses showed that virtual and hybrid students learned as much as those who attended class in person. Ultimately, his work has demonstrated that low-cost, hands-on learning about engineering experimentation can be achieved both online and in person with skillfully designed project-based learning.

For his commitment to accessibility as the foremost concern in higher education, his advances in online project-based learning, and his accomplishments in the scholarship of teaching and learning, WPI is proud to present the 2022 Romeo L. Moruzzi Young Faculty Award for Innovation in Undergraduate Education to Ahmet Can Sabuncu.

Worcester Polytechnic Institute

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