Sports on the Moon
ARTHUR EISENKRAFT, UMass Boston

One day humans will thrive on the Moon for extended periods of time. Similar to life on Earth people will engage in exercise and entertainment. Sports can satisfy both of these needs. This “sports on the Moon” challenge has been attempted by high school students, college students, teachers, scientists and engineers (including some NASA scientists). This presentation will also describe how this type of challenge can be used to improve science instruction. The challenge is one of nine chapters in Active Physics, a high school curriculum project, conceived and developed by AAPT, APS, and AIP with NSF support. The curriculum uses a 7E instructional model (engage, elicit, explore, explain, elaborate, extend, evaluate) at both the lesson level and the chapter level. At the lesson level, students are engaged through a cartoon. Teachers then elicit students' prior understanding of the science content. The students then explore the science through an investigation. After completing the investigation, students explain their results and the teacher helps place their explanations into a larger theoretical structure. The students and teacher then elaborate this content and see how it applies to related situations. Finally, the students extend their understanding by transferring the science content to their chapter challenge – developing a sport that can be played on the Moon. Throughout the lesson, the teacher is evaluating student understanding.