universität wien

Fakultät für Mathematik

EINLADUNG

zu

einem didaktischen Vortrag

im Rahmen der Habilitation von

Paolo Giordano, PhD
(Wolfgang Pauli Institute)

"Can a student invent a new theory?"

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Abstract:

We will talk of infinitesimal, infinite numbers and generalized functions by imaging the story of a student that, applying only standard analysis, tries to define infinitesimals as they are used in physics. Everyone around says this is impossible, at least for historical reasons, and that one needs a lot of mathematical logic. We briefly present Grothendieck's and Newton's point of view on creativity in mathematics as a motivation to think out of the box and to eventually see that a smooth curve is exactly equal to its tangent straight line in an infinitesimal neighborhood (not only at a single point), that a composition of the Dirac delta with itself is possible, and that - using this non-Archimedean language - a Picard-Lindelöf theorem for PDE could be invented by such a student. In spite of Dr. Everyone saying this was impossible.

9. Oktober 2019,
13:30 Uhr – 14:45 Uhr,

Fakultät für Mathematik,
Oskar-Morgenstern-Platz 1,
HS 02, EG.

Karlheinz Gröchenig