Event Name: Physics Research Seminar

Guest speaker: Dr. Yuri Rostovtsev, Professor at University of North Texas

Date: March 21, 2013

Event coordinator: Jacob James

STAIRSTEP students: Jacob James (Event Coordinator – STST Physics)

STST participants: Keeley Townley-Smith, Jose Castro, Jessica Plaia (Physics)

and Crissie Vandehoef (Chemistry)
Dr. Yuri Rostovtsev, a Professor at the University of North Texas, came to Lamar University to give a seminar. His talk was titled “Detecting Coriolis force and enhanced Fizeau effect by using quantum coherence.” and presentation was held in the Archer building, room 108, the large auditorium. Dr. Rostovtsev has worked for several years to develop this topic and was able to show a mastery of topics related to field of study.

This seminar touched on Optomechanics, which takes in optical effects as they relate to mechanical motion. This was showed through the study of light beams as they travel through flowing water. I picked up on both sides of this topic because I have studied both Optical Physics and mechanical motion. This took into account the laminar flow of the medium through a pipe and the optical properties it had as a flowing liquid. He was able to look at the shift as the flow and beam path were together and then opposite of each other.

This event also included a meet-n-greet before the seminar where some of the STAIRSTEP students in physics and one student that has great interest in joining STAIRSTEP Larry Suraka (see photo 1) were able to greet Dr. Rostovtsev and ask him specific questions related to research, undergraduate opportunities, and what it takes to be a research professor. Also, some of our alumni (Nick Lanning – cohort May 2012) and graduate students (two from electrical engineering) asked about guidance in applying to Ph.D. programs in the field of quantum informatics.

Keeley Townley-Smith (PH STAIRSTEP student) found the presentation beneficial as it exposed her to all the technicalities of research performed at the PhD level. “Dr. Rostovtsev shared with us his personal experiences and in turn, we shared with him the details of our astronomy project. These types of events keep the Lamar Physics department connected to other physics departments across the state and country…. Dr. Rostovtsev commented that attendance was very good, much better than what you would expect from a smaller school, due to an active Physics Department.”

Crissie (CH STAIRSTEP student) said: “I benefited by observing the speakers presentation techniques, even though the information was slightly above my knowledge level.”

The seminar was a great success. Many students enjoyed the presentation and asked great questions. Dr. Rostovtsev was, in turn, able to answer these questions effectively and delivered all his information clearly. The conversation with students continued about one hour after the seminar.

Statistics:

Total in attendance: 32

Number of undergraduates: 21

Number of graduates: 6

Number of Professors: 5 (from Physics and Computer Sciences)
Pictures:

Figure 1: Students Jessica Plaia, Larry Sukara, Dr. Yuri Rostovtsev, Jacob James, Keeley Townley-Smith and Jose Castro, that attended the meet and greet before the seminar presented by Dr. Rostovtsev.

Figure 2: Dr. Rostovtsev is showing a visual representation of the equipment used in his experiments