

Preface to the 25th Takagi Lectures

The Takagi Lectures are expository lectures by the finest contemporary mathematicians.

The Mathematical Society of Japan (MSJ) inaugurated the Takagi Lectures as a prestigious series of research survey lectures. The Takagi Lectures are the first official MSJ lecture series in mathematics to be named after the respected Japanese mathematician, Teiji Takagi [2]. These lectures are aimed at a broad mathematical audience and are, as a rule, held twice a year. The first Takagi Lectures took place in November 2006 at the Research Institute for Mathematical Sciences (RIMS), Kyoto.

The Takagi Lectures commemorate Professor Teiji Takagi (1875–1960), the principal creator of Class Field Theory. In Japan, he is also recognized as the founder of the Japanese School of modern mathematics [1, 3]. Internationally, he played a vital role in the global mathematical community, serving as one of the first Fields Medal Committee Members in 1936, alongside G. D. Birkhoff, É. Cartan, C. Carathéodory, and F. Severi.

The 25th Takagi Lectures are to be held on October 18–19, 2025, at The University of Tokyo. We are especially pleased to announce that the 25th Takagi Lectures will mark the resumption of the Takagi Lectures following a necessary hiatus occasioned by the COVID-19 pandemic. The distinguished lecturers for this renewed chapter are N. Alon, F. Kassel, and W. H. Woodin.

Lecture notes from the Takagi Lectures are to be published by the *Japanese Journal of Mathematics* (JJM). Founded in 1924, JJM is the oldest continuously published mathematical journal in Japan. Relaunched in 2006 as its third series, JJM is now dedicated to research survey articles of the highest scientific level, in cooperation with Springer. The editors of JJM—Y. Kawahigashi, T. Kumagai, H. Nakajima, K. Ono, T. Saito, and I (the Editor-in-Chief)—also serve as the organizers of the Takagi Lectures. Video recordings of the lectures will be made publicly available online.

This scheme of the Takagi Lectures is intended to support the mission of continuing the advancement of mathematics, not only in Japan but throughout the world.

The 25th Takagi Lectures are partly supported by JSPS KAKENHI, the Mathematical Society of Japan, the Graduate School of Mathematical Sciences at The University of Tokyo, and FJ-LMI CNRS IRL 2025 (French-Japanese Laboratory of Mathematics and its Interactions).

I would like to take this opportunity to express my sincere gratitude to the distinguished lecturers and all those who have supported our endeavors. I hope that the Takagi Lectures will earn the respect of a worldwide audience and will continue to foster future progress in mathematics.

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Graduate School of Mathematical Sciences

and

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Teiji Takagi (1875–1960)

Biography of Teiji Takagi

1875 April 21	Born in Gifu, Japan
1894	Entered the Department of Mathematics, Imperial University
1897	Entered the Graduate School of Tokyo Imperial University
1898–1901	Studied in Berlin and Göttingen
1903	Received the degree of Doctor of Science, Tokyo Imperial University
1904	Appointed Professor at Tokyo Imperial University
1920	Published his main paper on the class field theory
1925	Elected Member of the Imperial Academy of Japan
1936	Served on the 1st Fields Medal Committee
1938	Published the book <i>A Course on Analysis</i> (in Japanese)
1940	Received Culture Medal
1960 February 28	Died in Tokyo, Japan
Decorated posthumously with the Order of the Rising Sun of the First Grade	

Bibliography

- [1] S. Iyanaga, Chronological synopsis of the life of Teiji Takagi. In: Teiji Takagi Collected Papers, Second Enlarged Edition, Springer-Verlag Tokyo, 1990.
- [2] T. Kobayashi, On the establishment of the Takagi Lectures. Japan. J. Math., **2** (2007), 145–148.
- [3] K. Miyake, Teiji Takagi, Founder of the Japanese School of Modern Mathematics. Japan. J. Math., **2** (2007), 151–164.

Appendix

The following is a list of distinguished mathematicians who have delivered Takagi Lectures since the inaugural lecture in 2006.

- 2006 Spencer Bloch, Pierre-Louis Lions, Stephen Smale, Claire Voisin
- 2007 Junichiro Makino, Paul Malliavin, Karl-Hermann Neeb, Dan-Virgil Voiculescu, Marc Yor
- 2008 Jean-Pierre Bourguignon, Étienne Ghys, Maxim Kontsevich, Nikita A. Nekrasov, Hiroshi Ooguri, Oleg Viro
- 2009 Michael Harris, Michael Hopkins, Uwe Jannsen, Chandrashekhar Khare, Mikhail Khovanov, Dusa McDuff, James McKernan
- 2010 Alain Connes, Sergei Gukov
- 2011 Simon Brendle, Carlos E. Kenig
- 2012 Paul Frank Baum, Yves Benoist, Alex Lubotzky, Assaf Naor, Robert Seiringer
- 2013 Laurent Lafforgue, Hee Oh, Sorin Popa, Gang Tian
- 2014 Alice Guionnet, Ciprian Manolescu, Peter Scholze, Akshay Venkatesh
- 2015 Fabrizio Catanese, Jean-Pierre Demailly, Vaughan F.R. Jones, Masaki Kashiwara, Anatoly Vershik, Cédric Villani, Shing-Tung Yau
- 2016 Kenji Fukaya, Ngô Bảo Châu, David Vogan, Geordie Williamson
- 2017 Mark Braverman, Hugo Duminil-Copin, Martin Hairer, Roger E. Howe, Andrei Okounkov
- 2018 Yves André, Nicolas Bergeron, Jean-François Le Gall, Fernando Codá Marques, James Maynard
- 2019 Shun-ichi Amari, Joseph Bernstein, Mikhail Kapranov, Richard Schoen