



Department of Mathematics  
University of Rome Tor Vergata



MatMod@TOV  
Excellence Project 2023-2027  
NEWSLETTER  
N°7 October 2025 – January 2026



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# Presentation

The Department of Mathematics of the University of Rome Tor Vergata is distinguished by first class research, often motivated by applications from theoretical physics, astronomy, aerospace, finance, technology and medical science, a high-level educational system, and the organization of events in the context of the so-called third mission of the University. For details we refer to the Department's website:

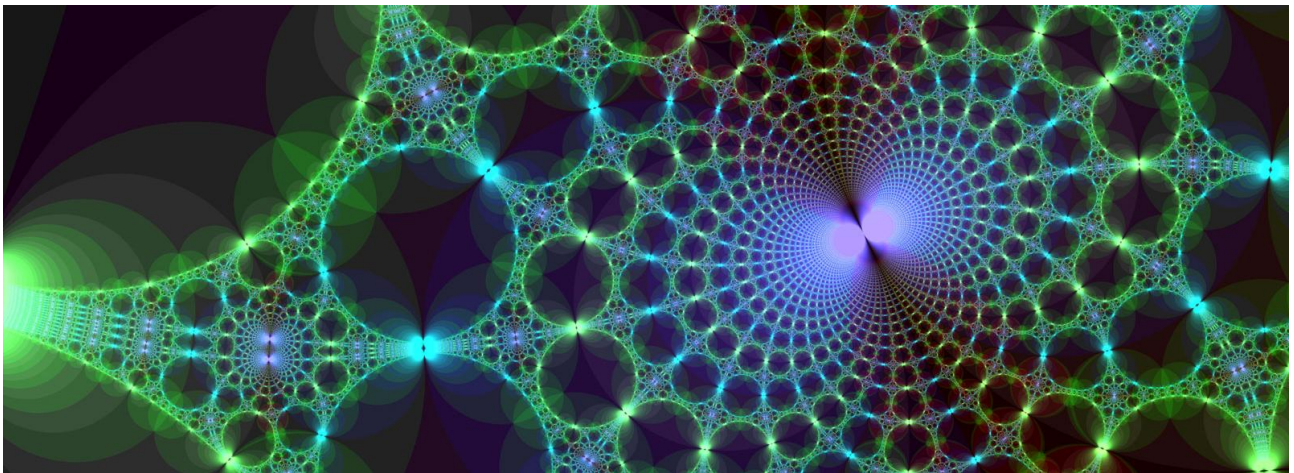
<https://www.mat.uniroma2.it/index.php>

The Department aims to increase its leading role in research, math education and math culture. The recently awarded national Excellence Project 2023-2027, denoted by MatMod@TOV, offers the opportunity to face new challenges, and its main objectives are:

- foster new collaborations between staff members on advanced research themes
- hire excellent staff members, able to participate in multiple research projects
- stimulate the interaction with excellent math groups, both in public research institutions and industry, and transform the Department into a strategic asset for the development of highly advanced mathematics and its application to specific problems
- increase the international visibility of the Department
- improve the Master and PhD Programs in Mathematics
- intensify the spreading of Math Culture

See the web page of the project MatMod@TOV: <https://www.mat.uniroma2.it/progetto/>

# Recruitment



The MIUR Excellence Grant (CUP E83C23000330006, 2023-2027), awarded to the Mathematics Department of the University of Rome Tor Vergata (project MatMod@TOV), provides funds for Assistant and Associate Professorships as well as for Postdoc Positions.

All details at <https://www.mat.uniroma2.it/progetto/recruitment.php>

## Professorships

The following appointments by direct calls are in progress:

- The appointment of Prof. David Asperò as associate professor in Mathematical Logic (Gruppo Scientifico Disciplinare 01/MATH-01 – Settore Scientifico Disciplinare MATH-01/A) was approved by the Academic Senate and the Board of Administration in December 2025.

## Postdoc positions

We congratulate:

- Dr. Tiziano Gaudio, winner of the (one year) Postdoc position (Assegni di Ricerca - II Fascia) in Mathematical Analysis (Gruppo Scientifico Disciplinare 01/MATH-03 – Settore Scientifico Disciplinare MATH-03/A) – Title: “Algebre di operatori e teoria quantistica dei campi conformi”;
- Dr. Paolo Cosentino, winner of the (one year) Postdoc position (Assegni di Ricerca - I Fascia) in Mathematical Analysis (Gruppo Scientifico Disciplinare 01/MATH-03 – Settore Scientifico Disciplinare MATH-03/A) – Title: “Analisi geometrica e problemi ellittici differenziali in geometria e fisica”.

# Research



## Research Topics

During the period October 2025 – January 2026, MatMod@TOV organized a series of seminar talks/collaborations about the following main research topics:

- 1) Dynamical Systems and Statistical Physics
- 2) Quantum Field Theory and Quantum Information Theory
- 3) Mathematical Modelling and PDE's
- 4) Topological Data Analysis
- 5) Algebraic Geometry and Applications
- 6) Mathematical Modelling in Celestial Mechanics and Space Applications
- 7) Mathematical Modelling, Probability, Statistics and Machine Learning
- 8) Mathematical Modelling and Numerical Analysis
- 9) Mathematical Modelling and Climate Change

This is a partial list of the invited speakers/collaborators during the period:

U. Derenthal (Leibniz Universität Hannover), J. Liu (Northeast Normal University, Changchun), L. Casarin ("Sapienza" University of Rome), O. Kiviniemi (University of Nottingham), B. Premoselli (Université Libre de Bruxelles), M. Galeotti (University of Bologna), G. Lechner (FAU Erlangen-Nürnberg), G. Cerulli Irelli ("Sapienza" University of Rome), A. Miti ("Sapienza" University of Rome), A. Kuhrs (Paderborn University), M. Zavidovique (Sorbonne Université), V. Sohinger (University of Warwick), L. Corsi (University of Rome "Tre"), C. Letrouit (CNRS, Laboratoire d'Orsay, Paris Saclay), S. Cenatiempo (GSSI), L. Weng (SNS Pisa), K.-H. Rehren (University of Göttingen), B. Leclerc (Université de Caen), M. Maccan (Ruhr-Universität Bochum), P. Martin (UPC Barcelona), I. Fascitiello (University of Rome "Tre"), L. Franzoi (Università di Milano), I. Charlesworth (Cardiff University), V. Melani (Università di Firenze), C. Bernardini ("Sapienza" University of Rome), C. J. Fewster (University of York), A. Duca (Université Lorraine-Nancy), F. Cipriani (Politecnico di

Milano), E. D'Angelo (Università di Milano), P. Bieliavsky (UC Louvain), F. Meazzini ("Sapienza" University of Rome), M. Dippel (Universität Köln), F. Bernasconi ("Sapienza" University of Rome), E. Sande (Simula Research Laboratory, Oslo), W. Cheng (Nanjing University), F. Prinari (University of Pisa), M. Venkatesh (MPI Saarbrücken), P. Schauenburg (Université de Bourgogne), L. Vitagliano (Università di Salerno), A. Ferraguti (University of Torino).

(cf. also <https://www.mat.uniroma2.it/seminari-new2.php?inizio=0&pagina=1>)

## Conferences and Workshops

MatMod@TOV is funding a wide activity of conferences/workshops/advanced lecture series/schools. Recent and planned events are listed below.

- **MathPolo 2025: A Mathematical Bridge Between Nanjing and Rome**  
Date: October 2<sup>th</sup>-3<sup>th</sup> 2025  
Place: Villa Mondragone and Department of Mathematics  
**Organizers:** R. L. Greenblatt, V. Morinelli, M. Salvi, A. Sorrentino, H. Speelers (University of Rome "Tor Vergata"),  
[https://www.mat.uniroma2.it/progetto/Events\\_pages/2025/Mathpolo2025/page-mathpolo2025.php](https://www.mat.uniroma2.it/progetto/Events_pages/2025/Mathpolo2025/page-mathpolo2025.php)
- **Computational Aspects of Complex Networks and Artificial Intelligence**  
Date: December 3<sup>th</sup> 2025  
Place: Department of Mathematics  
**Organizers:** D. Bertaccini, A. Clementi (University of Rome "Tor Vergata"),  
<https://www.mat.uniroma2.it/bertaccini/CACN25/>

## RoMaDS

(Rome Center on Mathematics for Modeling and Data ScienceS)

Recently founded by MatMod@TOV project, the aim of the center is to contribute to the development of mathematical research in the field of modelling and data science through the organization of seminars, conferences and doctoral courses (<https://www.mat.uniroma2.it/~rds/events.php>).

Even more important is the possibility of establishing a permanent forum for the interaction between mathematical research and actual applications. In particular, the interdisciplinary nature of the center allows the creation of stable interactions between those involved in mathematical techniques of data analysis in different departments of the University. At the same time, our goal is to foster interactions with other research centers and even outside the strictly academic sphere.

<https://www.mat.uniroma2.it/~rds/about.php>

## High level teaching activities



### Grants and Curriculum of Excellence

- MatMod@TOV 2023-2027 funded 3 degree prizes, for an amount of 2000 € each, for Master's graduates in Pure and Applied Mathematics at Tor Vergata from July 2024 to June 2025. The award is aimed at Master's theses satisfying at least one of the following conditions: a significantly original result; an efficient implementation and/or a particularly significant numerical experimentation; a clear and in-depth presentation of highly significant results. The competition is now over and the following Master's graduates have been awarded:

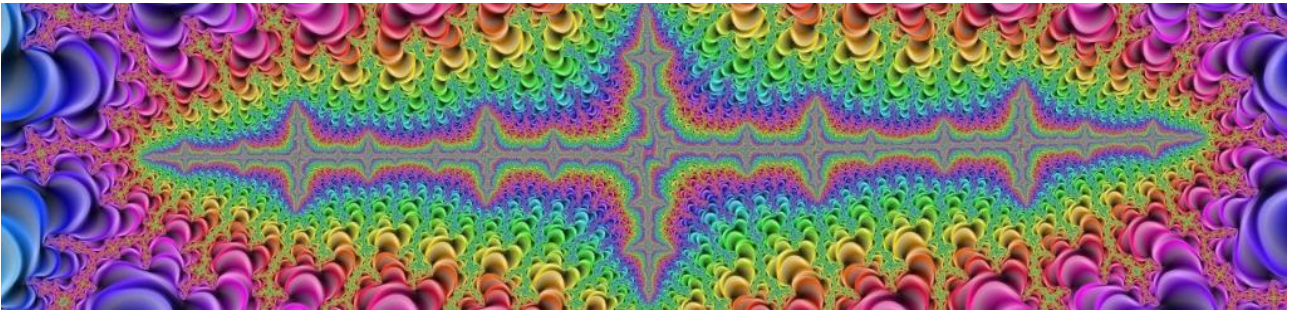
PADELLINI ANDREA, Thesis title: "Hopf rings and cohomology of Euclidean configuration spaces"

PAPA FEDERICO, Thesis title: "Il teorema di Torelli per superfici  $K3$ "

FIORITO LORENZO, Thesis title: "Functional spaces for neural networks"

- The student Tiziano Bigazzi, at the end of his Master studies, has successfully completed the Curriculum of Excellence.

## General Activities



MatMod@TOV is also meant to fund renovations of rooms/laboratories of the Department, acquisition of modern equipment, research books, etc.

- In the last quarter of 2025, a new redundant air conditioning system was installed in the data center's machine room.
- Two Apple workstations have been purchased for two recently recruited young professors.