

11.12.2023 - 14.12.2023, from 11:00, Department of Mathematics and Statistics, room no. 02015.

INNOLEC

Nicola Gambino (University of Manchester)

The calculus of analytic functors

M U N I
S C I

Nicola Gambino (University of Manchester): The calculus of analytic functors

Analytic functors, introduced by André Joyal in as part can be regarded as a functorial counterpart of exponential power series. Indeed, they support a rich calculus, including operations of sum, product, substitution, and differentiation, that provides a powerful tool to establish bijective proofs of combinatorial identities.

In this series of lectures, accessible to an audience of PhD students and researchers in Mathematics with basic training in category theory, I will present a generalisation of Joyal's theory of analytic functors. In this context, the calculus of analytic functors gives rise to a 2-category with a wealth of category-theoretic structure, including finite products and exponentials, a differentiation operation, and fixpoints. This will lead to first steps in the development of a theory of bicategorical models of linear logic.

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Department of Mathematics and Statistics, Meeting room n. 2015, 2nd floor

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