

# 19th International Conference named after A. F. Terpugov

# ****INFORMATION TECHNOLOGIES AND MATHEMATICAL MODELLING****

# ****IТММ – 2020****

## ****Tomsk, Russia****

**December, 2-5, 2020**

**Conference International Program Committee**

**Международный программный комитет конференции**

**Alexander Dudin**, Belarusian State University, Belarus – chair

**Anatoly Nazarov**, National Research Tomsk State University, Russia – co-chair

**Khalid Al-Begain**, University of South Wales, United Kingdom

**Ivan Atencia**, Universidad de Málaga, Spain

**Pedro Cabral**, Universidade Nova de Lisboa, Portugal

**Pau Fonseca i Casas**, Universitat Politècnica de Catalunya, Spain

**Srinivas Chakravarthy**, Kettering University, USA

**Bong Dae Choi**, Korea University, Korea

**Tadeusz Czachórski**, [Institute of Theoretical and Applied Informatics, Polish Academy of Sciences, Poland](http://www.researchgate.net/institution/Polish_Academy_of_Sciences/department/Instytut_Informatyki_Teoretycznej_i_Stosowanej)

**Rui Dinis**, Universidade Nova de Lisboa, Portugal

**Dmitry Efrosinin**, Johannes Kepler University, Austria

**Mais Farhadov**, Institute of Control Sciences, Russian Academy of Sciences, Russia

**Yulia Gaydamaka**, Peoples’ Friendship University of Russia, Russia

**Erol Gelenbe**, Imperial College, London, United Kingdom

**Alexander Gortsev**, National Research Tomsk State University, Russia

**Che Soong Kim**, [Sangji University,](http://www.mathnet.ru/php/organisation.phtml?option_lang=eng&orgid=7292) Korea

**Bara Kim**, Korea University, Korea

**Udo Krieger**, [Otto Friedrich University of Bamberg](http://www.mathnet.ru/php/organisation.phtml?option_lang=rus&orgid=8232), Germany

**Achyutha Krishnamoorthy**, CMS College, India

**Krishna Kumar**, Anna University, India

**Quan-Lin Li**, Yan Shan University, China

**Yury Malinkovsky**, Francisk Skorina Gomel State University, Belarus

**Mikhail Matalytski**, Yanka Kupala State University of Grodno, Belarus

**Agassi Melikov**,National Aviation Academy of Azerbaijan, Azerbaijan

**Alexander Moiseev**, National Research Tomsk State University, Russia

**Svetlana Moiseeva**, National Research Tomsk State University, Russia

**Paulo Montezuma-Carvalho**, Universidade Nova de Lisboa, Portugal

**Evsey Morozov**, Petrozavodsk State Universisty, Russia

**Valeriy Naumov**, Service Innovation Research Institute, Finland

**Rein Nobel**, Vrije Universiteit Amsterdam, Тhе Netherlands

**Michele Pagano**, Pisa University, Italy

**Tuan Phung-Duc**, University of Tsukuba, Japan

**Thomas B. Preußer**, Technische Universität Dresden, Germany

**Jacques Resing**, Eindhoven University of Technology, The Netherlands

**Vladimir Rykov**, Gubkin Russian State University of Oil and Gas, Russia

**Konstantin Samuylov**, Peoples' Friendship University of Russia, Russia

**Sergey Suschenko**, National Research Tomsk State University, Russia

**Daniel Stamate**, Goldsmiths College, United Kingdom

**Janos Sztrik**, University of Debrecen, Hungary

**Henk Tijms**, Vrije Universiteit Amsterdam, Тhе Netherlands

**Oleg Tikhonenko**, [Cardinal Stefan Wyszyński University in Warsaw](http://www.mathnet.ru/php/organisation.phtml?option_lang=rus&orgid=8803), Poland

**Gurami Tsitsiashvili**, Institute of Applied Mathematics, Far Eastern Branch of Russian Academy of Sciences, Russia

**Vladimir Vishnevsky**, Institute of Control Sciences, Russian Academy of Sciences, Russia

**Anton Voitishek**, Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Russia

**Vladimir Zadorozhny**,Omsk State Technical University, Russia

**Alexander Zamyatin**, National Research Tomsk State University, Russia

**Andrey Zorin**, Lobachevsky State University of Nizhni Novgorod, Russia

**conference Organizing Committee**

**Организационный комитет конференции**

**Svetlana Moiseeva**, National Research Tomsk State University, Russia – chair

**Svetlana Paul**, National Research Tomsk State University, Russia – co-chair

**Valentina Broner**, National Research Tomsk State University, Russia

**Elena Danilyuk**, National Research Tomsk State University, Russia

**Ekaterina Fedorova**, National Research Tomsk State University, Russia

**Anastasiya Galileiskaya**, National Research Tomsk State University, Russia

**Elena Glukhova**, Moscow Institute of Physics and Technology, Russia

**Yana Izmailova**, National Research Tomsk State University, Russia

**Irina Kochetkova**, Peoples’ Friendship University of Russia, Russia

**Ivan Lapatin**, National Research Tomsk State University, Russia

**Ekaterina Lisovskaya**, Peoples’ Friendship University of Russia, Russia

**Olga Lizyura**, National Research Tomsk State University, Russia

**Anna Morozova**, National Research Tomsk State University, Russia

**Svetlana Rozhkova**, National Research Tomsk Polytechnic University, Russia

**Daria Semenova**, Siberian Federal University, Russia

**Maria Shklennik**, National Research Tomsk State University, Russia

**Alexey Shkurkin**, National Research Tomsk State University, Russia

**Konstantin Voytikov**, Moscow Institute of Physics and Technology, Russia

**Conference Organizers**

**Организаторы конференции**

|  |  |
| --- | --- |
|  | National Research Tomsk State University  Национальный исследовательский Томский государственный университет |
|  | Peoples’ Friendship University of Russia  Российский университет дружбы народов |
|  | V.A. Trapeznikov Institute of Control Sciences of Russian Academy of Sciences  Институт проблем управления им. В.А. Трапезникова РАН |

**CONFERENCE PROGRAMM**

**План работы КОНФЕРЕНЦИИ**

**Venue:** National Research Tomsk State University, 634050, Lenina av. 36, Tomsk, Russian Federation

**Место проведения:** Национальный исследовательский Томский государственный университет, Томск, Россия

**Platform:** Zoom

<https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09>

**Opening ceremony of the 19th International Conference «Information Technologies and Mathematical Modelling»**

**(IТММ – 2020) named after A.F. Terpugov**

**Plenary talk**

**TRACK «QUEUING THEORY AND APPLICATION**

**TRACK «MATHEMATICAL MODELLING OF COMMUNICATION NETWORKS»**

<https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09>

**TRACK «INFORMATION TECHNOLOGIES AND SOFTWARE ENGINEERING**

**TRACK «MATHEMATICAL AND COMPUTER MODELLING OF TECHNOLOGICAL PROCESSES»**

**TRACK «INTELLIGENT DATA ANALYSIS AND VISUALIZATION»**

|  |  |  |
| --- | --- | --- |
| **December 2, 2020 / 2 декабря 2020 г.** | | |
| **10.00–10.45 (Moscow)** | **Opening ceremony of the 19th International Conference «Information Technologies and Mathematical Modelling» (IТММ – 2020) named after A.F. Terpugov.**  [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **Welcome address by:**  **Artem Rykun**, vice-rector for International Affairs, Tomsk State University, Russia  **Alexander Zamyatin**, Director of Institute of Applied Mathematics and Computer Science, Tomsk State University, Russia  **Konstantin Samuylov**, Director Institute of Applied Mathematics & Communications Technology, Peoples’ Friendship University of Russia, Russia  **Mais Farhadov**, Head of Laboratory ASMON, Institute of Control Sciences, Russian Academy of Sciences, Russia  **Alexander Dudin**, chair of international program committee, Belarusian State University, Belarus  **Achyutha Krishnamoorthy**, prof. CMS College, India | ***Working language: English*** |
| **14.00–14.45 (Tomsk)** |
| **11.00–11.40 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **Plenary talk** “Working with a Huge Number of Antennas in 5G and Beyond:  Challenges and Opportunities”  **Rui Dinis**, Universidade Nova de Lisboa, Portugal | ***Working language: English*** |
| **15.00–15.40 (Tomsk)** |
| **11.40–12.20 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **Plenary talk** “Decomposable semi-Regenerative Processes and their Applications”  **Vladimir Rykov**, Peoples’ Friendship University of Russia, Russia | ***Working language: English*** |
| **15.40–16.20 (Tomsk)** |
| **13.00–15.00 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **TRACK «QUEUING THEORY AND APPLICATION 1»**  *Chief*– **Achyutha Krishnamoorthy**, prof. CMS College, India  *Moderator –* ***Svetlana Paul***, National Research Tomsk State University, Russia | ***Working language: English*** |
| **17.00–19.00 (Tomsk)** |
| **15.00–16.40 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **TRACK «QUEUING THEORY AND APPLICATION 2»**  *Chief*– **Alexander Dudin**, Belarusian State University, Belarus  *Moderator –* ***Olga Lizura***, National Research Tomsk State University, Russia | ***Working language: English*** |
| **19.00–20.40 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 3, 2020 / 3 декабря 2020 г.** | | |
| **06.30–09.00 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **TRACK «QUEUING THEORY AND APPLICATION 3»**  *Chief*– **Gurami Tsitsiashvili**, Institute of Applied Mathematics, Far Eastern Branch of Russian Academy of Sciences, Russia  *Moderator –* ***Ivan Lapatin***, National Research Tomsk State University, Russia | ***Working languages: Russian, English*** |
| **10.30–13.00 (Tomsk)** |
| **10.00–11.00 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **Plenary talk** “Terahertz wireless networks: applications, challenges, and early solutions»  **Dmitry Molchanov,** Tampere Univeristy of Technology, Finland  Peoples’ Friendship University of Russia, Russia | ***Working language: Russian*** |
| **14.00–15.00 (Tomsk)** |
| **11.00–12.00 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **Plenary talk** “Binary and multi-class classification in network anomaly detection using deep neural networks”  **Michele Pagano**, Pisa University, Italy | ***Working language: Russian*** |
| **15.00–16.00 (Tomsk)** |
| **13.00–14.40 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **TRACK «QUEUING THEORY AND APPLICATION 4»**  *Chief*– **Tuan Phung-Duc**, University of Tsukuba, Japan  *Moderators* ***Olga Lizura***, National Research Tomsk State University, Russia | ***Working language: English*** |
| **17.00–18.40 (Tomsk)** |
| **15.00–17.00 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **TRACK «QUEUING THEORY AND APPLICATION 5»**  *Chiefs*– **Michele Pagano**, Pisa University, Italy  *Moderator* **– *Maria Shklennik***, National Research Tomsk State University, Russia | ***Working language: Russian*** |
| **19.00–21.00 (Tomsk)** |
| **13.00–14.40 (Moscow)** | **TRACK «INFORMATION TECHNOLOGIES AND SOFTWARE ENGINEERING 1»**  [**https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09**](https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09)  *Chiefs*– **Alexander Moiseev**, National Research Tomsk State University, Russia  **Konstantin Voytikov**, Moscow Institute of Physics and Technology, Russia  *Moderator* **– Alexey Shkurkin**, National Research Tomsk State University, Russia | ***Working language: Russian*** |
| **17.00–18.40 (Tomsk)** |
| **15.00–17.00 (Moscow)** | **TRACK «INFORMATION TECHNOLOGIES AND SOFTWARE ENGINEERING 2»**  [**https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09**](https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09) *Chiefs*– **Alexander Moiseev**, National Research Tomsk State University, Russia  **Konstantin Voytikov**, Moscow Institute of Physics and Technology, Russia  *Moderator* **– Alexey Shkurkin**, National Research Tomsk State University, Russia | ***Working language: Russian*** |
| **19.00–21.00 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 4, 2020 / 4 декабря 2020 г.** | | |
| **08.00–11.00 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **TRACK «QUEUING THEORY AND APPLICATION 6»**  *Chiefs*– **Anatoly Nazarov**, National Research Tomsk State University, Russia  **Andrei Zorine**, Lobachevsky State University of Nizhni Novgorod, Russia  *Moderator* **–– *Yana Izmailova,* Ekaterina Pavlova**, National Research Tomsk State University, Russia | ***Working language: Russian*** |
| **12.00–15.00 (Tomsk)** |
| **11.30–13.50 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **TRACK «MATHEMATICAL MODELLING OF COMMUNICATION NETWORKS»**  *Chiefs*– **Janos Sztrik**, University of Debrecen, Hungary  **Sergey Suschenko**, National Research Tomsk State University, Russia  *Moderators* – **Elena Danilyuk**, National Research Tomsk State University, Russia  **Ekaterina Lisovskaya**, Peoples’ Friendship University of Russia, Russia | ***Working languages: English, Russian*** |
| **15.30–17.50 (Tomsk)** |
| **11.00–15.00 (Moscow)** | [**https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09**](https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09)  **TRACK «INTELLIGENT DATA ANALYSIS AND VISUALIZATION»**  *Chiefs*– **Mais Farhadov**, Institute of Control Sciences, Russian Academy of Sciences, Russia  **Daria Semenova**, Siberian Federal University, Russia  *Moderator* – **Anna Morozova**, National Research Tomsk State University, Russia | ***Working language: Russian*** |
| **15.00–19.00 (Tomsk)** |
| **December 5, 2020 / 5 декабря 2020 г.** | | |
| **08.00–14.00 (Moscow)** | [**https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09**](https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09)  **TRACK «MATHEMATICAL AND COMPUTER MODELLING OF TECHNOLOGICAL PROCESSES»**  *Chiefs*– **Anton Voitishek**, Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Russia  **Svetlana Moiseeva**, National Research Tomsk State University, Russia  *Moderator* – **Valentina Broner**, National Research Tomsk State University, Russia | ***Working languages: Russian*** |
| **15.30–17.50 (Tomsk)** |
| **10.00–11.20 (Moscow)** | [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  **TRACK «QUEUING THEORY AND APPLICATION 7»**  *Chief*– **Svetlana Rozhkova**, National Research Tomsk Polytechnic University, Russia  *Moderator –* **Ekaterina Lisovskaya**, Peoples’ Friendship University of Russia, Russia | ***Working language: Russian*** |
| **14.00–15.20 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 2, 2020 / 2 декабря 2020 г.**  **TRACK «QUEUING THEORY AND APPLICATION 1» / СЕКЦИЯ «Теория массового обслуживания 1»**  **13.00–15.00 (Moscow) / 17.00–19.00 (Tomsk)**  ***Working language: English***  [***https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09***](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  ***Chief*– Achyutha Krishnamoorthy, prof. CMS College, India**  ***Moderator – Svetlana Paul*, National Research Tomsk State University, Russia** | | |
| *13.00–13.40 (Moscow)* | *Balasubramanian Krishna Kumar,*  *Amirthalingam Thanikachalam,*  *Rathinam Sankar,*  *Ramachandran Navaneetha Krishnan* | *Oscillating Service System Between Regular and Retrial Queues for Impatient Customers with Switch-off and Close-down Periods* |
| **17.00–17.40 (Tomsk)** |
| **13.40–14.00 (Moscow)** | *Dhanya Babu,*  *Varghese C. Joshua,*  *Achyutha Krishnamoorthy* | A Queueing System with Probabilistic Joining Strategy for Priority Customers |
| **17.40–18.00 (Tomsk)** |
| **14.00–14.20 (Moscow)** | *Resmi Thekkiniyedath,*  *Ravikumar K,*  *Lakshmy B* | Three-Server Queue with Consultations by Main Server with a Buffer at the Main Server |
| **18.00–18.20 (Tomsk)** |
| **14.20–14.40 (Moscow)** | *Abdul Rof V,*  *Achyutha Krishnamoorthy* | A k-stage Queueing Inventory with Reduction Sale |
| **18.20–18.40 (Tomsk)** |
| **14.40–15.00 (Moscow)** | *Nisha Mathew,*  *Varghese C. Joshua,*  *Achyutha Krishnamoorthy* | On a MMAP/(PH,PH)/1/(∞,N) Queueing-Inventory System. |
| **18.40–19.00 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 2, 2020 / 2 декабря 2020 г.**  **TRACK «QUEUING THEORY AND APPLICATION 2» / СЕКЦИЯ «Теория массового обслуживания 2»**  **15.00–16.40 (Moscow) / 19.00–20.40 (Tomsk)**  <https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09>  ***Working language: English***  ***Chief – Alexander Dudin, Belarusian State University, Belarus***  ***Moderator – Olga Lizura, National Research Tomsk State University, Russia*** | | |
| **15.00–15.20 (Moscow)** | *Valentina Klimenok,*  *Alexander Dudin,*  *Ivan Vankovich* | Стационарные характеристики системы массового обслуживания с повторными вызовами и поиском на орбите |
| **19.00–19.20 (Tomsk)** |
| **15.20–15.40 (Moscow)** | *Anatoly Nazarov,*  *Tuan Phung-Duc,*  *Svetlana Paul,*  *Olga Lizyura,*  *Ksenia Shulgina* | Asymptotic Analysis of Markovian Retrial Queue with Unreliable Server and Two-Way Communication under Low Rate of Retrials Condition |
| **19.20–19.40 (Tomsk)** |
| **15.40–16.00 (Moscow)** | *Sandhya E,*  *Sreenivasan C,*  *Sajeev Nair* | An Explicit Solution for an Inventory Model with Positive Lead Time and Backlogs |
| **19.40–20.00 (Tomsk)** |
| **16.00–16.20 (Moscow)** | *Ranjith K R,*  *Achyutha Krishnamoorthy,*  *Gopakumar B* | Analysis of a PH/PH/1 queue with interdependence |
| **20.00–20.20 (Tomsk)** |
| **16.20–16.40 (Moscow)** | *Anilkumar M P,*  *Jose K. P.* | An Eigen Value Approach to a Discrete-Time Queueing Model with N-Policy on Two Modes of Service |
| **20.20–20.40 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 3, 2020 / 3 декабря 2020 г.**  **TRACK «QUEUING THEORY AND APPLICATION 3» / СЕКЦИЯ «Теория массового обслуживания 3»**  **06.30–08.40 (Moscow) / 10.30–12.40 (Tomsk)**  [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  ***Working languages: Russian, English***  ***Chief – Gurami Tsitsiashvili, Far Eastern Branch of Russian Academy of Sciences, Russia***  ***Moderator – Ivan Lapatin, National Research Tomsk State University, Russia*** | | |
| **06.30–07.00 (Moscow)** | *Khanik Kerobyan,*  *Ruben Kerobyan* | Virtual waiting time in single server queuing model M|G|1 with unreliable server and carastrophes |
| **10.30–11.00 (Tomsk)** |
| **07.00–07.30 (Moscow)** | *Anatoly Nazarov,*  *Tuan Phung-Duc,*  *Yana Izmailova* | Asymptotic-diffusion analysis of multiserver retrial queueing system with priority customers |
| **11.00–11.30 (Tomsk)** |
| **07.30–08.00 (Moscow)** | *Gurami Tsitsiashvili,*  *Anatoly Nazarov,*  *Alexander Moiseev* | Асимптотическая оценка интенсивности сборки пуассоновских потоков |
| **11.30–12.00 (Tomsk)** |
| **08.00–08.20 (Moscow)** | *Ivan Lapatin,*  *Anatoly Nazarov,*  *Alexey Blaginin* | Исследование двумерного выходящего потока марковской модели узла обработки запросов с повторными обращениями и вызываемыми заявками |
| **12.00–12.20 (Tomsk)** |
| **08.20–08.40 (Moscow)** | *Agassi Melikov,*  *Sevinj Aliyeva,*  *Divya V* | Analyses of feedback queue with positive server setup time and impatient calls |
| **12.20–12.40 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 3, 2020 / 3 декабря 2020 г.**  **TRACK «QUEUING THEORY AND APPLICATION 4» / СЕКЦИЯ «Теория массового обслуживания 4»**  **13.00–14.40 (Moscow) / 17.00–18.40 (Tomsk)**  [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  ***Working language: English***  ***Chief – Tuan Phung-Duc, University of Tsukuba, Japan***  ***Moderators –Olga Lizura, National Research Tomsk State University, Russia*** | | |
| **13.00–13.20 (Moscow)** |  |  |
| **17.00–17.20 (Tomsk)** |
| **13.20–13.40 (Moscow)** | *Beena P,*  *Jose K. P.* | A MAP/PH(1), PH(2)/2 Inventory System with Production, Multiple Servers and Vacations |
| **17.20–17.40 (Tomsk)** |
| **13.40–14.00 (Moscow)** | *Khamis Abdullah Khamis AL Maqbali,*  *Varghese C. Joshua,*  *Achyutha Krishnamoorthy* | On A Single Server Queueing Inventory System With Common Life Time For Inventoried Items |
| **17.40–18.00 (Tomsk)** |
| **14.00–14.20 (Moscow)** | *SMIJA SKARIA,*  *Sajeev Nair* | Transient Analysis of an Inventory Model with Instantaneous Replenishment and Catastrophes |
| **18.00–18.20 (Tomsk)** |
| **14.20–14.40 (Moscow)** | *Vadym Ponomarov* | The exact formulas for state-dependent Markov retrial queues |
| **18.20–18.40 (Tomsk)** |
| **14.40–15.00 (Moscow)** | *Achyutha Krishnamoorthy,*  *Varghese C. Joshua,*  *Ambily P. Mathew* | A Reliability Problem with Interdependent Lifetimes |
| **18.40–19.00 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 3, 2020 / 3 декабря 2020 г.**  **TRACK «QUEUING THEORY AND APPLICATION 5» / СЕКЦИЯ «Теория массового обслуживания 5»**  **15.00–17.00 (Moscow) / 19.00–21.00 (Tomsk)**  [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  ***Working language: Russian***  ***Chiefs – Michele Pagano, Pisa University, Italy***  ***Moderator – Maria Shklennik, National Research Tomsk State University, Russia*** | | |
| **15.00–15.20 (Moscow)** | *Vladimir Zadorozhnyi,*  *Michele Pagano,*  *Tatiana Zakharenkova* | Application of infinite markings methods to networks with packet switching |
| **19.00–19.20 (Tomsk)** |
| **15.20–15.40 (Moscow)** | *Stepan Rogozin,*  *Evsey Morozov* | Stability condition of a modified Erlang loss system with different service rates |
| **19.20–19.40 (Tomsk)** |
| **15.40–16.00 (Moscow)** | *Elmira Yu. Kalimulina* | On Convergence of Queuing Network with changing structure to stationary distribution |
| **19.40–20.00 (Tomsk)** |
| **16.00–16.20 (Moscow)** | *Hanna Livinska,*  *Eugene Lebedev* | Gaussian approximation and reducing of dimension for a general-type multichannel network |
| **20.00–20.20 (Tomsk)** |
| **16.20–16.40 (Moscow)** | *Vytovtov K.A.,*  *Barabanova E.A.,*  *Vishnevsky V.M.* | The Analytical Method For Analyzing a System, Continuous Time And Doubly Stochastic Poisson Flows |
| **20.20–20.40 (Tomsk)** |
| **16.40–17.00 (Moscow)** | *Vladimir Zadorozhnyi,*  *Tatiana Zakharenkova* | Infinite markings method in queueing systems with unknown service time for arriving requests |
| **20.40–21.00 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 3, 2020 / 3 декабря 2020 г.**  **TRACK «INFORMATION TECHNOLOGIES AND SOFTWARE ENGINEERING 1» / СЕКЦИЯ «Информационные технологии и программная инженерия 1»**  **13.00–15.00 (Moscow) / 17.00–19.00 (Tomsk)**  [**https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09**](https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09)  ***Working language: Russian***  ***Chiefs – Alexander Moiseev, National Research Tomsk State University, Russia***  ***Konstantin Voytikov, Moscow Institute of Physics and Technology, Russia***  ***Moderator –* Alexey Shkurkin*, National Research Tomsk State University, Russia*** | | |
| **13.00–13.20 (Moscow)** | *Marat Gainutdinov* | Development of back-end of the service for internationalization of web applications |
| **17.00–17.20 (Tomsk)** |
| **13.20–13.40 (Moscow)** | *Yana Lebedeva,*  *Viacheslav Vavilov* | Разработка системы управления специальным банковским оборудованием |
| **17.20–17.40 (Tomsk)** |
| **13.40–14.00 (Moscow)** | *Igor Zhukov,*  *Kostyuk Yury* | Программная реализация заданий по программированию с многовариантными решениями |
| **17.40–18.00 (Tomsk)** |
| **14.00–14.20 (Moscow)** | *Yuliya Protasevich* | Поддержка настраиваемых типов проектов в системе автоматизации управления Git-репозиториями для использования в процессе обучения |
| **18.00–18.20 (Tomsk)** |
| **14.20–14.40 (Moscow)** | *Ruslan Ishtuganov* | Распределенные параллельные вычисления в экосистеме python с использованием |
| **18.20–18.40 (Tomsk)** |
| **14.40–15.00 (Moscow)** | *Ludmila Demidenko* | Проектирование базовой архитектуры модуля «Расписание» системы Alterum Med |
| **18.40–19.00 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 3, 2020 / 3 декабря 2020 г.**  **TRACK «INFORMATION TECHNOLOGIES AND SOFTWARE ENGINEERING 2» / СЕКЦИЯ «Информационные технологии и программная инженерия 2»**  **15.00–17.00 (Moscow) / 19.00–21.00 (Tomsk)**  [**https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09**](https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09)  ***Working language: Russian***  ***Chiefs – Alexander Moiseev, National Research Tomsk State University, Russia***  ***Konstantin Voytikov, Moscow Institute of Physics and Technology, Russia***  ***Moderator –* Alexey Shkurkin*, National Research Tomsk State University, Russia*** | | |
| **15.00–15.20 (Moscow)** | *Елена Квач,*  *Aleksey Babanov* | «IS-A»-отношение, как способ представления взаимосвязи обобщенных и специализированных понятий |
| **19.00–19.20 (Tomsk)** |
| **15.20–15.40 (Moscow)** | *Jana Kulikova,*  *Kachalov Dmitry* | Сценарии управления беспилотными транспортными средствами в среде «Умного города» |
| **19.20–19.40 (Tomsk)** |
| **15.40–16.00 (Moscow)** | *Denis Zmeev* | О представлении прогресса проекта по разработке программного обеспечения в форме динамической байесовской сети |
| **19.40–20.00 (Tomsk)** |
| **16.00–16.20 (Moscow)** | *Евгения Соколова,*  *Tatyana Ketova* | Формальная модель образовательной программы в области компьютерных наук с точки зрения международного стандарта ACM и IEEE |
| **20.00–20.20 (Tomsk)** |
| **16.20–16.40 (Moscow)** | *Vadim Trenkaev* | Обзор исследований по проблеме достижения высокой производительности протокола OPC UA |
| **20.20–20.40 (Tomsk)** |
| **16.40–17.00 (Moscow)** | *Evgeny Polin,*  *Alexander Moiseev,*  *Konstantin Voytikov* | Имитационное моделирование СМО с входящими потоками, параметры которых зависят от состояния системы |
| **20.40–21.00 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 4, 2020 / 4 декабря 2020 г.**  **TRACK «QUEUING THEORY AND APPLICATION 6» / СЕКЦИЯ «Теория массового обслуживания 6»**  **08.00–11.00 (Moscow) / 12.00–15.00 (Tomsk)**  [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  ***Working language: Russian***  ***Chiefs – Anatoly Nazarov, National Research Tomsk State University, Russia***  ***Andrei Zorine, Lobachevsky State University of Nizhni Novgorod, Russia***  ***Moderator – Yana Izmailova, Ekaterina Pavlova, National Research Tomsk State University, Russia*** | | |
| **08.00–08.20 (Moscow)** | *Anatoly Nazarov,*  *Maria Samorodova* | Asymptotic waiting time analysis of a M/M/1 retrial queueing system |
| **12.00–12.20 (Tomsk)** |
| **08.20–08.40 (Moscow)** | *Anatoly Nazarov,*  *Ekaterina Pavlova* | Исследование СМО вида MMPP|M|N с обратной связью методом асимптотически диффузионного анализа |
| **12.20–12.40 (Tomsk)** |
| **08.40–09.00 (Moscow)** | *Сущенко С.П.,*  *Михеев П.А.,*  *Pavel Pristupa* | Прямая коррекция ошибок на внутрисегментном уровне транспортного протокола |
| **12.40–13.00 (Tomsk)** |
| **09.00–09.20 (Moscow)** | *Елена Станкевич,*  *Igor Tananko* | Приближенный метод анализа замкнутых сетей массового обслуживания с ненадежными системами и групповым обслуживанием |
| **13.00–13.20 (Tomsk)** |
| **09.20–09.40 (Moscow)** | *Елена Станкевич,*  *Igor Tananko* | Метод анализа замкнутых сетей массового обслуживания с системами типа Мa /M[x,y]/1 |
| **13.20–13.40 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 4, 2020 / 4 декабря 2020 г.**  **TRACK «QUEUING THEORY AND APPLICATION 6» / СЕКЦИЯ «Теория массового обслуживания 6»**  **08.00–11.00 (Moscow) / 12.00–15.00 (Tomsk)**  [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  ***Working language: Russian***  ***Chiefs – Andrei Zorine, Lobachevsky State University of Nizhni Novgorod, Russia***  ***Anatoly Nazarov, National Research Tomsk State University, Russia***  ***Moderator – Ekaterina Pavlova, National Research Tomsk State University, Russia*** | | |
| **09.40–10.00 (Moscow)** | *Andrei Zorine,*  *Kseniya Sizova* | Метод решения стационарных уравнений для процесса приоритетного обслуживания с разделением времени в случайной среде |
| **13.40–14.00 (Tomsk)** |
| **10.00–10.20 (Moscow)** | *Victoria Sannikova,*  *Ekaterina Proydakova* | Математическое моделирование и исследование приоритетной управляющей системы с непостоянной интенсивностью обслуживания требований |
| **14.00–14.20 (Tomsk)** |
| **10.20–10.40 (Moscow)** | *Maksim Zharkov,*  *Michael Pavidis* | Об использовании четырехфазных систем массового обслуживания для описания работы грузовых и сортировочных железнодорожных станций |
| **14.20–14.40 (Tomsk)** |
| **10.40–11.00 (Moscow)** | *Dzmitry Kopats* | Анализ ожидаемого дохода в открытой сети с ограниченным числом заявок и обходами ими систем обслуживания |
| **14.40–15.00 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 4, 2020 / 4 декабря 2020 г.**  **TRACK «MATHEMATICAL MODELLING OF COMMUNICATION NETWORKS» / СЕКЦИЯ «Математическое моделирование телекоммуникационных сетей»**  **11.30–13.50 (Moscow) / 15.30–17.50 (Tomsk)**  [**https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09**](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  ***Working languages: English, Russian***  ***Chiefs – Janos Sztrik, University of Debrecen, Hungary***  ***Sergey Suschenko, National Research Tomsk State University, Russia***  ***Moderators – Elena Danilyuk, National Research Tomsk State University, Russia***  ***Ekaterina Lisovskaya, Peoples’ Friendship University of Russia, Russia*** | | |
| **11.30–11.50 (Moscow)** | *János Sztrik,*  *Tóth Ádám* | Some special features of finite-source retrial queues with collisions, an unreliable server and impatient customers in the orbit |
| **15.30–15.50 (Tomsk)** |
| **11.50–12.10 (Moscow)** | *Tóth Ádám,*  *János Sztrik,*  *Elena Danilyuk,*  *Svetlana Moiseeva* | Simulation of retrial queueing system M/G/1 with impatient customers, collisions and unreliable server |
| **15.50–16.10 (Tomsk)** |
| **12.10–12.30 (Moscow)** | *Anastasia Daraseliya,*  *Eduard Sopin* | Optimization of task offloading thresholds in the fog computing system |
| **16.10–16.30 (Tomsk)** |
| **12.30–12.50 (Moscow)** | *Eduard Sopin,*  *Maxim Korshikov* | Analysis of the processor sharing systems with random serving rate coefficients |
| **16.30–16.50 (Tomsk)** |
| **12.50–13.10 (Moscow)** | *Mohamed Hedi Zaghouani,*  *Hamza Nemouchi,*  *János Sztrik* | Simulation analysis in cognitive radio networks with unreliability and abandonment |
| **16.50–17.10 (Tomsk)** |
| **13.10–13.30 (Moscow)** | *Kirill Ageev,*  *Eduard Sopin* | Analysis of the Simplified Network Slicing Model |
| **17.10–17.30 (Tomsk)** |
| **13.30–13.50 (Moscow)** | *Yves Adou,*  *Ekaterina Markova* | To queueing system model performance measures analysis under network slicing |
| **17.30–17.50 (Tomsk)** |
| **December 4, 2020 / 4 декабря 2020 г.**  **TRACK «INTELLIGENT DATA ANALYSIS AND VISUALIZATION» / СЕКЦИЯ «Интеллектуальный анализ данных и визуализация»**  **11.00–15.00 (Moscow) / 15.00–19.00 (Tomsk)**  <https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09>  ***Working language: Russian***  ***Chiefs – Mais Farhadov, Institute of Control Sciences, Russian Academy of Sciences, Russia***  ***Daria Semenova, Siberian Federal University, Russia***  ***Moderator – Ivan Lapatin, National Research Tomsk State University, Russia*** | | |
| **11.00–11.20 (Moscow)** | *Aleksandr Soldatenko,*  *Daria Semenova* | Алгоритм HGFC нахождения формальных понятий |
| **15.00–15.20 (Tomsk)** |
| **11.20–11.40 (Moscow)** | *Irina Baranova* | Применение метода двудольных множеств событий в задачах регрессионного анализа многомерных разнотипных данных |
| **15.20–15.40 (Tomsk)** |
| **11.40–12.00 (Moscow)** | *Yuri Gagarin,*  *Gagarina Svetlana* | Прогнозирование частных показателей индекса активного долголетия |
| **15.40–16.00 (Tomsk)** |
| **12.00–12.20 (Moscow)** | *Inna Batraeva,*  *Aleksandra Kriuchkova* | Алгоритм репрезентации кастомизированных диалектологических корпусов для Саратовского диалектологического корпуса русского языка |
| **16.00–16.20 (Tomsk)** |
| **12.20–12.40 (Moscow)** | *Alyona Borisovskaya* | Methods of spelling correction in information retrieval systems |
| **16.20–16.40 (Tomsk)** |
| **12.40–13.00 (Moscow)** | *Сергей Смирнов,*  *Анна Ивлева* | Первичный концептуальный анализ сестринского дела для экспертной советующей системы |
| **16.40–17.00 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 4, 2020 / 4 декабря 2020 г.**  **TRACK «INTELLIGENT DATA ANALYSIS AND VISUALIZATION» / СЕКЦИЯ «Интеллектуальный анализ данных и визуализация»**  **11.00–15.00 (Moscow) / 15.00–19.00 (Tomsk)**  <https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09>  ***Working language: Russian***  ***Chiefs – Mais Farhadov, Institute of Control Sciences, Russian Academy of Sciences, Russia***  ***Daria Semenova, Siberian Federal University, Russia***  ***Moderator – Ivan Lapatin,, National Research Tomsk State University, Russia*** | | |
| **13.00–13.20 (Moscow)** | *Ivan Brokarev,*  *Mais Farkhadov,*  *Sergey Vaskovskii* | Recurrent neural networks to analyze the quality of natural gas |
| **17.00–17.20 (Tomsk)** |
| **13.20–13.40 (Moscow)** | *Ivan Brokarev,*  *Sergey Vaskovskii* | Analysis of reliability of gas analysis system based on vector Wiener process |
| **17.20–17.40 (Tomsk)** |
| **13.40–14.00 (Moscow)** | *Victoria Shamraeva* | BIM modeling of transport infrastructure objects |
| **17.40–18.00 (Tomsk)** |
| **14.00–14.20 (Moscow)** | *Ellada Ibragimova,*  *Daria Semenova* | Recognition of k-clusterability of signed graphs |
| **18.00–18.20 (Tomsk)** |
| **14.20–14.40 (Moscow)** | *Valeriy Golyshev,*  *Daria Semenova* | Fuzzy formal concept analysis: α-cut method |
| **18.20–18.40 (Tomsk)** |
| **14.40–15.00 (Moscow)** | *Stepan Gilin* | Решение задачи распознавания образов при помощи алгоритма гибридной СММ-нейросети |
| **18.40–19.00 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 5, 2020 / 5 декабря 2020 г.**  **TRACK «MATHEMATICAL AND COMPUTER MODELLING OF TECHNOLOGICAL PROCESSES» / СЕКЦИЯ «Математическое и компьютерное моделирование технологических процессов»**  **08.00–14.00 (Moscow) / 12.00–18.00 (Tomsk)**  <https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09>  ***Working language: Russian***  ***Chiefs – Anton Voitishek, Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Russia***  ***Svetlana Moiseeva, National Research Tomsk State University, Russia***  ***Moderator – Valentina Broner, National Research Tomsk State University, Russia*** | | |
| **08.00–08.20 (Moscow)** | *Anton Voytishek* | Об особенностях выбора апроксимационных ортонормированных базисов в рандомизированных численных проекционных функциональных алгоритмах |
| **12.00–12.20 (Tomsk)** |
| **08.20–08.40 (Moscow)** | *Anton Voytishek* | Система численного моделирования одномерных случайных величин NMPUD: формирование банка плотностей, автоматизация математических выкладок и приложения |
| **12.20–12.40 (Tomsk)** |
| **08.40–09.00 (Moscow)** | *Nikita Belyakov,*  *Dmitry Fedchenko,*  *Rustam Bikmurzin* | Automata, graphs, quasigroups |
| **12.40–13.00 (Tomsk)** |
| **09.00–09.20 (Moscow)** | *Serguei Pitchouguine* | Problem Definition for LEO System Switching Technique Development |
| **13.00–13.20 (Tomsk)** |
| **09.20–09.40 (Moscow)** | *Irina Gendrina* | Использование метода фиктивных переменных для исследования пространственной характеристики систем видения через атмосферу |
| **13.20–13.40 (Tomsk)** |
| **09.40–10.00 (Moscow)** | *Shakhmurad Kanzitdinov,*  *Sergey Vasilyev,*  *Kassy Dougg Feussy Warren,*  *Michelle Beugre* | Stability analysis and motion of the Kapitsa pendulum |
| **13.40–14.00 (Tomsk)** |
| **December 5, 2020 / 5 декабря 2020 г.**  **TRACK «MATHEMATICAL AND COMPUTER MODELLING OF TECHNOLOGICAL PROCESSES» / СЕКЦИЯ «Математическое и компьютерное моделирование технологических процессов»**  **08.00–14.00 (Moscow) / 12.00–18.00 (Tomsk)**  <https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09>  ***Working language: Russian***  ***Chiefs – Anton Voitishek, Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Russia***  ***Svetlana Moiseeva, National Research Tomsk State University, Russia***  ***Moderator – Valentina Broner, National Research Tomsk State University, Russia*** | | |
| **10.00–10.20 (Moscow)** | *Mohamed Adel Bouatta,*  *Vyacheclav Fedorchenko,*  *Sergey Vasilyev* | Численный анализ на адаптивных сетках многомерного уравнения Фоккера-Планка с малым параметром |
| **14.00–14.20 (Tomsk)** |
| **10.20–10.40 (Moscow)** | *Sergey Vasilyev,*  *Daniel Peres Acosta,*  *Shakhmurad Kanzitdinov,*  *Igor Levichev* | Построение решений задач оптимального управления динамическими системами в бесконечномерных пространствах с малым параметром |
| **14.20–14.40 (Tomsk)** |
| **10.40–11.00 (Moscow)** | *Mohamed Adel Bouatta,*  *Darya Vasilyeva,*  *Irina Kolosova,*  *Evgeniya Korshok* | Kadyshevsky equation numerical analysis with periodic boundary conditions on adaptive grids |
| **14.40–15.00 (Tomsk)** |
| **11.20–11.40 (Moscow)** | *Maria Shklennik,*  *Alexander Moiseev* | Реализация механизма сбора и обработки статистических данных потоков заявок в системе имитационного моделирования ODIS |
| **15.20–15.40 (Tomsk)** |
| **11.40–12.00 (Moscow)** | *Jozil Takhirov* | A reaction-diffusion-advection competition model with a free boundary |
| **15.40–16.00 (Tomsk)** |
| **12.00–12.20 (Moscow)** | *Владислав Литвинов* | Research of transverse rope oscillations moving in the longitudinal direction |
| **16.00–16.20 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 5, 2020 / 5 декабря 2020 г.**  **TRACK «MATHEMATICAL AND COMPUTER MODELLING OF TECHNOLOGICAL PROCESSES» / СЕКЦИЯ «Математическое и компьютерное моделирование технологических процессов»**  **08.00–14.00 (Moscow) / 12.00–18.00 (Tomsk)**  [**https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09**](https://us02web.zoom.us/j/84578994497?pwd=WVV5RGVyYjVLSGpMQ0E4RUFkWGs2dz09)  ***Working language: Russian***  ***Chiefs – Anton Voitishek, Institute of Computational Mathematics and Mathematical Geophysics SB RAS, Russia***  ***Svetlana Moiseeva, National Research Tomsk State University, Russia***  ***Moderator – Valentina Broner, National Research Tomsk State University, Russia*** | | |
| **12.20–12.40 (Moscow)** | *Olga Kuzovatova* | Компьютерное моделирование локализации деформации сыпучей среды в сходящемся канале |
| **16.20–16.40 (Tomsk)** |
| **12.40–13.00 (Moscow)** | *Viacheslav Kuvykin,*  *Maksim Bryukhanov* | Математическое и компьютерное моделирование системы согласования материального баланса в нефтепереработке и нефтехимии |
| **16.40–17.00 (Tomsk)** |
| **13.00–13.20 (Moscow)** | *Viacheslav Kuvykin,*  *Elena Kolpakova,*  *Artem Kolpakov* | Параметрический анализ математических моделей оптимального планирования нефтепереработки и компьютерное моделирование |
| **17.00–17.20 (Tomsk)** |
| **13.20–13.40 (Moscow)** | *Anton Esin* | Теоретические аспекты построения современных систем управления на базе многозначной логики |
| **17.20–17.40 (Tomsk)** |
| **13.40–14.00 (Moscow)** | *Anton Esin* | Исследование принципов применения моделей многозначной логики в современных приложениях |
| **17.40–18.00 (Tomsk)** |

|  |  |  |
| --- | --- | --- |
| **December 5, 2020 / 5 декабря 2020 г.**  **TRACK «QUEUING THEORY AND APPLICATION 7» / СЕКЦИЯ «Теория массового обслуживания 7»**  **10.00–11.20 (Moscow) / 14.00–15.20 (Tomsk)**  ***Working language: Russian***  [***https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09***](https://us04web.zoom.us/j/8967702999?pwd=bXAwWUVIWFlzSzdzdVVMSG9QTHYxdz09)  ***Chief – Svetlana Rozhkova, National Research Tomsk Polytechnic University, Russia***  ***Moderator – Ekaterina Lisovskaya, Peoples’ Friendship University of Russia, Russia*** | | |
| **10.00–10.20 (Moscow)** | *Anna Boyarkina,*  *Svetlana Moiseeva,*  *Irina Turenova,*  *Alexey Shkurkin* | СМО вида GI(K)/GI/∞ с групповым обслуживанием |
| **14.00–14.20 (Tomsk)** |
| **10.20–10.40 (Moscow)** | *Faina Moskaleva,*  *Ekaterina Lisovskaya,*  *Yuliya Gaidamaka* | A Two-Class Service System for Performance Analysis of Network Slicing with QoS Isolation |
| **14.20–14.40 (Tomsk)** |
| **10.40–11.00 (Moscow)** | *Svetlana Rozhkova,*  *Nataliya Voronina,*  *Alexandra Semashko* | Асимптотический анализ rq-системы м/м/1 с ненадежным прибором мегаматричным методом |
| **14.40–15.00 (Tomsk)** |
| **11.00–11.20 (Moscow)** | *Anatoly Nazarov,*  *Svetlana Rozhkova,*  *Ekaterina Titarenko* | Исследование системы c обратной связью, рекуррентным обслуживанием и неординарным пуассоновским входящим потоком |
| **15.00–15.20 (Tomsk)** |
| **11.20–11.40 (Moscow)** | *Татьяна Бушкова,*  *Svetlana Moiseeva,*  *Ekaterina Lisovskaya,*  *Anastasia Galileyskaya* | Асимптотический анализ ресурсной гетерогенной СМО (MMPP+2M)(ν)/M/∞ |
| **15.20–15.40 (Tomsk** |