

Nov 9, 2023 / 16:30 / ESI Vienna

ESI MEDAL 2023 AWARD CEREMONY

The Award Ceremony for the ESI Medal 2023 will take place as part of the Symposium ESI@30 on November 9, 2023, at the ESI, Boltzmann Lecture Hall.

The Medal of the Erwin Schrödinger Institute for Mathematics and Physics for the year 2023 is awarded to **Isabelle Gallagher**, Professor at the Department of Mathematics and its Applications of the École Normale Supérieure in Paris.

The Medal of the Erwin Schrödinger International Institute for Mathematics and Physics, or ESI Medal, awarded in 2020 for the first time, has been created to recognize outstanding achievements in any area of mathematics or physics, including contributions at the interface of the two fields.

Professor Gallagher is honored for her numerous innovative and highly significant contributions to the mathematical theory of fluid dynamics. With rigorous mathematical analysis she has greatly advanced our understanding of the relationships between microscopic and macroscopic models of fluids. In particular, her work explains how the Boltzmann equation, which gives a statistical description of a gas, emerges from an atomic-level model of the gas as a vast collection of interacting particles moving and colliding according to Newton's laws.

In more recent work, Isabelle Gallagher has shown how smooth solutions of the Boltzmann equation converge to solutions of the Navier-Stokes equations, which give a continuum model of the flow of a fluid. In her work on the Navier-Stokes equations, she discovered unknown and unexpected examples of global solutions with arbitrarily large initial data. She is also a leading expert on strongly rotating fluids, which are of central importance in the atmospheric and oceanic sciences. Professor Gallagher's groundbreaking work in mathematics has important implications for physics and advances our understanding of these fundamental equations governing fluid dynamics.

Nov 9–10, 2023 / ESI Vienna

ESI@30

THE FIRST THREE

DECADES OF THE

ERWIN SCHRÖDINGER

INTERNATIONAL

INSTITUTE FOR

MATHEMATICS AND

PHYSICS

**SYMPOSIUM &
ESI MEDAL 2023
AWARD CEREMONY**

SYMPOSIUM

Since its establishment in 1993, the Erwin Schrödinger International Institute for Mathematics and Physics (ESI) in Vienna has served as international research hub in mathematics and physics, hosting countless scientific programs on a broad range of topics. From the very beginning, the ESI has strived to promote innovative collaborative research, facilitate the free exchange of ideas and encourage interactions among scholars from diverse scientific backgrounds, geographical regions and career stages. With this two-day symposium, we celebrate the 30th anniversary of the ESI, reflecting the Institute's commitment to advancing excellence in research and stimulating discussion across all domains of mathematics and physics.

As a part of the Symposium ESI@30, the **ESI Medal 2023** will be awarded to **Isabelle Gallagher**.

You are cordially invited to join us.
Please register for participation via email to secr@esi.ac.at by **November 1, 2023**.

ESI@30 / THE FIRST THREE DECADES

Thursday, November 9

14:00 Opening

Christoph Dellago
ESI Director, University of Vienna

14:30 ESI—The Foundational Period: Personal Reminiscences

Wolfgang L. Reiter
University of Vienna

15:15 Quantum Entanglement Beyond two Particles and in Higher Dimensions

Anton Zeilinger
University of Vienna

16:00 Coffee Break

16:30 Laudatio

Pierre Germain
Imperial College London

17:15 Award—ESI Medal

17:30 Award Lecture

Isabelle Gallagher
École Normal Supérieure, Paris

18:15 Reception

2023 AWARD CEREMONY

Friday, November 10

09:00 Reliable AI: Successes, Challenges, and Limitations

Gitta Kutyniok
Ludwig-Maximilians University, Munich

09:45 Clouds—their Formation and Importance for Present and Future Climate

Ulrike Lohmann
ETH, Zurich

10:30 Coffee Break

11:00 Quantum Super Impulses

Christopher Jarzynski
University of Maryland

11:45 From Phase Separation in Heterogeneous Media to Learning Training Schemes for Image Denoising

Irene Fonseca
Carnegie Mellon University

12:30 Closing

Christoph Dellago
ESI Director, University of Vienna