

# **Scientific Program 2025**

## **Workshops & Conferences**

## WORKSHOP ON RESURGENCE, WALL-CROSSING AND GEOMETRY

January 12-17

- J. Andersen (Southern U. of Denmark),
- B. Eynard (U. Paris-Saclay), M. Kontsevich (IHES),
- M. Mariño (UNIGE).

### YALGEBRA AND QUANTUM GEOMETRY OF BPS QUIVERS

January 19-24

- W. Li (Institute of Theoretical Physics),
- P. Longhi (Uppsala U.), M. Mariño (UNIGE),
- B. Pioline (Sorbonne U. Paris).

## NEW FRONTIERS IN EXTREMAL AND PROBABILISTIC COMBINATORICS

January 26-31

A. Shapira (Tel Aviv U.), B. Sudakov (ETH Zurich).

### STATISTICAL MECHANICS, ALGEBRA, AND GEOMETRY

February 2-7

- S. Shatashvili (Trinity College), J. Sonner (UNIGE),
- E. Verlinde (U. Amsterdam).

### STOCHASTIC EQUATIONS AND STOCHASTIC DYNAMICS

February 9-14

M. Gubinelli (Oxford U.), X-M. Li (EPF Lausanne).

### WORKSHOP IN MATHEMATICAL PHYSICS

February 23-28

S. Smirnov (UNIGE).

## FEFFECTIVE THEORIES FOR MANY-BODY SYSTEMS OUT OF EQUILIBRIUM

May 11-16

- L. Delacrétaz (U. Chicago), B. Doyon (King's College),
- T. Sasamoto (Tokyo Institute of Technology),
- J. Sonner (UNIGE).

## MATHEMATICAL FOUNDATIONS OF BIOLOGICAL ORGANIZATION

May 18-23

J-P. Eckmann (UNIGE), K. Kruse (UNIGE).

## \*\*HELVETIC ALGEBRAIC GEOMETRY SEMINAR (HAGS) 2025

June 1-6

R. Pandharipande (ETH Zurich), A. Szenes (UNIGE).

## POLYLOGARITHMS, HOMOLOGY OF LINEAR GROUPS, AND STEINBERG MODULES

June 8-13

- A. Kupers (U. Toronto), P. Patzt (U. Oklahoma),
- D. Rudenko (U. Chicago), T. Willwacher (ETH Zurich).

## TOPOLOGICAL SYMMETRIES AND DEFECTS IN QUANTUM FIELD THEORY (WORKSHOP & SCHOOL)

June 15-20 & June 22-27

- J. Brown (U. Edinburgh), A. Cattaneo (UZH),
- M. Del Zotto (Uppsala U.),
- J. Plavnik (U. Indiana Blumington),
- C. Teleman (UC Berkeley).

## THE AMPLITUHEDRON: STRUCTURE, COMBINATORICS, AND POSITIVE GEOMETRY

June 29 - July 4

N. Arkani-Hamed (Institute for Advanced Study),

- T. Lakrec (UZH),
- L-K. Williams (Harvard U. & Radcliffe Institute).

# FINTERSECTIONS OF TOPOLOGICAL RECURSION, CONFORMAL FIELD THEORY, AND RANDOM GEOMETRY

August 24-29

- N. Aghaei (UNIGE), C. Guillarmou (U. Paris-Saclay),
- R. Kashaev (UNIGE), N. Orantin (UNIGE),
- E. Peltola (Aalto U. & U. Bonn).

## FINTERNATIONAL WORKSHOP ON AUTOMORPHIC FORMS

August 31 - September 5

- C. Burrin (UZH), L. Garcia (U. College London),
- Y. Li (TU Darmstadt), R. Zuffetti (TU Darmstadt).









# Scientific Program 2025

## **Education & Outreach**

### WINTER SCHOOL IN MATHEMATICAL PHYSICS

January 5-10

A. Alekseev (UNIGE), A. Cattaneo (UZH),

G. Felder (ETH Zurich), M. Podpokaeva (IHES),

E. Raphael (UNIGE), T. Strobl (U. Lyon 1),

A. Szenes (UNIGE).

This traditional school organized by SwissMAP is aimed at master, graduate and postdoctoral students and features three mini-courses by renowned speakers and short talks by attendees.

Registration opens in October.



### INTERNATIONAL EGMO CAMP

February 16-21

T. Samrowski (UZH), K. Slavov (ETH Zurich).

This is an international camp aimed at preparing students for the European Girls' Mathematical Olympiad (EGMO), organized jointly by the ETH Math Youth Academy, the UZH Junior Euler Society, and the Swiss Mathematical Olympiad.



April 28 - May 2

S. Moody (Collège de Genève), E. Raphael (UNIGE).

This math camp organized by SwissMAP and the University of Geneva is aimed exclusively at high school girls from the French-speaking part of Switzerland. It proposes an introduction to mathematical research in small working groups.

Registration opens in January.



### SUMMER SCHOOL: HOMOLOGICAL ASPECTS OF **GROUPS AND THEIR CLASSIFYING SPACES**

May 4-9

M. Arenas (U. Cambridge), R. Boyd (U. Glasgow), M. Bucher (UNIGE), N. Wahl (U. Copenhagen).

This summer school focuses on exciting recent developments at the intersection of geometric group theory and algebraic topology and will feature three mini-courses. It is aimed at graduate and postdoctoral students, with a specific focus on female and non-binary students.



#### ADVANCED LECTURES IN PHYSICS IN SWITZERLAND

May 25-30

R. Baumgartner (UNIGE), A. Florio (Brookhaven Nat. Lab),

V. Pellizzani (UNIBE).

The second edition of ALPS, organized and taught by junior researchers, is aimed at young physicists from advanced master students to first postdoc from all over the world.



### TOPOLOGICAL SYMMETRIES AND DEFECTS IN QUANTUM FIELD THEORY (SCHOOL)

June 22-27

J. Brown (U. Edinburgh), A. Cattaneo (UZH),

M. Del Zotto (Uppsala U.), J. Plavnik (U. Indiana Blumington), C. Teleman (UC Berkeley).

This week-long graduate school is part of a series organized annually by the Simons Collaboration on Global Categorical Symmetries and is aimed at graduate students.

### FÉDÉRATION SUISSE DES JEUX MATHEMATIQUES TRAINING CAMP

June 27-29

E. Cantoni (FSJM), J.C Fabre (FSJM), D. Kobler (FSJM).

This camp is a preparation for the young Swiss participants qualified to participate in the international final of the Championship of mathematical and logical games.



### MATHEMATICAL PHYSICS SUMMER SCHOOL

August 17-22

N. Nikolaev (U. Birmingham), E. Raphael (UNIGE).

This summer school for masters and beginning PhD students is organized by SwissMAP and offers introductory lectures to different aspects of mathematical physics.

Registration opens in March.



### FROM RESEARCH TO OUTREACH

October 19-24

P-A. Cherix (UNIGE), R. Coulon (CNRS/U. Bourgogne),

B. Duchesne (U. Paris-Saclay), S. Fiorelli (UNIGE),

E. Raphael (UNIGE), A. Valette (UNINE).

Jointly organized by the SMS and the SMF, this conference aims at enabling researchers to create outreach content from their own research, and experience what outreach can give back to research.







