



# Scientific Program 2018

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.

**07.01.2018 - 13.01.2018 (ID: 1802)**

**Computability Theory**  
Vasco Brattka, Neubiberg  
Rod Downey, Wellington  
Julia F. Knight, Notre Dame  
Steffen Lempert, Madison

**14.01.2018 - 20.01.2018 (ID: 1803)**

**Topology of Arrangements and Representation Stability**  
Graham Denham, London ON  
Giovanni Gaiffi, Pisa  
Rita Jiménez Rolland, Oaxaca de Juárez  
Alexander Suci, Boston

**21.01.2018 - 27.01.2018 (ID: 1804)**

**Statistics for Data with Geometric Structure**  
Aasa Feragen, Copenhagen  
Thomas Hotz, Ilmenau  
Stephan Huckemann, Göttingen  
Ezra Miller, Durham

**28.01.2018 - 03.02.2018 (ID: 1805)**

**Strongly Correlated Random Interacting Processes**  
Ron Peled, Tel Aviv  
Vladas Sidoravicius, New York/Shanghai  
Alexandre Stauffer, Bath

**04.02.2018 - 10.02.2018 (ID: 1806)**

**Variational Methods for the Modelling of Inelastic Solids**  
Georg Dolzmann, Regensburg  
Adriana Garroni, Roma  
Klaus Hackl, Bochum  
Michael Ortiz, Pasadena

**11.02.2018 - 17.02.2018 (ID: 1807)**

**Interplay of Analysis and Probability in Applied Mathematics**  
Volker Betz, Darmstadt  
Nicolas Dirr, Cardiff  
Wolfgang König, Berlin  
Florian Theil, Warwick

**18.02.2018 - 24.02.2018 (ID: 1808)**

**Design and Analysis of Infectious Disease Studies**  
Martin Eichner, Tübingen  
M. Elizabeth Halloran, Seattle  
Philip O'Neill, Nottingham

**25.02.2018 - 03.03.2018 (ID: 1809)**

**The Mathematics of Mechanobiology and Cell Signaling**  
Davide Ambrosi, Milano  
Chun Liu, University Park  
Matthias Röger, Dortmund  
Angela Stevens, Münster

**04.03.2018 - 10.03.2018 (ID: 1810a/b/c)**

**Mini-Workshops (deadline for proposals: 01 August 2017)**  
N.N.

**11.03.2018 - 17.03.2018 (ID: 1811)**

**Statistical Inference for Structured High-dimensional Models**  
Anatoli Juditsky, Saint Martin d'Hères  
Alexandre Tsybakov, Malakoff  
Cun-Hui Zhang, Piscataway

**18.03.2018 - 24.03.2018 (ID: 1812)**

**Mathematical Methods in Quantum Chemistry**  
Eric Cancès, Paris  
Gero Friesecke, München  
Trygve Ulf Helgaker, Oslo  
Lin Lin, Berkeley

**25.03.2018 - 31.03.2018 (ID: 1813)**

**Applied Harmonic Analysis and Data Processing**  
Ingrid Daubechies, Durham  
Gitta Kutyniok, Berlin  
Holger Rauhut, Aachen  
Thomas Strohmer, Davis

**01.04.2018 - 07.04.2018 (ID: 1814)**

**Arbeitsgemeinschaft (topic tba in summer 2017)**  
N.N.

**08.04.2018 - 14.04.2018 (ID: 1815)**

**Challenges in Optimal Control of Nonlinear PDE-Systems**  
Michael Hintermüller, Berlin  
Karl Kunisch, Graz  
Günter Leugering, Erlangen  
Elisabetta Rocca, Pavia

**15.04.2018 - 21.04.2018 (ID: 1816a/b/c)**

**Mini-Workshops (deadline for proposals: 01 August 2016)**  
N.N.

**22.04.2018 - 28.04.2018 (ID: 1817)**

**Nonlinear Data: Theory and Algorithms**  
Philipp Grohs, Wien  
Oliver Sander, Dresden  
Jean-Luc Starck, Gif-sur-Yvette  
Johannes Wallner, Graz

**29.04.2018 - 05.05.2018 (ID: 1818)**

**Quadratic Forms and Related Structures over Fields**  
Karim Johannes Becher, Antwerp  
Detlev Hoffmann, Dortmund  
Anne Quéguiner-Mathieu, Paris

**06.05.2018 - 12.05.2018 (ID: 1819)**

**Interactions between Operator Space Theory and Quantum Probability with Applications to Quantum Information**  
Uwe Franz, Besançon  
Marius Junge, Champaign  
Gilles Pisier, College Station  
Quanhua Xu, Besançon

**13.05.2018 - 19.05.2018 (ID: 1820)**

**Enumerative Combinatorics**  
Mireille Bousquet-Mélou, Talence  
Michael Drmota, Vienna  
Christian Krattenthaler, Vienna  
Marc Noy, Barcelona

**20.05.2018 - 26.05.2018 (ID: 1821a/b)**

**Oberwolfach Seminars (topics tba in winter 2017)**  
N.N.

**27.05.2018 - 02.06.2018 (ID: 1822)**

**Interactions between Algebraic Geometry and Noncommutative Algebra**  
Markus Reineke, Bochum  
Toby Stafford, Manchester  
Catharina Stroppel, Bonn  
Michel Van den Bergh, Diepenbeek

**03.06.2018 - 09.06.2018 (ID: 1823a)**

**Field Arithmetic**  
Lior Bary-Soroker, Tel Aviv  
Florian Pop, Philadelphia  
Jakob Stix, Frankfurt

**03.06.2018 - 09.06.2018 (ID: 1823b)**

**Cohomological and Metric Properties of Groups of Homeomorphisms of  $\mathbb{R}$**   
José Burillo, Barcelona  
Kai-Uwe Bux, Bielefeld  
Brita Nucinkis, London

**10.06.2018 - 16.06.2018 (ID: 1824)**

**Geometrie**  
John Lott, Berkeley  
André Neves, London  
Iskander Taimanov, Novosibirsk  
Burkhard Wilking, Münster

**17.06.2018 - 23.06.2018 (ID: 1825a)**

**Subgroups of Cremona Groups**  
Fabrizio Catanese, Bayreuth  
Ivan Cheltsov, Edinburgh  
Julie Déserti, Paris  
Yuri Prokhorov, Moscow

**17.06.2018 - 23.06.2018 (ID: 1825b)**

**Matrix Estimation Meets Statistical Network Analysis: Extracting low-dimensional structures in high dimension**  
Florentina Bunea, Ithaca  
Angelika Rohde, Freiburg  
Patrick Wolfe, London  
Harrison Zhou, New Haven

**24.06.2018 - 30.06.2018 (ID: 1826)**

**Algebraische Zahlentheorie**  
Guido Kings, Regensburg  
Ramdorai Sujatha, Vancouver  
Eric Urban, New York  
Otmar Venjakob, Heidelberg

**01.07.2018 - 07.07.2018 (ID: 1827)**

**Topologie**  
Mark Behrens, Notre Dame  
Ruth Charney, Waltham  
Peter Teichner, Bonn/Berkeley  
Michael Weiss, Münster

**08.07.2018 - 14.07.2018 (ID: 1828)**

**Non-commutative Geometry, Index Theory and Mathematical Physics**  
Alain Connes, Paris  
Ryszard Nest, Copenhagen  
Thomas Schick, Göttingen  
Guoliang Yu, College Station

**15.07.2018 - 21.07.2018 (ID: 1829)**

**Classical Algebraic Geometry**  
Olivier Debarre, Paris  
David Eisenbud, Berkeley  
Gavril Farkas, Berlin  
Ravi Vakil, Stanford

**22.07.2018 - 28.07.2018 (ID: 1830)**

**Explicit Methods in Number Theory**  
Karim Belabas, Bordeaux  
Bjorn Poonen, Cambridge MA  
Fernando Rodriguez Villegas, Trieste

**29.07.2018 - 04.08.2018 (ID: 1831)**

**Calculus of Variations**  
Alessio Figalli, Zürich  
Robert V. Kohn, New York  
Tatiana Toro, Seattle  
Neshan Wickramasekera, Cambridge UK

**05.08.2018 - 11.08.2018 (ID: 1832)**

**Mathematical General Relativity**  
Carla Cederbaum, Tübingen  
Mihalis Dafermos, Princeton  
Jim Isenberg, Eugene  
Hans Ringström, Stockholm

**12.08.2018 - 18.08.2018 (ID: 1833)**

**Geometric Methods of Complex Analysis**  
Bo Berndtsson, Göteborg  
John Erik Fornæss, Trondheim  
Nikolay Shcherbina, Wuppertal

**19.08.2018 - 25.08.2018 (ID: 1834)**

**New Directions in Stochastic Optimisation**  
Jesús De Loera, Davis  
Darinka Dentcheva, Hoboken  
Georg Ch. Pflug, Vienna  
Rüdiger Schultz, Essen

**26.08.2018 - 01.09.2018 (ID: 1835)**

**Reactive Flows in Deformable, Complex Media**  
Margot Gerritsen, Stanford  
Iuliu Sorin Pop, Diepenbeek  
Florin Adrian Radu, Bergen  
Barbara Wohlmuth, Garching

**02.09.2018 - 08.09.2018 (ID: 1836)**

**New Trends in Teichmüller Theory and Mapping Class Groups**  
Ken'ichi Ohshika, Osaka  
Athanasios Papadopoulos, Strasbourg  
Robert C. Penner, Bures-sur-Yvette  
Anna Wienhard, Heidelberg

**09.09.2018 - 15.09.2018 (ID: 1837)**

**Scaling Limits in Models of Statistical Mechanics**  
Dmitry Ioffe, Haifa  
Gady Kozma, Rehovot  
Fabio Toninelli, Lyon

**16.09.2018 - 22.09.2018 (ID: 1838)**

**Flat Surfaces and Algebraic Curves**  
Samuel Grushevsky, Stony Brook  
Martin Möller, Frankfurt  
Anton Zorich, Paris

**23.09.2018 - 29.09.2018 (ID: 1839)**

**Differential Equations arising from Organising Principles in Biology**  
Jose Antonio Carrillo, London  
Alexander Lorz, Thuwal/Paris  
Anna Marciniak-Czochra, Heidelberg  
Benoît Perthame, Paris

**30.09.2018 - 06.10.2018 (ID: 1840a/b/c)**

**Mini-Workshops (deadline for proposals: 01 April 2018)**  
N.N.

**07.10.2018 - 12.10.2018 (ID: 1841)**

**Arbeitsgemeinschaft (topic tba in winter 2017)**  
N.N.

**14.10.2018 - 20.10.2018 (ID: 1842a/b)**

**Oberwolfach Seminars (topics tba in winter 2017)**  
N.N.

**21.10.2018 - 27.10.2018 (ID: 1843)**

**Computational Engineering**  
Olivier Allix, Cachan  
Annalisa Buffa, Lausanne  
Carsten Carstensen, Berlin  
Joerg Schroeder, Essen

**28.10.2018 - 03.11.2018 (ID: 1844)**

**Emergence of Structures in Particle Systems: Mechanics, Analysis and Computation**  
Andrea Braides, Rome  
Bernd Schmidt, Augsburg  
Ulisse Stefanelli, Vienna  
Florian Theil, Warwick

**04.11.2018 - 10.11.2018 (ID: 1845)**

**Combinatorial Optimization**  
Jesus De Loera, Davis  
Satoru Iwata, Tokyo  
Martin Skutella, Berlin

**11.11.2018 - 17.11.2018 (ID: 1846)**

**Complexity Theory**  
Peter Bürgisser, Berlin  
Irit Dinur, Rehovot  
Oded Goldreich, Rehovot  
Salil Vadhan, Cambridge MA

**18.11.2018 - 24.11.2018 (ID: 1847a/b)**

**Oberwolfach Seminars (topics tba in winter 2017)**  
N.N.

**25.11.2018 - 01.12.2018 (ID: 1848)**

**Enveloping Algebras and Geometric Representation Theory**  
Iain Gordon, Edinburgh  
Bernard Leclerc, Caen  
Wolfgang Soergel, Freiburg

**02.12.2018 - 08.12.2018 (ID: 1849)**

**Free Probability Theory**  
Alice Guionnet, Lyon  
Roland Speicher, Saarbrücken  
Dan Voiculescu, Berkeley

**09.12.2018 - 15.12.2018 (ID: 1850)**

**Convex Geometry and its Applications**  
Franck Barthe, Toulouse  
Martin Henk, Berlin  
Monika Ludwig, Wien

**16.12.2018 - 22.12.2018 (ID: 1851a/b/c)**

**Mini-Workshops (deadline for proposals: 01 April 2018)**  
N.N.