Paata Ivanisvili’s NSF CAREER grant will help him peer into the future of computers

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Picture Credit:
Laurel Hungerford

Paata Ivanisvili, Assistant Professor in the Department of Mathematics, wants to know how to answer seemingly unanswerable questions. That’s why he applied for — and was just awarded — an NSF CAREER grant from the National Science Foundation. The grant, awarded to early-career faculty to help them push their field forward, will give him the funding he needs to answer one of computer science’s longest-standing questions: will the computers of the future, often called quantum computers, be any faster than today’s computers?

“Quantum computers don’t exist, but suppose we did have quantum computers,” Ivanisvili says. “The question is to understand how much quantum computers can outperform classical computers.”

The question is a pressing one, because many in the computer science field think that quantum computing could help solve certain kinds of computational problems that classical computing has thus far been unable to answer. Ivanisvili’s grant will help him recruit undergraduate and graduate students to work on projects related to the problem, and, come 2021, he’ll launch a new summer program at UCI that brings graduate students to campus to take part in research and to learn about nascent branches of the mathematics field. Ivanisvili hopes for the summer camp to become a mainstay at UCI.

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