

SOCIETY OF PHYSICS STUDENTS (SPS) EVENT

# Special Relativity

**Prasenjit Bose**

Cleveland State University

Abstract:

For more than nineteen centuries, time was known to flow at a constant rate. It was believed time has a constant “rate of flowing” irrespective of the environment. The concept of simultaneity was always considered to be absolute for many ages. In 1905, an unknown clerk working in the Swiss Patent Office gave the world a mind blowing explanation of the behavior of time and how its “rate” behaves in our universe. He gave us a new perspective of our Universe and changed the laws of relative motion. His ideas contradicted with those of the fathers of Physics, Newton and Galileo, but was victorious in the end. This unknown clerk turned out to be the greatest Physicist of the 20<sup>th</sup> century and we all know him as Albert Einstein.

Today, we are going to cruise through the world of Special Relativity and its consequences. How it led to the development of ideas like Space-Time, Time Dilation, Length Contraction, Lorentz Transformation, Rest mass energy and many more...Many principles of Modern Physics has its basis in Special Relativity. It led to the development of High Energy and Nuclear Physics, and our very own global GPS system, which would have been totally off if relativistic calculations were not taken into consideration.

WHERE

**SI – 117**

WHEN

**Noon- 1pm**

**Tuesday, November 24, 2009**