

Physics and Space Sciences Colloquium

Physics, mathematics and metaphysics – the quest for understanding the nature of existence from ancient to modern times



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In this talk, I will give a historical review of the meaning of the words physics, mathematics and metaphysics, exploring these changing concepts and their relationship from antiquity to modern times. I will start with the views of Aristotle from the ancient times, then discuss those of St. Thomas Aquinas from the medieval times, then move to the revolutionary 1610 publication of *Siderius Nuncius* by Galileo, Bacon's new method, development of scientific method, Newton's gravitation and empty space, Einstein's relativity, the observability of Compton and Bohr, the 1964 Gell-Mann revolution, all leading to the rise of a new metaphysical age. In this context I will discuss a current metaphysical question (what is ultimately real) in the study of elementary particles and fields, namely gravity and the superstring theory. I will close by mentioning a few metaphysical questions on the origin and existence of the universe.

Friday, Nov. 6, 2015

4:00-5:00 pm

Room 140

Light refreshments will be served