"For years, leaders in the Physics Education Research community like David Hestenes, Emeritus Professor of Physics at ASU, have recognized that the traditional lecture-demonstration mode of instruction is ineffective. Students can memorize procedures to get “the right answer” only on problems exactly like those they have practiced. They flounder when they run into problems which demand a real understanding of the concepts behind the formulas. Hestenes concluded that students learn best when they are guided to construct their own understanding of the essential ideas. Working with experienced high school teacher Malcolm Wells, he helped to develop Modeling Instruction, an approach that emphasizes the construction and application of conceptual models as a way of learning and doing science.”

Carlos Montero first encountered Modeling Instruction in 2006 and has been devoted to the pedagogy ever since experiencing the profound impact it had in his chemistry classes. He is an experienced AP Chemistry teacher and serves as an exam reader for the College Board. In 2013, he was certified as a Modeling Instruction workshop leader by the American Modeling Teachers Association (AMTA) and earned the Presidential Award for Excellence in Math and Science Teaching.

“Through the Modeling Instruction teaching method, students learn science as scientists do – by doing science. It helps teachers attain knowledge, skills and experience needed to benefit students,” said Carlos Montero.

Mr. Montero has been a featured presenter on several national platforms, including the Biennial Conference in Chemical Education. On June 17-21, 2019, Carlos Montero will lead a week-long workshop at Scheck Hillel Community School that is aimed at grades 6-12 science teachers from all disciplines and all schools. Introduction to Modeling Instruction™ focuses on the concept of energy as a central theme in science classes. Participants will carry out investigations to learn how Modeling Instruction works in the context of physics, chemistry, biology and middle school science.