Badri Roysam, professor and chair at the Cullen College of Engineering’s Electrical & Computer Engineering Department at the University of Houston served as a judge the 2016 Siemens Competition in Math, Science, & Technology. The competition is the nation’s premier science research competition for high school students and seeks to promote excellence by encouraging students to undertake individual or team research projects.

Roysam judged a team of identical twin sisters Adhya Beesam and Shriya Beesam, juniors at Plano East Senior High School in Plano, TX for their work developing a new approach to diagnose schizophrenia earlier in patients with higher certainty using both brain scans and psychiatric evaluations.

The team took home the top prize, a $100,000 scholarship for their project entitled, "Linked Neuro-Fuzzy Inference System: A Novel Approach to Schizophrenia Diagnosis."

Business Wire quoted Roysam in their coverage of the competition:

"Without any mentors or special access, Adhya and Shriya Beesam showed extreme resourcefulness as they taught themselves the scientific literature related to Schizophrenia, clinical methods and machine learning algorithms," said Roysam. "With little outside guidance, they tracked down relevant databases and found a way..."
to challenge the traditional instinct of choosing an already-established singular path of diagnosis, and instead pursued a way to harness the combined power of two major and different tools of clinical diagnoses. In the end, they ended up developing a credible approach to earlier diagnosis of Schizophrenia that could enable treatment. This was student science driven by passion, curiosity, tenacity and courage.

The Siemens Foundation’s mission is inspired by the culture of innovation, research and continuous learning that is the hallmark of Siemens’ companies. Together, the programs at the Siemens Foundation are helping close the opportunity gap for young people in the U.S. when it comes to STEM careers, and igniting and sustaining today’s STEM workforce and tomorrow’s scientists and engineers.

© University of Houston Cullen College of Engineering