The study of algebraic torus actions on algebraic varieties has developed into a highly successful branch of algebraic geometry known as toric geometry. In symplectic geometry there has been a great deal of activity since the 1980s studying Hamiltonian group actions on symplectic manifolds. In both cases, geometric constructions are studied by translating them into combinatorics. During the past two decades, these examples of algebraic and symplectic manifolds with a torus action have been generalized topologically, sacrificing some algebraic and symplectic properties to focus on the topological and combinatorial ones.

The workshop will introduce and explore new themes of research in toric topology. It will provide an opportunity for interaction between people who work on different aspects of torus actions, such as topological, combinatorial, symplectic and algebro-geometric.

**THEMATIC PROGRAM**

**on Toric Topology and Polyhedral Products**

**Workshop on Torus Actions in Topology**

May 11-15, 2020 - THE FIELDS INSTITUTE - ONLINE

The study of algebraic torus actions on algebraic varieties has developed into a highly successful branch of algebraic geometry known as toric geometry. In symplectic geometry there has been a great deal of activity since the 1980s studying Hamiltonian group actions on symplectic manifolds. In both cases, geometric constructions are studied by translating them into combinatorics. During the past two decades, these examples of algebraic and symplectic manifolds with a torus action have been generalized topologically, sacrificing some algebraic and symplectic properties to focus on the topological and combinatorial ones.

The workshop will introduce and explore new themes of research in toric topology. It will provide an opportunity for interaction between people who work on different aspects of torus actions, such as topological, combinatorial, symplectic and algebro-geometric.

**SPEAKERS**

Klaus Altmann (FU Berlin, Germany)  
Ivan Arzhantsev (NRU HSE, Russia)  
Anton Ayzenberg (NRU HSE, Russia)  
Frédéric Bosio (University of Poitiers, France)  
William Browder (Princeton University, USA)  
Victor Buchstaber (Steklov Mathematical Institute, Russia)  
Oliver Goertsches (University of Marburg, Germany)  
Rebecca Goldin (George Mason University, USA)  
Megumi Harada (McMaster University, Canada)  
Jürgen Hausen (University of Tubingen, Germany)  
Tara Holm (Cornell University, USA)  
Hiroaki Ishida (Kagoshima University, Japan)  
Tadeusz Januszkiewicz (Institute of Mathematics PAS, Poland)  
Yael Karshon* (University of Toronto, Canada)  
Askold Khovanskii (University of Toronto, Canada)  
Shintaro Kuroki (Okayama University of Science, Japan)  
Jeremy Lane, Fields Institute  
Zhi Lu (Fudan University, China)  
Mikiya Masuda (Osaka City University, Japan)  
Ana Rita Pires (University of Edinburgh, UK)  
Tudor Ratiu (Shanghai Jiao Tong University, China)  
Jongbaek Song (KAIST, South Korea)  
Dong Youp Suh (KAIST, South Korea)  
Iskander Taimanov (Sobolev Institute of Mathematics, Russia)  
Svetlana Terzić (University of Montenegro)  
Dmitri Timashev (Moscow State University, Russia)  
Susan Tolman (University of Illinois, USA)  
Juliana Tymoczko (Smith College, USA)  
Andrzej Weber (University of Warsaw, Poland)  
Michael Wiemeler (University of Münster, Germany)  
* tentative

**ORGANIZERS**

Matthias Franz - University of Western Ontario  
Lisa Jeffrey - University of Toronto  
Taras Panov - Moscow State University

**INFORMATION**

http://www.fields.utoronto.ca/activities/19-20/toric-torus  
http://www.fields.utoronto.ca/cgi-bin/register?form_selection=toric