

Young Physicist from Syracuse University Receives Jefferson Lab's 2014 Thesis Prize



Rakitha Beminiwattha

NEWPORT NEWS, VA, June 6, 2014 – A young researcher, who worked on software development and data analysis for a major physics experiment conducted at the Thomas Jefferson National Accelerator Facility, has received an award for the thesis he wrote about his efforts.

Rakitha Beminiwattha, now a post-doctoral research associate with the Department of Physics at Syracuse University, was awarded the 2014 Jefferson Science Associates Thesis Prize during the Jefferson Lab Users Group Annual Meeting, held at the lab June 2-4. Beminiwattha wrote his thesis, titled "First Determination of the Weak Charge of the Proton Through Parity Violating Electron Scattering," while pursuing his Ph.D. at Ohio University. The thesis was based on his work on a large-installation experiment called Q-weak.

"My data analysis work focused on the extraction of the physics asymmetry from part of the accumulated data and applies background and radiative corrections to obtain the 21 percent measurement of the weak charge of the proton," Beminiwattha explained. He received his Ph.D. in nuclear and particle physics from OU in 2013.

The prize is awarded annually for the best Ph.D. student thesis on research related to Jefferson Lab science and includes a \$2,500 cash award and a commemorative plaque. Nominations for the JSA Thesis prize are judged on four criteria: the quality of the written work, the student's contribution to the research, the work's impact on the field of physics and service (how the work benefits

Jefferson Lab or other experiments).

The recipient presents his or her work during a session at the users group's annual meeting. Users are the scientists, from across the U.S. and from 30 countries, who use the research facilities and capabilities at Jefferson Lab, to conduct fundamental nuclear physics experiments.

"As is usual, the quality of theses nominated for the JSA Thesis Prize presented a challenge in selecting a winner," said John Arrington, chair of the Jefferson Lab Users Group Board of Directors and group leader of the Medium Energy Physics Group at Argonne National Lab. "This year's entries represented the impressive physics programs being carried out in Jefferson Lab's experimental halls, as well as in the theory group."

"The Users Group Board performed the first round of review, narrowing the field to the top three candidates," Arrington continued. "The winner was selected by this year's panel of distinguished judges: Ron Ransome, Rutgers University; Bill Briscoe, George Washington University; and Rocco Schiavilla, Old Dominion University/Jefferson Lab. Our thanks go to the committee members, the users who nominated the theses and supervised the excellent work these students performed, and as always, the Jefferson Science Associates Initiatives Fund, which supports this prize."

Beminiwattha completed his undergraduate work at the University of Peradeniya in Peradeniya, Sri Lanka. He is currently working on background radiation and shielding design for an upcoming experiment, and on the conceptual designs for two experiments planned to run in the upgraded Continuous Electron Beam Accelerator Facility at Jefferson Lab.

The Thesis Prize was established in 1999 by the Southeastern Universities Research Association and is now one of many projects supported by the [JSA Initiatives Fund Program](#), which was established by Jefferson Science Associates to support programs, initiatives and activities that further the scientific outreach, and promote the science, education and technology missions of Jefferson Lab in ways that complement its basic and applied research focus. Initiatives Fund awards are for those projects that benefit the lab user community and that leverage commitments of others.

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