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Abstract for Keynote Speaker

Introduction to Newton's *Philosophiae Naturalis Principia Mathematica* Geneva Edition ([1739-1742]1822) as a Crucial Relationship between Physics—Mathematics: Oxford University Press Editorial Project, 5 Vols.

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Abstract. Pisano & Bussotti's *Newton Principia Geneva Edition International Project* (Oxford University Press, 5 Vols., expected 2028) was born on 2010 during a Mathematical and Physical Workshop at the Italian Naval Academy in Livorno, Italy. Then we organised numerous events and extensively published on Newton Geneva Edition followed. An ERC Project on the subject is also in pre-print. The third edition of Newton's (1642-1727) *Principia Mathematica Philosophiae Naturalis* (1726) adds some new important results to the two previous ones (1687, 1713). Between 1739-1742 a new extensively commented edition was published in Geneva. The editors were two mathematicians: Thomas Le Seur (1703-1770) and François Jacquier (1711-1788). They belonged to the *minim friars*. The Swiss scientist Jean-Louis Calandrini (1703-1758) gave fundamental support to the edition with his physical notes on mechanics and mathematical explanations. The comments (footnotes) of the editors are more extensive than the Newtonian text itself. This edition is composed of 3 vols. (the third one in 2 tomes). Newton's propositions are detailed, annotated—and—commented: mathematical and physical aspects, geometrical proofs, methodology, discoveries and advancements after Newton's works are astutely reported. Based on our works, in this talk we mainly aim and explain a) the scientific genesis of the edition, b) its the development in mathematical physics in the fertile period 1725-1740, so c) highlighting both Newton's Science and the methodological aspects stressed by the French Geneva Edition editors, that is the progressive replacement of Newton's "geometry of infinity" with analytical methods, d) including details on our Oxford University Press editorial Project, e) ERC in pre-print. Therefore a selection Newton's Geneva edition case studies on the relationship between physics and mathematics are presented.

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