



THE
ABEL
PRIZE
2025

Japanese mathematician Masaki Kashiwara awarded the Abel Prize 2025

The Norwegian Academy of Science and Letters has decided to award the Abel Prize 2025 to
Professor Masaki Kashiwara at

Research Institute for Mathematical Sciences (RIMS), Kyoto University, Japan, and
Kyoto University Institute for Advanced Study (KUIAS), Kyoto University, Japan

*“for his fundamental contributions to algebraic analysis and representation theory, in particular
the development of the theory of D-modules and the discovery of crystal graphs.”*

Masaki Kashiwara has during more than half a century in mathematics opened the door to a new mathematical field. He has built bridges and created tools. He has proven astonishing theorems with methods no one had imagined. He has been a true mathematical visionary.

Like Niels Henrik Abel (1802–1829) himself, Masaki Kashiwara (b.1947) showed excellence already when very young. He remembers his love of algebra being kindled at school by a problem called Tsurukamezan, about calculating the numbers of cranes and turtles, respectively, from knowing the total numbers of heads and legs. He loved being able to generalise a method to solve any problem. From there on he has continued to find new approaches and create new methods to solve mathematical problems throughout his astonishing mathematical life.

At the University of Tokyo, he first encountered his mentor Mikio Sato (1928–2023), by enrolling for

his senior year seminar. Sato had founded a new field – algebraic analysis – and in 1970 Kashiwara completed his Master’s thesis under his supervision. This thesis established the foundations of D-Module Theory, a new basis for studying systems of linear differential equations with algebraic analysis, when Kashiwara was just 23. For the next 25 years this thesis remained only available in Japanese, but it continued to have such great impact and influence, that it was eventually translated to English.

Broad spectrum of mathematics

With his Master’s thesis as a starting point, Kashiwara continued his remarkable mathematical career with new and groundbreaking discoveries and solutions. His numerous achievements have exerted great influence on various fields of mathematics and contributed strongly to their development. Over the years many mathematicians have been inspired through Kashiwara’s ideas.

While still a graduate student, Kashiwara travelled to France with Sato and fellow mathematician Takahiro Kawai, where he met his lifelong collaborator, Pierre Schapira. After completing his Ph.D. at Kyoto University in 1974, Kashiwara was appointed Associate Professor at Nagoya University. In 1977 he went as a researcher to MIT, before returning to Japan in 1978, where he has remained ever since at the Research Institute for Mathematical Sciences (RIMS), Kyoto University. He became Professor Emeritus following his retirement in 2010 and has continued his research as Project Professor at RIMS. He has also served as Program-Specific Professor since 2019 at the Kyoto University Institute for Advanced Study (KUIAS), specially established as a hub for the world's most advanced research.

Books and awards

Kashiwara is an exceptionally prolific mathematician with more than 70 collaborators. As well as his many publications, he has contributed many ideas to be developed by others. He has written several books that have become standard references of their fields.

He has won many awards for his work; among them the Asahi Prize for science, the Japan Academy Prize, the Fujihara Award, the International Mathematical Union's Chern Medal, the Inamori Foundation's international Kyoto Prize, the Frontiers of Science Award of the International Congress of Basic Science. In 2020, Kashiwara was honoured with Japan's Order of the Sacred Treasure, Gold and Silver Star, and in 2024 the Kyoto Prefecture Culture Prize for Outstanding Contribution.

"For over 50 years Masaki Kashiwara has reshaped and deeply enriched the fields of algebraic analysis and representation theory. His work continues to be at the forefront of contemporary mathematics and to inspire generations of researchers," says president of the Norwegian Academy of Science and Letters, Annelin Eriksen.

For mathematical details, see the 2025 Abel Prize citation from the Abel Prize committee. For details, see the biography.

Slightly amended on 29 March 2025.

About the Abel Prize:

- The award ceremony will take place in Oslo on 20 May 2025
- The Abel Prize is funded by the Norwegian Government and amounts to NOK 7.5 million
- The prize is awarded by The Norwegian Academy of Science and Letters and presented by H.M. King Harald V
- The selection of the Abel laureate is based on the recommendation of the Abel Committee, which is composed of five internationally recognized mathematicians
- For more information, please visit www.abelprize.no
- To schedule an interview with the chair of the committee or the laureate, we kindly direct you to the press contacts mentioned under
- Press room is open from March 26, at 12.00 (CET) abelprize.no/page/press-room-abel-prize-laureate-2025
- Media registration for the Abel Week will open April 23. Registration will close May 15. <https://dnva.pameldingssystem.no/media-registration-for-the-abel-week>

Press contact for Abel Prize laureate 2025 (in Japan):

Director, Global Communications / Kyoto University
David Hajime Kornhauser
Phone: +81 (0)75 753 5727
E-mail: comms@mail2.adm.kyoto-u.ac.jp

Press contact for the Norwegian Academy of Science and Letters (in Norway):

Head of Communication for The Abel Prize / The Norwegian Academy of Science and Letters
Marina Tofting
Phone: +47 938 66 312
E-mail: marina.tofting@dnva.no
General e-mail: press-abelprize@dnva.no