

## TOPIC OF A COMPETITION PROMOTING STUDENT ENGAGEMENT IN SCIENTIFIC ACTIVITIES

Topic: The Philosophical Meaning of Mathematics

Goal: To examine the major ways in which mathematics is related philosophical understandings of reality, knowledge, order, form, and rationality, and to survey central problems and approaches in the philosophy of mathematics.

Short description (max. 2000 characters):

Throughout the history of Western philosophy, mathematics has been not merely a distinct field of knowledge but also an important model of philosophical thought. From the Pythagoreans, Plato, and Aristotle to Descartes, Leibniz, Kant, Frege, Russell, Wittgenstein, and contemporary philosophy of mathematics, mathematical concepts have shaped accounts of being, knowledge, rationality, form, and order. The project may examine the Greek opposition between *peras* (limit, determinacy) and *apeiron* (the unlimited or indeterminate), as well as the philosophical significance of number, measure, proportion, and geometrical form. In later philosophy, mathematics became closely connected with questions of method, necessity, certainty, infinity, symbolic language, and logical form. The project may also address central questions in the philosophy of mathematics: what mathematical objects are, in what sense numbers and structures exist, what grounds the necessity of mathematical truths, and how mathematical proof should be understood. Major approaches such as Platonism, logicism, formalism, intuitionism, and structuralism may also be considered. The aim would be to present mathematics as one of the major sources of philosophical reflection and to show the variety of roles it has played in the history of philosophy and in contemporary debates.

Supervisor researcher/lecturer: Nerijus Stasiulis