

## The International Conference on Game Theory and Management

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**Abstract** This note overviews the Game Theory and Management conferences that have been held annually at Saint Petersburg State University since 2007.

**Keywords:** conference, game theory, management.

Saint Petersburg State University has experience of organizing and hosting international conferences. Starting 2007, it has been home to the International Conference on Game Theory and Management (GTM). The aim of the GTM conference is to stimulate a dialog between fundamental research in the field of game theory and modern ideas in management sciences. This interaction has already demonstrated its productivity and was recognized in the last decades with the Nobel Memorial Prize in Economic Sciences. Since 2007, the GTM conferences have been welcomed by many legendary scientists, including six Nobel Memorial Prize laureates in Economic Sciences: Robert Aumann, Finn Kydland, Eric Maskin, Roger Myerson, John Nash, and Reinhard Selten, who delivered keynote lectures.

The GTM conference series promotes the exchange of up-to-date research in the field of mathematical game theory and management in order to improve the level of research in this field in Saint Petersburg State University, the Russian Federation, and worldwide.

The conference topics include, but are not limited to the following:

- cooperative games and applications;
- bargaining;
- dynamic games and applications;
- stochastic games and applications;
- evolutionary games and applications;
- repeated games;
- networking games;
- pursuit-evasion games;
- learning and experimentation in games;
- computational game theory;
- mechanism design;
- social choice;
- voting and power indices;
- auctions;
- market models;
- game theory applications in fields such as: strategic management, industrial organization, marketing, operations and supply chain management, public management, financial management, human resources, energy and resource management, environmental management, and others.

As of now, 15 GTM conferences have been held. Figures 1–2 provide general statistical information about the participants of the conference series from 2007 to 2021. The following is a summary of each conference.

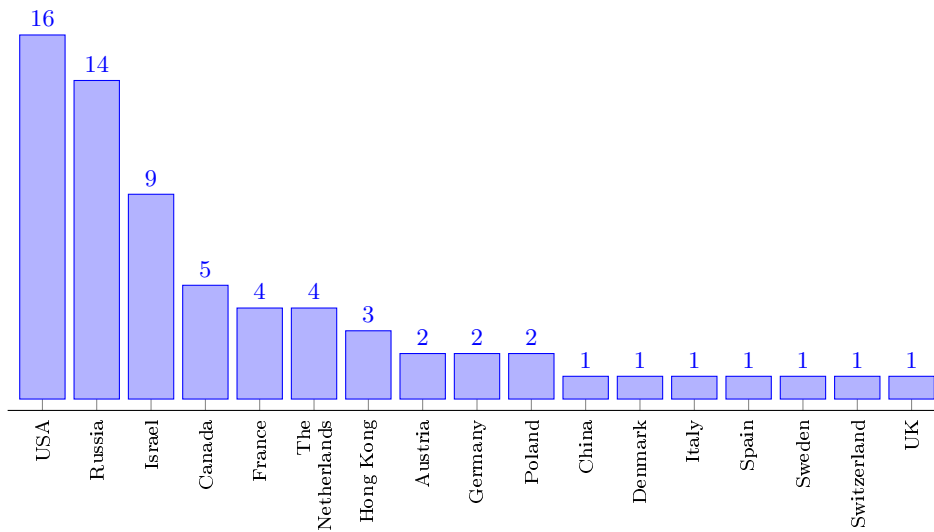


Fig. 1. Plenary speakers at the GTM conferences from 2007 to 2021

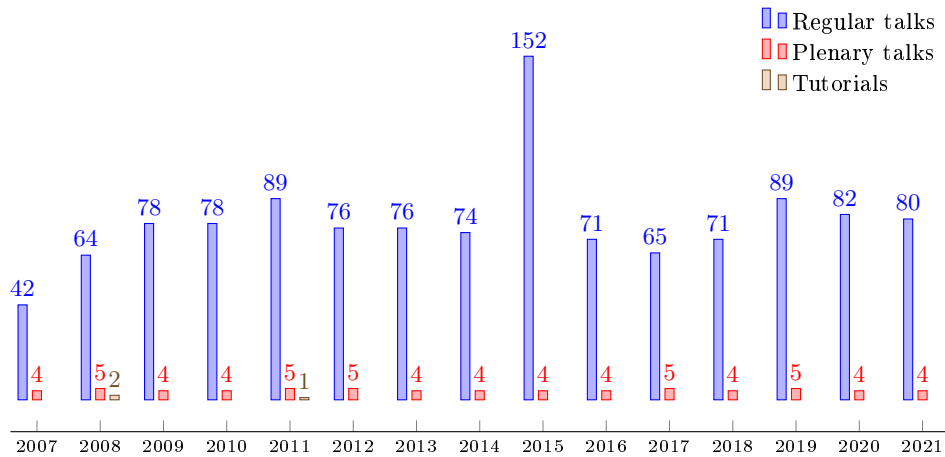


Fig. 2. The number of plenary talks, tutorials, and regular talks at the GTM conferences from 2007 to 2021

### 2007: The First International Conference on Game Theory and Management GTM2007

Dates: June 28–30, 2007

Plenary speakers:

1. Robert J. Aumann (The Hebrew University of Jerusalem, Israel), “*An Economic Index of Riskiness*”
2. Sergiu Hart (The Hebrew University of Jerusalem, Israel), “*An Operational Measure of Riskiness*”
3. David W.K. Yeung (Hong Kong Baptist University, Hong Kong), “*Managing Catastrophe-bound Industrial Pollution with Game-theoretic Algorithm: The St Petersburg Initiative*”
4. Georges Zaccour (HEC Montréal, Canada), “*Differential Games in Marketing Channels*”

Oral presentations in parallel sessions: 42



**Fig. 3.** Participants of the GTM2007 conference

### 2008: The Second International Conference on Game Theory and Management GTM2008

Dates: June 26–27, 2008

Plenary speakers:

1. Tamer Başar (University of Illinois at Urbana–Champaign, USA), “*Hierarchical Games and Reverse Engineering*”

2. John F. Nash (Princeton University, USA), *“Research on the Problem of Evaluating Cooperative Games; the Method of Agencies and the Search for Confirmation through Model Variants”*
3. Geert Jan Olsder (Delft University of Technology, the Netherlands), *“Be the Boss”*
4. Leon Petrosyan (Saint Petersburg State University, Russia), *“Stable Cooperation”*
5. David W.K. Yeung (Hong Kong Baptist University, Hong Kong), *“Cooperative Game-theoretic Mechanism Design for Optimal Resource Use”*

Tutorials:

1. Michèle Breton (HEC Montréal, Canada), *“Dynamic Games in Finance”*
2. Georges Zaccour (HEC Montréal, Canada), *“Time Consistency in Cooperative Differential Games”*

Oral presentations in parallel sessions: 64



Fig. 4. Participants of the GTM2008 conference



### 2009: The Third International Conference on Game Theory and Management GTM2009

Dates: June 24–26, 2009

Plenary speakers:

1. Pierre Bernhard (Inria Sophia Antipolis – Méditerranée, France), “*Nonzero-sum Dynamic Games in the Management of Biological Systems*”
2. Dmitry Novikov (Institute of Control Sciences of the RAS, Russia), “*Reflexive Games: Theory and Applications*”
3. Reinhard Selten (University of Bonn, Germany), “*Incomplete Equilibrium*”
4. Myrna Wooders (Vanderbilt University, USA), “*Games with Many Players as Models of Large Economies*”

Oral presentations in parallel sessions: 78

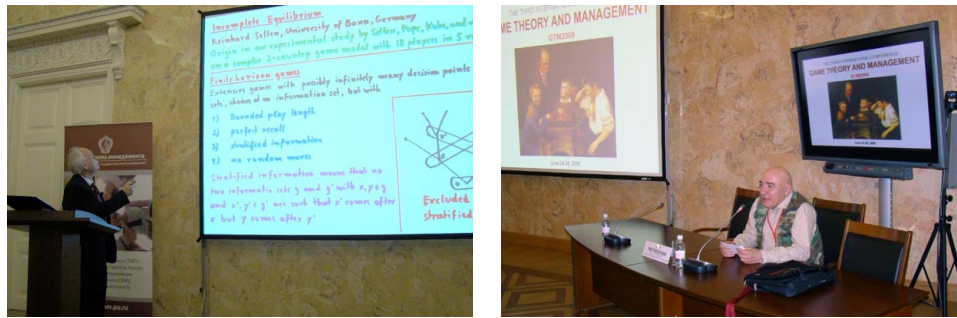


Fig. 5. Participants of the GTM2009 conference

### 2010: The Fourth International Conference on Game Theory and Management GTM2010

Dates: June 28–30, 2010

Plenary speakers:

1. Alain Haurie (University of Geneva, Switzerland), “*A Piecewise Deterministic Game Model for International GHG Emission Agreements*”
2. Arkady Kryazhinskiy (International Institute for Applied Systems Analysis, Austria; Steklov Mathematical Institute of the RAS, Russia), “*Market Equilibrium in Negotiations and Growth Models*”
3. Hervé Moulin (Rice University, USA), “*Clearing Supply and Demand under Bilateral Constraints*”
4. Ralph Tyrrell Rockafellar (University of Washington, USA), “*Coherent Modeling of Risk in Optimization under Uncertainty*”

Oral presentations in parallel sessions: 78



Fig. 6. Participants of the GTM2010 conference

**2011: The Fifth International Conference on Game Theory and Management GTM2011**

Dates: June 27–29, 2011

Plenary speakers:

1. Vladimir Mazalov (Karelian Research Centre of the RAS, Russia), *“Bargaining Models and Mechanism Design”*
2. Roger B. Myerson (University of Chicago, USA), *“Sequential equilibria of games with infinite sets of types and actions”*
3. Martin Shubik (Yale University, USA), *“The Present and Future of Game Theory”*, video presentation
4. Jörgen W. Weibull (Stockholm School of Economics, Sweden), *“Robust set-valued prediction in games”*
5. Shmuel Zamir (The Hebrew University of Jerusalem, Israel), *“Extending the Condorcet Jury Theorem to a general dependent jury”*

Tutorial:

1. Georges Zaccour (HEC Montréal, Canada), *“Dynamic Games in the Economics and Management of Pollution”*

Oral presentations in parallel sessions: 89



Fig. 7. Participants of the GTM2011 conference

**2012: The Sixth International Conference on Game Theory and Management GTM2012**

Dates: June 27–29, 2012

Plenary speakers:

1. Sergey Aseev (Steklov Mathematical Institute of the RAS, Russia), “*The Pontryagin maximum principle for infinite-horizon problems and its applications in economics*”
2. Michèle Breton (HEC Montréal, Canada), “*Borrowing and lending: two sides of the financing game*”
3. Josef Hofbauer (University of Vienna, Austria), “*Deterministic Evolutionary Game Dynamics*”
4. Ehud Kalai (Northwestern University, USA), “*Cooperation in Strategic Games revised*”
5. Sylvain Sorin (Pierre and Marie Curie University, France), “*Recent advances in zero-sum dynamic games*”

Oral presentations in parallel sessions: 76



**Fig. 8.** Participants of the GTM2012 conference

**2013: The Seventh International Conference on Game Theory and Management GTM2013**

Dates: June 26–28, 2013

Plenary speakers:

1. Finn Kydland (University of California, Santa Barbara, USA), *“On dynamic games”*
2. Bernard De Meyer (Université Paris 1 Panthéon–Sorbonne, France), *“Risk aversion and price dynamics on the stock market”*
3. Burkhard Monien (Paderborn University, Germany), *“The complexity of computing equilibria”*
4. Leon Petrosyan (Saint Petersburg State University, Russia), *“Time-consistent and strategically supported cooperation in dynamic games”*

Oral presentations in parallel sessions: 76



**Fig. 9.** Participants of the GTM2013 conference



**2014: The Eighth International Conference on Game Theory and Management GTM2014**

Dates: June 25–27, 2014

Plenary speakers:

1. Fuad Aleskerov (Higher School of Economics, Russia), *“Power in groups: theory and applications”*
2. Steffen Jørgensen (University of Southern Denmark, Denmark), *“Recent Developments in Lanchester Advertising Differential Games”*
3. Abraham Neyman (The Hebrew University of Jerusalem, Israel), *“Robust equilibria of continuous-time stochastic games”*
4. Guillermo Owen (Naval Postgraduate School, USA), *“A game-theoretic approach to networks”*

Oral presentations in parallel sessions: 74



Fig. 10. Participants of the GTM2014 conference

**2015: The European Meeting on Game Theory SING11–GTM2015**

This conference was a joint event of the European Meeting on Game Theory and the Ninth International Conference on Game Theory and Management.

Dates: July 8–10, 2015

Plenary speakers:

1. Hans Peters (Maastricht University, the Netherlands), “*An axiomatic characterization of the Owen-Shapley spatial power index*”
2. David Schmeidler (Tel Aviv University, Israel), “*An experimental study of estimation and bidding in common-value auctions with public information*”
3. Alexander Vasin (Lomonosov Moscow State University, Russia), “*Auctions of homogeneous goods: game-theoretic analysis*”
4. Georges Zaccour (HEC Montréal, Canada), “*Durable agreements in a class of stochastic games*”

Oral presentations in parallel sessions: 152



**Fig. 11.** Participants of the SING11–GTM2015 conference



## 2016: The Tenth International Conference on Game Theory and Management GTM2016

Dates: July 7–9, 2016

Plenary speakers:

1. Jean-Jacques Herings (Maastricht University, the Netherlands), *“Equilibrium and Matching under Price Control”*
2. Eric Maskin (Harvard University, USA), *“Elections and Strategic Voting: Condorcet and Borda”*
3. Eilon Solan (Tel Aviv University, Israel), *“Multiplayer Stochastic Games: Techniques, Results, and Open Problems”*
4. Alexander Tarasyev (Krasovskii Institute of Mathematics and Mechanics of the RAS, Russia), *“Decompositional Algorithms for Construction of Control Strategies in Dynamic Games”*

Oral presentations in parallel sessions: 71



Fig. 12. Participants of the GTM2016 conference

**2017: The Eleventh International Conference on Game Theory and Management GTM2017**

Dates: June 28–30, 2017

Plenary speakers:

1. Matthew Jackson (Stanford University, USA), *“The friendship paradox and systematic biases in perceptions and social norms: an implication of games on networks”*
2. Vassili Kolokoltsov (University of Warwick, UK), *“Evolutionary and mean-field game modeling of cyber-security, inspection and corruption, counter-terrorist measures, coalition building and network growth”*
3. Rida Laraki (Paris Dauphine University, France), *“Majority judgment versus majority rule”*
4. Christos Papadimitriou (University of California, Berkeley, USA), *“Nash equilibrium and learning dynamics”*
5. Krzysztof Szajowski (Wroclaw University of Science and Technology, Poland), *“Multilateral non-homogeneous stopping models”*

Oral presentations in parallel sessions: 65



**Fig. 13.** Participants of the GTM2017 conference

## 2018: The Twelfth International Conference on Game Theory and Management GTM2018

Dates: June 27–29, 2018

Plenary speakers:

1. Roland Malhamé, (Polytechnique Montréal, Canada), “*Min\_LQG games and collective discrete choice problems*”
2. Anna Rettieva (Karelian Research Centre of the RAS, Russia), “*Cooperation in the bioresource management problems*”
3. Dov Samet (Tel Aviv University, Israel), “*Desirability*”
4. Larry Samuelson (Yale University, USA), “*Learning (to Disagree?) in Large Worlds*”

Oral presentations in parallel sessions: 71



Fig. 14. Participants of the GTM2018 conference



**2019: The International Meeting on Game Theory ISDG12–GTM2019**

This conference was a joint event of the Twelfth Workshop of the International Society of Dynamic Games and the Thirteenth International Conference on Game Theory and Management.

Dates: July 3–5, 2019

Plenary speakers:

1. Xiaotie Deng (Peking University, China), *“Data Science Challenges to Game Theory Methodology”*
2. Ehud Lehrer (Tel Aviv University, Israel), *“Patience and the Quality of Information”*
3. Vladimir Mazalov (Karelian Research Centre of the RAS, Russia), *“Game-Theoretic Centrality Measures and Community Detection Problem in Social Networks”*
4. David Ramsey (Wroclaw University of Science and Technology, Poland), *“Game-Theoretic Models of Partnership Formation”*
5. Nina Subbotina (Krasovskii Institute of Mathematics and Mechanics of the RAS, Russia), *“On Control Reconstructions to Management Problems”*

Oral presentations in parallel sessions: 89



**Fig. 15.** Participants of the ISDG12–GTM2019 conference

## 2020: The Fourteenth International Conference on Game Theory and Management GTM2020

This conference went online due to the COVID-19 pandemic.

Dates: October 5–9, 2020

Plenary speakers:

1. Rene van den Brink (Vrije Universiteit Amsterdam, the Netherlands), *“Networks, Communication and Hierarchy: Applications to Cooperative Games”*
2. Javier de Frutos (University of Valladolid, Spain), *“Spatial effects and strategic behavior in transboundary pollution dynamic games”*
3. Yaroslav Sergeyev (University of Calabria, Italy; Lobachevsky State University, Russia), *“Numerical computations with infinities and infinitesimals: Methodology and applications”*
4. Sihem Taboubi (HEC Montréal, Canada), *“Conflict and Cooperation in Marketing Channels: A Game-Theoretic Perspective”*

Oral presentations in parallel sessions: 82

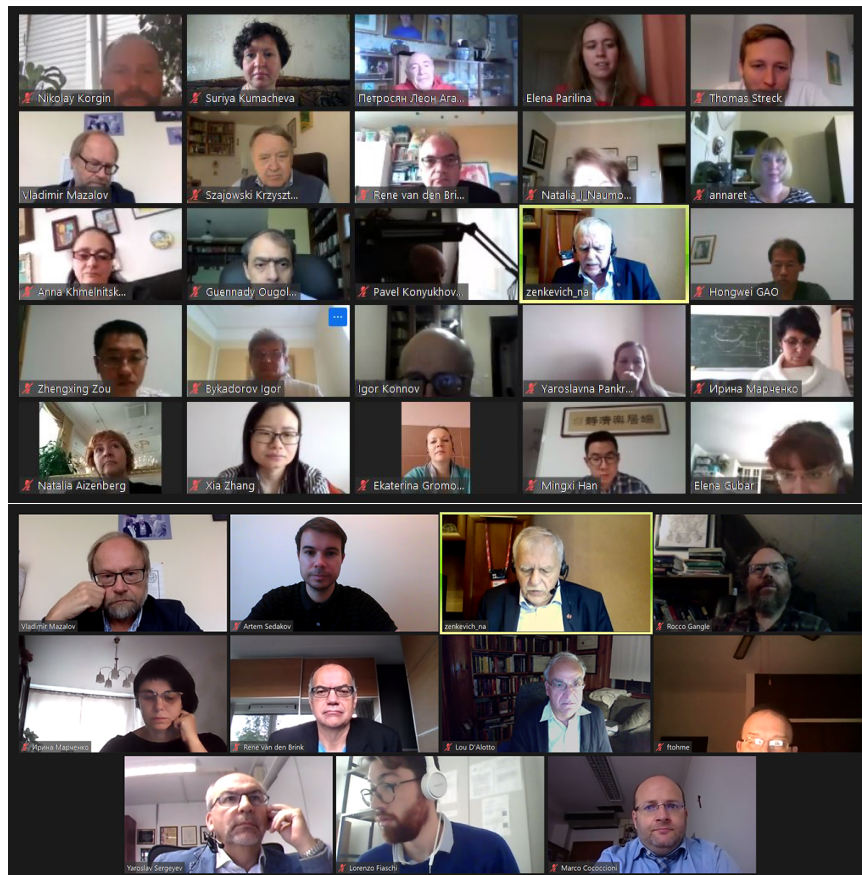


Fig. 16. Participants of the GTM2020 conference

**2021: The Fifteenth International Conference on Game Theory and Management GTM2021**

This conference went online for the second time due to the COVID-19 pandemic.

Dates: June 23–25, 2021

Plenary speakers:

1. Robert J. Aumann (The Hebrew University of Jerusalem, Israel), “*A Synthesis of Behavioral and Mainstream Economics*”
2. Adam Tauman Kalai (Microsoft Research New England, USA), “*Nash to Dominant: the Natural Index of Strategic Stability*”, joint talk with Ehud Kalai
3. Ehud Kalai (Northwestern University, USA), “*Nash to Dominant: the Natural Index of Strategic Stability*”, joint talk with Adam Tauman Kalai
4. Leon Petrosyan (Saint Petersburg State University, Russia), “*Differential Games on Networks*”
5. David W.K. Yeung (Hong Kong Shue Yan University, Hong Kong), “*Advances in Durable-strategies Dynamic Game Theory*”

Oral presentations in parallel sessions: 80

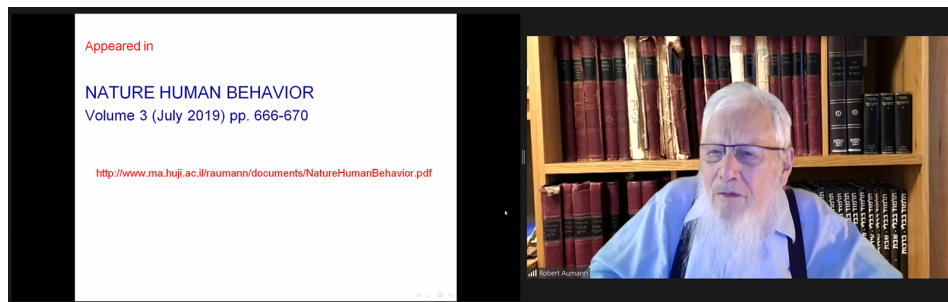


Fig. 17. Participants of the GTM2020 conference



**Acknowledgments.** The photos in this note were provided by Leon Petrosyan.

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