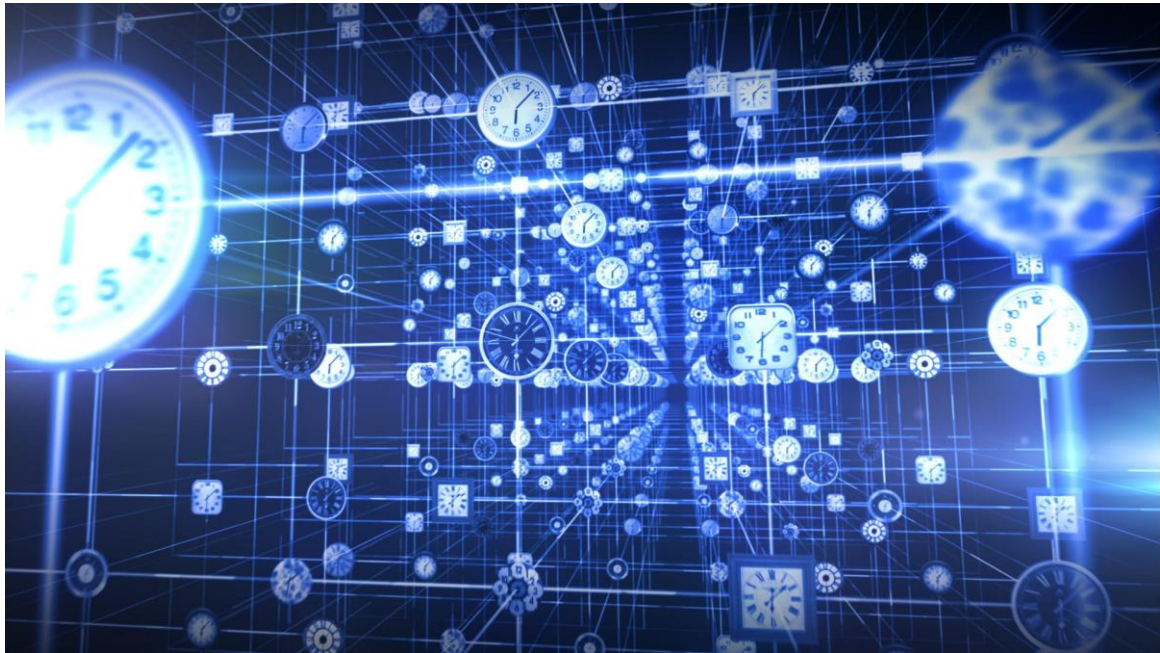


Time in the Seventeenth Century Mathematics, Physics and Metaphysics



Emily Grosholz

Penn State University

Science & Metaphysics Series

**Auletta Dip.to - Villa Mirafiori, via Carlo Fea 2, Rome
9 March 2017 – 11:00-13:00**

chair: Carlo Cellucci

open to the public

registration required (email: emi.ippoliti@gmail.com)



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SCIENCE & METAPHYSICS SERIES |
DIPARTIMENTO DI FILOSOFIA | DOTTORATO DI FILOSOFIA

ORGANISATION & INFO: EMILIANO IPPOLITI EMI.IPPOLITI@GMAIL.COM

Programme

Thursday 9 March 2017

- 11:05-11:15 **opening** Emiliano Ippoliti & Carlo Cellucci *Roma Sapienza*
- 11:15-12:15 **E. Grosholz** *Penn State University* Time in the Seventeenth Century
- 12:15-12:30 **Break**
- 12:25-13:00 **Debate**
chair Carlo Cellucci *Roma Sapienza*

Abstract

I first review the innovative representations of time in the work of Galileo, Descartes and Newton, and then turn to the debate over whether time is absolute (to be defined analytically) or relative (to be defined referentially) between Newton and Clark on the one hand, and Leibniz on the other. In this process, Leibniz offers an interesting answer to the question, how shall we combine two kinds of discourse - empirical compilation and theoretical analysis - in the new science? Leibniz calls on metaphysics, in particular the Principle of Sufficient Reason, to regulate a science that must be both empirical and rational. The correlation of precise empirical description with the abstract conception of science *more geometrico* is guaranteed by the thoroughgoing intelligibility and perfection of the created world. Leibniz encourages us to work out our sciences through successive stages, moving back and forth between concrete taxonomy and abstract systematization, a method we see in his investigations of mechanics and planetary motion, and his mathematical-metaphysical account of time, which was subtler and more multivalent than that of Newton. In the last section of my talk, I will discuss the role of metaphysics in science and logic.



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Emily Grosholz
Penn State
University



Emily Grosholz is Edwin Erle Sparks Professor of Philosophy at the Pennsylvania State University. She is the author of monographs on Descartes, Leibniz and the role of "productive ambiguity" in mathematics and the sciences. She edited a collection of essays on Leibniz, time and history, as a special issue of *Studia Leibnitiana* (44 / 1 2012), as well as collection of essays on modern cosmology and time as a special issue of *Studies in the History and Philosophy of Modern Physics* (52 / Part A 2015). Her new philosophy book *Starry Reckoning: Reference and Analysis in Mathematics and Cosmology* is just out from Springer in the SAPERE series edited by Lorenzo Magnani. Next year, Springer will publish her book on poetry and mathematics, *Great Circles: The Transits of Mathematics and Poetry* in a new series, Mathematics, Culture and the Arts, edited by Margerie Senechal, Jeremy Gray and Jed Buchwald.



Science & Metaphysics Series

If science is the study of physical world, metaphysics, as its name suggests, aims to go beyond the investigation of the 'merely physical'. Some thinkers believe that metaphysics provides a context for the physical sciences while others feel that its findings undermine traditional scientific methods. Who is right? And what are the implications for science and philosophy?

More info: <https://uniroma1.academia.edu/EmilianoIppoliti/Science-&-Metaphysics-Cycle>



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