

Workshop “Mathematics and Mechanics in the Newtonian Age: historical and philosophical questions”

University of Sevilla, Institute of Mathematics (IMUS), 18-20 Sept. 2017

The problem of the “applicability” of mathematics is justly emphasized, but it is often forgotten that the set-up of the problem changes with context. Its usual formulation presupposes the “modern” conception of maths (emphasizing pure mathematics, structures, abstract axiom systems) and cannot be employed for the “classical” era without questioning. We aim to investigate the changing configuration of relations between pure and “applied” maths, with particular attention to the “classical” era (17th and 18th centuries) contrasted with the 19th and early 20th centuries.

Besides its historical and philosophical interest, the question is of current concern given that we are living changes in the understanding of maths, as the more “impure” methods are once again being brought centre stage (see Bottazzini & Dahan Dalmedico 2001; notice also the recent meetings at the Mathematisches Forschungsinstitut Oberwolfach, in 2013, 2015).

Contributed papers will be welcome on topics relevant to the workshop.

In order to promote discussion and bring the workshop’s topic into sharper focus, we propose to consider, on the ‘physical side,’ mainly the science of mechanics. Obviously the mathematical treatment of other branches of physics is of enormous interest, but in this particular meeting we suggest to consider them only insofar as they have affected the most primary aspects of the mathematisation of physics.

One of the questions under analysis is the changing status of the fundamental principles of mechanics along the 19th century, from their earlier role as “axioms or laws of movement” in Newton’s formulation, to their reconception as “hypothesis or conventions”. Transformations in mathematics have played a role, alongside other factors, in this development.

By “Newtonian age” we understand roughly 1700-1900, i.e., the period of maximum influence of Newton’s physical ideas.

Organised by research project P12-HUM-1216 “La génesis del conocimiento matemático: cognición, historia y prácticas”, in cooperation with IMUS.

The invited speakers are: Robert DiSalle (University of Western Ontario), Helmut Pulte (Ruhr Universität Bochum-RUB), and Ivahn Smadja (Université de Paris Diderot – Paris 7 & Lab. Sphère).

Proposals should be of a max. length of 500 words. Please send them to María de Paz <depaz.am@gmail.com>. The call for papers is open until May 29th. Notification of acceptance: June 15th.

Organising and Scientific committee: José Ferreirós, María de Ponte, Adán Sus (Univ. Valladolid), María de Paz

For more information, visit: <https://gecomat1216.wordpress.com/>