



DATE: February 18, 2019
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Dancing all the way to her Doctorate

A Weizmann Institute of Science researcher is one of four winners in the international “Dance your PhD” contest

Scientists are not generally required to display prowess in modern dance, but Dr. Roni Zohar of the Weizmann Institute of Science’s Science Teaching Department recently showed her moves in an award-winning science/dance video. Her video placed first, over the weekend, in the social sciences category of the “[Dance your PhD](#)” contest held by *Science* magazine, published by the American Association for the Advancement of Science (AAAS). The competition, now in its 11th year, picks its winners from entries in which PhD students and former students describe their PhD subjects through dance, and it is judged in four categories – biology, physics, chemistry and social sciences – by a panel of judges that includes scientists and figures from the world of the arts.

Zohar did not just use dance to interpret her work: Dance is an integral part of her research. She investigates ways of using movement to teach high school students basic concepts in physics. In the video, dancers pose in the bubble-like space at the top of the Institute’s particle accelerator as Zohar weaves between them, waking them up; and 10th grade students are filmed demonstrating such concepts as angular velocity and balance by walking in a line or leaning in various poses. Titled [Movements as a Door for Learning Physics Concepts – Integrating Embodied Pedagogy in Teaching](#), the video describes Zohar’s PhD research conducted under the guidance of Prof. Bat Sheva Eylon of the Science Teaching Department and Prof. Dor Abrahamson of the University of California at Berkeley. Zohar will soon be undertaking postdoctoral research into the phenomenon of movement in learning at the Institute under the guidance of Prof. Ehud Ahissar of the Neurobiology Department and Prof. Atan Gross of the Biological Regulation Department.

Dance has long been a part of Zohar’s life. She studied dance in the Jerusalem Academy of Music and Dance at the same time as she was attaining her undergraduate degree in physics from the Hebrew University of Jerusalem. Her MSc, in Neurobiology, focused on motor control. Today, in addition to training science teachers' through the Ministry of Education, Zohar teaches classes in movement and improvisation. And this year, for the first time, she is leading a course on “movement, science and learning” at the Feinberg Graduate School, the academic arm of the Weizmann Institute of Science.

Zohar was assisted in creating her video by a choreographer, Rotem Lev, and a movie maker and editor, Yael Leibovitz-Zand.

“When the learning material is not just on the board, it helps us to understand that these rules were not useless discoveries, but are a part of the world around us. Experiencing them reduces the fear of learning,” explains one of the 10th-grade students at the end of the video.

Dr. Roni Zohar’s research and this project are supported by the Maurice and Ilse Katz Center for Science Teaching Science Teaching; the Trump Foundation; the Edmond de Rothschild Foundations; and the Sandy Wall Endowment Fund for Science Teaching.

The Weizmann Institute of Science in Rehovot, Israel, is one of the world's top-ranking multidisciplinary research institutions. Noted for its wide-ranging exploration of the natural and exact sciences, the Institute is home to scientists, students, technicians and supporting staff. Institute research efforts include the search for new ways of fighting disease and hunger, examining leading questions in mathematics and computer science, probing the physics of matter and the universe, creating novel materials and developing new strategies for protecting the environment.

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