

2010 Summer Program in Math and Sciences for High School Students

Ten middle and high school students in this region attended a week-long third annual summer program, sponsored by the Department of Mathematics, during the week of July 12-16, 2010. The summer program, popularly known as MSI'10, was designed to enhance students' interests in mathematics, physics, and biological sciences. This year's activities were: (a) Einstein's Special Relativity, (b) The Computational Revolution, **Dr. Balraj Menon**,



Assistant Professor of Physics and Astronomy presented the activity on Einstein's Relativity. At its very core, theory of relativity is a geometric description of nature. The objective of this workshop was to exploit this geometric structure and provide the student a qualitative understanding of the fundamental



concepts in special relativity. Dr. Menon used graphical and pictorial approach to special relativity. The other activity, computational revolution, was presented by **Dr. Clarence Burg**, Assistant Professor of Mathematics. Using the new Callisto Computer Cluster, in conjunction with the state-of-the-art software, students built 2D and 3D computational geometries of the wings and airplanes and computed the flow past these objects. According to the participant survey

conducted at the end of the workshops, the best parts of the summer program were hands-on approach to the activities, topics outside the mainstream of high school curriculum, a visit to the planetarium, and space time diagrams.

All participants said that the information provided in the program was valuable and most participants felt that the program made them more enthusiastic about learning science and mathematics. The summer program was funded by a grant from the Arkansas Science and Technology Authority and organized by Dr. Ramesh Garimella, Chair of the Department of Mathematics. For information on future



math and science summer programs, please contact rameshg@uca.edu or call 501-450-3147.