



# Scientific Program 2019

Participants of the Workshops at Oberwolfach are invited personally by the Director of the Institute. Participation is subject to such an invitation. Interested researchers, in particular junior scientists, can contact the administration of the Institute. Since the number of participants is restricted, not all inquiries can be considered.

06.01.2019 - 12.01.2019 (ID: 1902)

**Graph Theory**

Jim Geelen, Waterloo  
Daniel Kral, Warwick  
Alex Scott, Oxford

13.01.2019 - 19.01.2019 (ID: 1903)

**Arithmetic of Shimura Varieties**

Laurent Fargues, Paris  
Ulrich Goertz, Essen  
Eva Viehmann, Garching  
Torsten Wedhorn, Darmstadt

20.01.2019 - 26.01.2019 (ID: 1904)

**Surface, Bulk, and Geometric Partial Differential Equations:  
Interfacial, stochastic, non-local and discrete structures**

Charles M. Elliott, Warwick  
Harald Garcke, Regensburg  
Ralf Kornhuber, Berlin

27.01.2019 - 02.02.2019 (ID: 1905)

**Tomographic Inverse Problems: Theory and Applications**

Martin Burger, Münster  
Bernadette Hahn, Würzburg  
Eric Todd Quinto, Medford

03.02.2019 - 09.02.2019 (ID: 1906)

**Nonlinear Evolution Equations: Analysis and Numerics**

Marlis Hochbruck, Karlsruhe  
Herbert Koch, Bonn  
Sung-Jin Oh, Seoul  
Alexander Ostermann, Innsbruck

10.02.2019 - 16.02.2019 (ID: 1907)

**Singularities and Homological Aspects  
of Commutative Algebra**

Aldo Conca, Genova  
Steven Dale Cutkosky, Columbia  
Srikanth Iyengar, Salt Lake City

17.02.2019 - 23.02.2019 (ID: 1908)

**Moist Processes in the Atmosphere**

Boualem Khouider, Victoria  
Rupert Klein, Berlin  
Leslie Smith, Madison

24.02.2019 - 02.03.2019 (ID: 1909)

**Non-Archimedean Geometry and Applications**

Vladimir Berkovich, Rehovot  
Walter Gubler, Regensburg  
Peter Schneider, Münster  
Annette Werner, Frankfurt

03.03.2019 - 09.03.2019 (ID: 1910x)

**Mini-Workshops**

(Deadline for application: 01.09.2018)  
N.N.

10.03.2019 - 16.03.2019 (ID: 1911)

**Uncertainty Quantification**

Oliver Ernst, Chemnitz  
Fabio Nobile, Lausanne  
Claudia Schillings, Mannheim  
Tim Sullivan, Berlin

17.03.2019 - 23.03.2019 (ID: 1912)

**Contemporary Coding Theory**

Marcus Greferath, Aalto  
Camilla Hollanti, Aalto  
Joachim Rosenthal, Zürich

24.03.2019 - 30.03.2019 (ID: 1913)

**Representations of Finite Groups**

Joseph Chuang, London  
Meinolf Geck, Stuttgart  
Radha Kessar, London  
Gabriel Navarro, València  
31.03.2019 - 06.04.2019 (ID: 1914)  
**Arbeitsgemeinschaft**  
(To be announced in summer 2018)  
N.N.

07.04.2019 - 13.04.2019 (ID: 1915x)

**Mini-Workshops**

(Deadline for application: 01.09.2018)  
N.N.

14.04.2019 - 20.04.2019 (ID: 1916)

**Combinatorics, Probability and Computing**

Michael Krivelevich, Tel Aviv  
Oliver Riordan, Oxford  
Angelika Steger, Zürich

21.04.2019 - 27.04.2019 (ID: 1917)

**Mathematical Methods in Quantum Molecular Dynamics**

Tucker Carrington, Kingston  
George A. Hagedorn, Blacksburg  
Caroline Lasser, Munich

28.04.2019 - 04.05.2019 (ID: 1918)

**Tropical Geometry: new directions**

Ilia Itenberg, Paris  
Hannah Markwig, Tübingen  
Grigory Mikhalkin, Genève  
Eugenii Shustin, Tel Aviv

05.05.2019 - 11.05.2019 (ID: 1919)

**Statistical and Computational Aspects of Learning  
with Complex Structure**

Sara van de Geer, Zürich  
Markus Reiß, Berlin  
Philippe Rigollet, Boston

12.05.2019 - 18.05.2019 (ID: 1920)

**Geometry and Physics of Higgs Bundles**

Lara B. Anderson, Blacksburg  
Tamás Hausel, Klosterneuburg  
Rafe Mazzeo, Stanford  
Laura P. Schaposnik, Chicago

19.05.2019 - 25.05.2019 (ID: 1921)

**Nonlinear Hyperbolic Problems:  
modeling, analysis, and numerics**

Rinaldo M. Colombo, Brescia  
Philippe G. LeFloch, Paris  
Christian Rohde, Stuttgart  
Konstantina Trivisa, College Park

26.05.2019 - 01.06.2019 (ID: 1922)

**Foundations and New Horizons for Causal Inference**

Nicolai Meinshausen, Zürich  
Jonas Peters, Copenhagen  
Thomas Richardson, Seattle  
Bernhard Schölkopf, Tübingen

02.06.2019 - 08.06.2019 (ID: 1923)

**Mixed-integer Nonlinear Optimization:  
a hatchery for modern mathematics**

Leo Liberti, Palaiseau  
Sebastian Sager, Magdeburg  
Angelika Wiegele, Klagenfurt

09.06.2019 - 15.06.2019 (ID: 1924x)

**Oberwolfach Seminars**

(To be announced in December 2018)  
N.N.

16.06.2019 - 22.06.2019 (ID: 1925a)

**Logarithmic Enumerative Geometry and Mirror Symmetry**

Dan Abramovich, Providence  
Michel van Garrel, Hamburg  
Helge Ruddat, Mainz

16.06.2019 - 22.06.2019 (ID: 1925b)

**Statistical Methodology and Theory for Functional and  
Topological Data**

Aurore Delaigle, Victoria  
Alexander Meister, Rostock  
Victor Panaretos, Lausanne  
Larry Wasserman, Pittsburgh

23.06.2019 - 29.06.2019 (ID: 1926)

**Algebraic K-theory**

Thomas Geisser, Tokyo  
Lars Hesselholt, Copenhagen  
Annette Huber-Klawitter, Freiburg  
Moritz Kerz, Regensburg

30.06.2019 - 06.07.2019 (ID: 1927)

**Differentialgeometrie im Grossen**

Gerard Besson, Gières  
Ursula Hamenstädt, Bonn  
Michael Kapovich, Davis  
Ben Weinkove, Evanston

07.07.2019 - 13.07.2019 (ID: 1928)

**Dynamische Systeme**

Hakan Eliasson, Paris  
Helmut Hofer, Princeton  
Vadim Kaloshin, College Park

14.07.2019 - 20.07.2019 (ID: 1929a)

**Mathematical Theory of Water Waves**

Mark Groves, Saarbrücken  
Mariana Haragus, Besancon  
Erik Wahlén, Lund

14.07.2019 - 20.07.2019 (ID: 1929b)

**Mathematical Foundations of Isogeometric Analysis**

Annalisa Buffa, Lausanne  
Tom Hughes, Austin  
Angela Kunoth, Köln  
Carla Manni, Roma

21.07.2019 - 27.07.2019 (ID: 1930)

**Partial Differential Equations**

Guido De Philippis, Trieste  
Richard M. Schoen, Irvine  
Peter M. Topping, Warwick

28.07.2019 - 03.08.2019 (ID: 1931)

**Computational Multiscale Methods**

Björn Engquist, Austin  
Daniel Peterseim, Augsburg

04.08.2019 - 10.08.2019 (ID: 1932)

**Homotopy Theory**

Jesper Grodal, Copenhagen  
Michael Hill, Los Angeles  
Birgit Richter, Hamburg

11.08.2019 - 17.08.2019 (ID: 1933)

**C\*-Algebras**

Mikael Rørdam, Copenhagen  
Dima Shlyakhtenko, Los Angeles  
Andreas Thom, Dresden  
Stefaan Vaes, Leuven

18.08.2019 - 24.08.2019 (ID: 1934)

**Mathematical Aspects of Hydrodynamics**

Peter Constantin, Princeton  
Anna Mazzucato, State College  
Gregory Seregin, Oxford  
Edriss S. Titi, Rehovot/College Station

25.08.2019 - 31.08.2019 (ID: 1935)

**Geometric, Algebraic, and Topological Combinatorics**

Gil Kalai, Jerusalem  
Isabella Novik, Seattle  
Francisco Santos, Santander  
Volkmar Welker, Marburg

01.09.2019 - 07.09.2019 (ID: 1936)

**Innovative Approaches to the Numerical Approximation  
of PDEs**

Stephan Dahlke, Marburg  
Gitta Kutyniok, Berlin  
Ricardo H. Nochetto, College Park  
Rob Stevenson, Amsterdam

08.09.2019 - 14.09.2019 (ID: 1937)

**Many-Body Quantum Systems**

Christian Hainzl, Tübingen  
Benjamin Schlein, Zürich  
Robert Seiringer, Klosterneuburg  
Simone Warzel, München

15.09.2019 - 21.09.2019 (ID: 1938)

**Large Scale Stochastic Dynamics**

Thierry Bodineau, Palaiseau  
Fabio Toninelli, Lyon  
Bálint Tóth, Bristol/Budapest

22.09.2019 - 28.09.2019 (ID: 1939)

**Toric Geometry**

Jürgen Hausen, Tübingen  
Hal Schenck, Ames  
Diane Maclagan, Warwick

29.09.2019 - 05.10.2019 (ID: 1940)

**New Developments in Representation Theory  
of p-adic Groups**

Jessica Fintzen, Ann Arbor/Cambridge  
Wee Teck Gan, Singapore  
Shuichiro Takeda, Columbia

06.10.2019 - 12.10.2019 (ID: 1941x)

**Mini-Workshops**

(Deadline for application: 01.04.2019)  
N.N.

13.10.2019 - 18.10.2019 (ID: 1942)

**Arbeitsgemeinschaft**

(To be announced in winter 2018)  
N.N.

20.10.2019 - 26.10.2019 (ID: 1943x)

**Oberwolfach Seminars**

(To be announced in December 2018)  
N.N.

27.10.2019 - 02.11.2019 (ID: 1944)

**Subfactors and Applications**

Dietmar Bisch, Nashville  
Terry Gannon, Edmonton  
Vaughan Jones, Nashville  
Yasuyuki Kawahigashi, Tokyo

03.11.2019 - 09.11.2019 (ID: 1945)

**Analytic Number Theory**

Jörg Brüdern, Göttingen  
Kaisa Matomäki, Turku  
Robert C. Vaughan, State College  
Trevor D. Wooley, Bristol

10.11.2019 - 16.11.2019 (ID: 1946x)

**Mini-Workshops**

(Deadline for application: 01.04.2019)  
N.N.

17.11.2019 - 23.11.2019 (ID: 1947)

**Heat Kernels, Stochastic Processes  
and Functional Inequalities**

Masha Gordina, Storrs  
Takashi Kumagai, Kyoto  
Laurent Saloff-Coste, Ithaca  
Karl-Theodor Sturm, Bonn

24.11.2019 - 30.11.2019 (ID: 1948x)

**Oberwolfach Seminars**

(To be announced in December 2018)  
N.N.

01.12.2019 - 07.12.2019 (ID: 1949)

**Groups, Dynamics, and Approximation**

Emmanuel Breuillard, Münster  
Alex Furman, Chicago  
Nicolas Monod, Lausanne  
Andreas Thom, Dresden

08.12.2019 - 14.12.2019 (ID: 1950)

**Random Matrices**

László Erdős, Klosterneuburg  
Friedrich Götze, Bielefeld  
Alice Guionnet, Lyon

15.12.2019 - 21.12.2019 (ID: 1951)

**Modular Forms**

Jan Hendrik Bruinier, Darmstadt  
Atsushi Ichino, Kyoto  
Tamotsu Ikeda, Kyoto  
Özlem Imamoglu, Zürich