

Princeton physicists win \$12M from Russian billionaire

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Michael Mancuso/The Times Princeton NJ Exterior of Fulld Hall at the Institute for Advanced Study

PRINCETON — A physicist whose work on understanding matter has contributed to a different concept of the universe is among four faculty members at the Institute for Advanced Study who have won \$12 million in prizes given by Russian billionaire Yuri Milner for their advanced work in theoretical physics.

Nima Arkani-Hamed, Juan Maldacena, Nathan Seiberg and Edward Witten each received \$3 million for their contributions to the field.

Other recipients include former Institute members Maxim Kontsevich and Ashoke Sen. Milner, whose Fundamental Physics Prize went to nine physicists in all, studied physics before going on to reap millions of dollars in the stock market. Awards decisions were also made by Steven Weinberg, who received his Ph.D. at Princeton before going on to win the Nobel prize for physics in 1979.

Reached yesterday, Seiberg said he was humbled to be among the pool of recipients. In recent years, Seiberg has been one of the scientists whose work on the concept of supersymmetry has been the basis of tests at the Large Hadron Collider in central Europe, where researchers have smashed together protons at incredible speeds to uncover smaller connecting particles that bind together to form the building blocks of matter.

“What they are finding is that these different aspects are really aspects of the same thing,” Seiberg said.

The scientists found evidence supporting supersymmetry in July, when they detected the Higgs-Boson, a sub-atomic particle that bridges the gap between energy and matter that was first imagined in 1964 by Scottish scientist Peter Higgs.

"The one they actually discovered was the version of the Higgs suggested in 1967," Seiberg said. "So the physics that is being explored now was worked out then."

Though Seiberg said the discovery of the so-called "God particle" has been exciting because it confirms physicists' predictions, the work of the fundamental scientist and his colleagues is never over, he said.

Already he is working on describing the next layer of even smaller particles to further explain why things are the way they are.

"We don't know what it is. That's the thing about science, we don't explore things we know. We explore things we don't know. People ask me all the time, what a certain experiment will find. The answer is we don't know what it will find. If we knew what the experiment would find, then we wouldn't have to do it," he said.

As for what he'll do with the \$3 million in his bank account, Seiberg said he hopes to keep plugging away at solving the riddles of the universe.

"I am planning to change nothing, and I mean that in the best possible way," he said. Seiberg praised Milner for his appreciation and support of fundamental science.

"We want to understand the fundamental particles and the basic forces acting between them," Seiberg said. "This understanding gives us a better understanding of the universe, the origins of the universe and its future."