

PRESS RELEASE

Leipzig, April 14, 2020

Dr. Noémie Combe on the fast track to structural unification

The mathematician Dr. Noémie Combe was awarded a Minerva Fast Track position by the Max Planck Society. The young scientist is honored for her promising research at the intersection of algebraic geometry and topology and is given the opportunity to set up her first research group at the Max Planck Institute for Mathematics in the Sciences in Leipzig.

The scientific focus of this group lies on the unification of different mathematical perspectives and structures that have evolved historically in the course of research. To explain her work Noémie Combe goes back in time by more than a century when Max Planck introduced his theory of quanta, representing the atomic and subatomic world. This grand theory was followed up by Albert Einstein with his theory of general relativity which, in contrast to Planck's, refers to a huge scale, the scale of the universe. Both discoveries invigorated many different mathematical branches like operator theory, functional analysis, differential geometry, and other fields in which excellent progress has been made, but also different perspectives have emerged. "The Minerva Fast track grant offers me an excellent opportunity for an intense search of a unification to all these beautiful mathematical branches." Noémie Combe describes her work. In particular, she is interested in the structure of Frobenius manifolds. In their classification, she discovered a new family of objects and investigates its structure and behavior in relation to the other classes. All in an effort to perhaps unite the efforts of Planck and Einstein from a mathematical perspective.

Noémie Combe got her a master's degree in pure mathematics from the University of Geneva (Switzerland). Awarded with a PhD Excellence Labex grant, she studied and obtained her PhD at the University of Aix-Marseille (France). After a research stay at the Sorbonne University in Paris, she held a postdoc position at the Max Planck Institute for Mathematics in Bonn, where she got the chance to work with Prof. Yuri Ivanovitch Manin.

The Max Planck Society's Minerva Fast Track Program supports outstanding young female scientists giving them the opportunity of a long-term career planning. The maximum three-year funding starts immediately after the dissertation or first postdoc position. In case of a positive evaluation, the scientists can apply then for a Max Planck Research Group / Minerva W2 Research Group.

Information about the scientist

www.mis.mpg.de/nlalg/members/noemie-combe

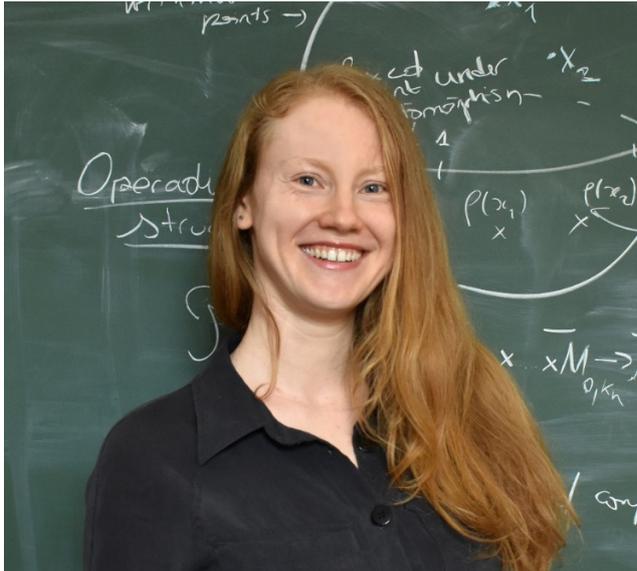


Photo of Dr. Noémie Combe

<https://oc.mis.mpg.de/s/d1I20HvUPSZF5g2>

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"Alice in the mathematical wonderland"

Video portrait of Dr. Noémie Combe with an exposé of her research

<https://www.youtube.com/watch?v=TcdQkjfVjJA&feature=youtu.be>

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