

# 28th International Conference on Distributed Computer and Communication Networks (DCCN 2025) – AGENDA

## September 22 (Monday) – September 25 (Thursday), 2025

### Organizers

V.A. Trapeznikov Institute of Control Sciences of RAS (ICS RAS, Russia, Moscow)

Peoples' Friendship University of Russia (RUDN University), Moscow, Russia

### Tracks

Track A. Computer and Communication Networks: Architecture, Protocols and Technologies. Chair: Vladimir Vishnevsky. Co-chair: O. Semenova.

Track B. Modeling of Distributed Systems and Networks. Chair: Konstantin Samouylov. Co-chair: Yuliya Gaidamaka.

Track C. Distributed Systems Applications. Chair: Sergey Portnoy. Co-chair: Andrey Tikhonyuk.

Monday, September 22, 2025	TIME (Moscow time)	<b>DAY 1: Opening, Plenary session</b> (Grand conference hall)
	09:00–10:00	<b>REGISTRATION</b> (Reception, Ground floor)
	10:00–10:10	<b>Conference Opening</b> (Small conference hall) <b>Chairman: Vladimir Vishnevsky</b> , ICS RAS
	10:10–10:20	<b>Welcome Speech: Dmitry Novikov</b> , Director, ICS RAS <b>Konstantin Samouylov</b> , Professor, RUDN University; <b>Dharmaraja Selvamuthu</b> , Professor, Indian Institute of Technology
	10:20–11:00	<b>Quantum Key Distribution for Blockchain Networks Scenarios: Current Trends and Future Research Directions</b> <b>Neeraj Kumar</b> , Thapar Institute of Engineering & Technology, India
	11:00–11:40	<b>Computing Centric Network — Next Generation Computing Infrastructure</b> <b>Ruslan Smelyansky</b> , Moscow State University, Russia
	11:40–12:00	<b>Coffee break</b>
	12:00–12:40	<b>On Queues with Working Breakdown and Interdependence Between Arrival and Service Processes</b> <b>Achyutha Krishnamoorthy</b> , Cochin University of Science & Technology, CMS College, India
	12:40–13:20	<b>The AI Cybersecurity Paradox in Computer Communication Systems: Overview, Applications and Lessons Learned</b> <b>Eugene Levner</b> , Holon Institute of Technology, Israel
	13:20–14:00	<b>Break</b>
	14:00–14:40	<b>Reliability Analysis of High-Altitude Platform Systems</b> <b>Dharmaraja Selvamuthu</b> , Indian Institute of Technology, India
	14:40–15:20	<b>Marked Markov Processes and Their Applications</b> <b>Vladimir Rykov</b> , Russian State University of Oil and Gas (Gubkin University), RUDN University, Russia
	15:20–15:40	<b>Break</b>
	15:40–16:20	<b>The Almost Lack of Memory Distributions and Their Applications</b> <b>Boyan Dimitrov</b> , Kettering University, USA

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TIME (Moscow time)	DAY 2: Track sessions	
09:00–10:00	REGISTRATION (Reception, Ground floor)	
	<b>B.1.1. Analytical modeling of Distributed Systems and Networks</b> <i>Chairs: Dr. N. Markovich, Dr. S. Paul</i> Room 9	<b>A.1.1. Computer and Communication Networks: Architecture, Protocols and Technologies</b> <i>Chairs: Prof. R. Smeliansky, V. Pashkov</i> Room 10
10:00–10:20	<b>Ádám Tóth, János Sztrik</b> Simulation of a Retrial Queueing System with Two-Way Communication and an Unreliable Server in Different Scenarios (ID 3287)	<b>Grigorii Alekseev, Ruslan Smeliansky, Evgeniy Stepanov</b> QoS-aware per-segment host-based load balancing of a non-stationary flow (ID 3329)
10:20–10:40	<b>Olga Dudina, Alexander Dudin</b> Analysis of Queueing System with Slowdown of Non-priority Customers (ID 3316)	<b>Nhan Hoang Phuoc, Alexander Paramonov, Ammar Muthanna, Andrey Koucheryavy</b> Method for Dynamic Subchannel Selection in Heterogeneous Internet of Things Environments (ID 3418)
10:40–11:00	<b>Natalia Markovich, Denis Leibman</b> Anomaly Detection in Random Graphs Evolving by Preferential Attachment (ID 3317)	<b>Arina Gazeeva, Dmitry Bankov, Andrey Lyakhov, Evgeny Khorov</b> A Scheduler for Real-Time Applications Service in Overlapping Wi-Fi 8 Networks (ID 3825)
11:00–11:20	<b>Thresiamma N J, Salini S Nair, Jose K. P.</b> A Production Inventory System with N-Policy and Enhanced Production Rate (ID 3324)	<b>Victor Zyablov, Sergey Portnoy, Nikitin Sergey, Andrey Voloshin, Nikita Klyuev</b> A New Class of Codes with Error Localization: on improvement of decoding algorithms (ID 3380)
11:20–11:40	Coffee break	
11:40–12:00	<b>Anatoly Nazarov, Olga Lizyura, Svetlana Paul</b> Queueing Model of a Cell Operation with Retrials and State-Dependent Rate of Requests (ID 3330)	<b>Vasily Pashkov</b> DDoS Attack on Controller Detection Method Based on Machine Learning for Distributed Control Plane in Software Defined Networks (ID 3427)
12:00–12:20	<b>Mei Liu, Alexander Dudin</b> Analysis of Retrial Queueing System with Heterogeneous Servers and Phase Type Distribution of Service Times (ID 3344)	<b>Dmitrii Aminev, Sergei Zakhazhevskiy, Dmitry Kozyrev, Hector Gibson Kinmanhon Houankpo</b> Реализация на ПЛИС циклического избыточного кодера по 32-битному полиному для стандартов IEEE 802.3 (ID 3460)
12:20–12:40	<b>Komal Suwalka, Vidyottama Jain</b> A Markovian Framework for Availability-Aware Inter-HAPS Handoff in Aerial 6G Networks (ID 3701)	<b>Hussein Yasir, Zahraa Al-Kerea, Ammar Muthanna, Andrey Koucheryavy</b> Flexible load management algorithm in future 6G networks based on federated deep reinforcement learning (ID 3382)
12:40–13:00	<b>Evsey Morozov, Ksenia Zhukova</b> Analysis of workload in a constant retrial rate M/G/1-type system (ID 3416)	<b>Kirill Glinskiy, Aleksandr Kasperovich, Aleksey Kureev, Aleksei Shashin, Maxim Susloparov, Roman Zlobin, Evgeny Khorov, Artem Krasilov</b> Improving Capacity for Real-Time Traffic in 5G NTN: Common and Unique Effects versus Terrestrial Systems (ID 3831)
13:00–14:00	Break	

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	<b>B.1.2. Analytical modeling of Distributed Systems and Networks</b> <i>Chairs: Prof. S. Moiseeva, Dr. O. Semenova</i> Room 9	<b>A.1.2. Computer and Communication Networks: Architecture, Protocols and Technologies</b> <i>Chairs: Prof. A. Muthanna, Dr. V. Begishev</i> Room 10
14:00–14:20	<b>Komal Suwalka, Nika Ivanova, Vidyottama Jain</b> Semi-Markov Approach for Efficient and Reliable Handoff Management in High-Altitude Platform Stations (ID 3839)	<b>Hussein Yasir, Zahraa Al-Kere, Ammar Muthanna, Artem Volkov</b> Edge Computing Platform for Telepresence Services based on artificial intelligence Algorithms (ID 3383)
14:20–14:40	<b>Anton Karamyshev, Aleksander Antipov, Evgeny Khorov</b> Effective Capacity Approximations for G/G/s/k Queues under Strict QoS (ID 3823)	<b>Zahraa Al-Kere, Hussein Yasir, Ammar Muthanna, Artem Volkov</b> Distributed Intelligence Empowered 6G Networks: A Hybrid Optimization Perspective (ID 3384)
14:40–15:00	<b>Natalia Markovich, Maksim Ryzhov</b> Detection of Stationarity and Local Dependence in Random Graphs Evolving by Preferential Attachment Model (ID 3250)	<b>M. V. Tiushev, R. L. Smelyansky</b> Routing in LEO Mega-Constellations with Dynamic Inter-Satellite Link Delays (ID 3458)
15:00–15:20	<b>Людмила Нежелская, Илья Степаненко</b> Математическое ожидание длительности интервала между событиями в обобщенном полусинхронном потоке со случайным мертвым временем (ID 3322)	<b>Roman Rachugin, Artem Burkov, Andrey Turlikov</b> Evaluation of the effectiveness of using early feedback in a two-step random access procedure (ID 3377)
15:20–15:40	<b>Coffee break</b>	
15:40–16:00	<b>Bui Duy Tan, Olga Semenova</b> Adaptive Polling Mechanisms for Real-Time Polling Systems: From Cyclic to Arrival-Rate-Based Approaches (ID 3747)	<b>Eduard Sopin, Anastasia Daraseliya, Vyacheslav Begishev</b> On the Impact of the Traffic Structure on Random Access Models for LTE-M and NB-IoT Systems (ID 3376)
16:00–16:20	<b>A. Tarasenko, Svetlana Moiseeva, Evgeny Polin</b> Асимптотический анализ бесконечнолинейной гетерогенной СМО при условии редких изменений случайной среды (ID 3419)	<b>Artem Makarov, Dmitry Namiot</b> On-Air Q&A Physical Proximity System (ID 3430)
16:20–16:40	<b>Danil Parasotchenko, Svetlana Moiseeva, Ekaterina Pankratova</b> Исследование многопоточной ресурсной гетерогенной СМО в случайной среде (ID 3369)	<b>Aleksandr Roslyakov</b> Traffic Delay Analysis in the Fronthoul Segment of 5G Mobile Networks (ID 3323)

Wednesday, September 24, 2025	TIME (Moscow time)	DAY 3: Track sessions	
		<b>B.2.1. Analytical modeling of Distributed Systems and Networks</b> <i>Chairs: Prof. S. Dharmaraja, Dr. R. Nekrasova</i> Room 9	<b>A.2.1. Computer and Communication Networks: Architecture, Protocols and Technologies</b> <i>Chairs: Prof. V. Vishnevsky, Dr. E. Barabanova</i> Room 10
	10:00–10:20	<b>Raina Raj, Ksenia Zhukova , Ruslana Nekrasova, Dharmaraja Selvamuthu</b> Performance Analysis of High-altitude Platforms using Multi-server Retrial Queues (ID 3673)	<b>Alexey Volchaninov, Dmitry Volkanov</b> Расширение функциональности имитационной модели сетевого процессорного устройства для исследования методов анализа классов трафика (ID 3333)
	10:20–10:40	<b>Oleg Lukashenko</b> On the conditional Monte Carlo method for the reliability estimation of the Gaussian degradation system with a changing degradation intensity (ID 3428)	<b>Nikita Nikiforov, Dmitry Volkanov</b> Метод распределения программы обработки сетевых пакетов на вычислительные блоки конвейера сетевого процессорного устройства (ID 3334)
	10:40–11:00	<b>Samaja S Naboothri, Jaya S</b> A Queuing Inventory Model with Production and Reuse of Perishable Goods (ID 3422)	<b>Fengrui Guo</b> On Exponential Vector Autoregression Method for Data Transmission Channel Quality Forecasting (ID 3310)
	11:00–11:20	<b>Binumon Joseph, Jose K. P.</b> A MAP/PH/1 k-out-of-n: G System with External Customer Service under Non-Preemptive Priority, Working Vacation and N-Policy (ID 3328)	<b>Alexander Grebeshkov, Yana Batyrshina</b> Data relevance IoT node cache update inspired by epidemic-based model (ID 3285)
	11:20–11:40	Coffee break	
	11:40–12:00	<b>Bobina J. Mattam, Jose K. P.</b> A MAP/Ph Perishable Inventory System with an Unreliable Server having Two Modes of Service (ID 3325)	<b>Eugene Levner, Dmitry Tsadikov, Vladimir Vishnevsky</b> Graph-based Model and Practical Algorithm for Combating Cyberattack Threats in DCCN (ID 3357)
	12:00–12:20	<b>Jaya S, Dhanya Shajin</b> Environment-Dependent Demand Fluctuation and Inventory Management in Dual Commodity Queueing Inventory System (ID 3421)	<b>Olga Morozova, Margarita Orlova, Iulianiya Dovgoshapko, Leonid Abrosimov</b> Traffic Hub: an extensive solution for network dataset analysis (ID 3304)
	12:20–12:40	<b>Ksenia Zhukova, Ruslana Nekrasova</b> On overflow probability asymptotic in a stable two-class retrial system with constant retrial rate (ID 3320)	<b>Dmitry Karavaev</b> Numerical simulation of flat directional fading based on Bessel filter for land-mobile satellite channels (ID 3306)
	12:40–13:00	<b>Anna Zaitseva, Anna Zhihtsova, Elizaveta Golos, Irina Yartseva, Yuliya Gaidamaka, Elizaveta Gaidamaka, Konstantin Samouylov</b> Discrete Time Markov Chain in Age of Information analysis for URLLC services in DECT-2020 New Radio (ID 3366)	<b>Elizaveta Barabanova, Konstantin Vytovtov, Artur Dvoretzky</b> Transient Analysis of a Multi-line Queueing System with Impatient Customers and Its Application to the Medical Information and Measurement Systems (ID 3563)

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13:00–13:20	Break	<b>Olga Kochueva, Kirill Nikitin, Dmitrii Erokhin</b> Some approaches to building models of chemical processes based on machine learning (ID 3354)
13:20–13:40		<b>Alexandra Maidzhe, Ilya Bykonya</b> IoT-Based Fire Evacuation System Utilizing BLE Mesh Networking (ID 3426)
13:40–14:00		
	<b>B.2.2. Analytical modeling of Distributed Systems and Networks</b> <i>Chairs: Prof. Yu. Gaidamaka, Dr. N. Ivanova</i> Room 9	
14:00–14:20	<b>Uliana Morozova, Ekaterina Bobrikova, Yuliya Gaidamaka</b> Modeling of the DECT-2020 sink using a system with batch service (ID 3364)	
14:20–14:40	<b>Uliana Morozova, Yuliya Gaidamaka</b> Анализ пикового возраста информации в кластере сети DECT-2020 с трафиком URLLC и mMTC (ID 3365)	
14:40–15:00	<b>Nika Ivanova, Nikita Kalmykov, Vladimir Vishnevsky</b> Reliability Assessment of a Local Navigation System for Tethered Platform Using Risk Tree (ID 3405)	
15:00–15:20	<b>Mais Farkhadov, Olga Blinova, Ekaterina Pankratova</b> Эргатические системы управления с искусственным интеллектом (ID 3423)	
15:20–15:40	Coffee break	
15:40–16:00	<b>Gregory Cherepennikov</b> Assessment of cognitive load in the user interface using oculography methods (ID 3378)	
16:00–16:20	<b>Veronika Malysheva</b> The influence of external cognitive load on the perception of information in the interface (ID 3379)	
16:20–16:40	<b>Dzmitry Kopats</b> Нахождение ожидаемых доходов в нетерпеливых G-сетях с системами с контрольными и карантинными очередями (ID 3353)	

Thursday, September 25, 2025	TIME (Moscow time)	DAY 4: Track sessions, Round Table and Conference Closing	
		C.1.1. Distributed Systems Applications Chairs: Prof. S. Portnoy, Dr. A. Tikhonyuk Room 6	B.3.1. Analytical modeling of Distributed Systems and Networks Chairs: Prof. K. Samouylov, Dr. E. Fedorova Room 7
	10:00–10:20	Andrey Tikhonyuk, Sergey Portnoy, Victor Zyablov One Approach on Improved Communication Secrecy (ID 3604)	Ekaterina Fedorova, Elena Bulgakova, Anastasia Varakina Asymptotic analysis of retrial queue with constant retrial rate and priority customers (ID 3321)
	10:20–10:40	Ivan Gostev, Pavel Golosov, Sergey Bolovtsov, Marina Polukoshko Прогнозирование и устранение критических ситуаций в специализированных распределенных вычислительных системах на основе интеллектуального агента (ID 3361)	Vladimir Rybintsev Модификация метода полиномиальной аппроксимации для повышения точности расчета замкнутых сетей (ID 3282)
	10:40–11:00	Konstantin Kostiukhin Построение системы мониторинга для выявления атак по сторонним каналам (ID 3247)	Anatoly Yermakov, Aisha Mamyrova, Timour Paltashev, Auzhan Sakabekov, Boris Kupriyanov, Marzhan Naukenova, Kuanysh Zhenissov Analysis and development of Markov models of three-phase systems with partial combination of services based on Z-transforms (ID 3305)
	11:00–11:20	Egor Vorobyev, Dmitry Namiot Evasion Attacks on Image Segmentation Models (ID 3284)	Natalya Khaustova, Svetlana Moiseeva, Ekaterina Pakulova Математическая модель СМО с абсолютным приоритетом и нетерпеливыми заявками (ID 3362)
	11:20–11:40	Coffee break	
	11:40–12:00	Sergej Samborskij Особенности использования санитайзеров для разработки встраиваемых систем (ID 3340)	Ivan Khomichkov Об одном методе исследования многоканальной системы массового обслуживания с повторными вызовами (ID 3336)
	12:00–12:20	Narek Maloyan, Dmitry Namiot Adversarial Attacks on LLM-as-a-Judge Systems: Insights from Prompt Injections (ID 3339)	Alexey Bergovin, Vladimir Ushakov Об одной системе обслуживания с профилактиками прибора (ID 3327)
	12:20–12:40	Andrew Toutov, Mais Farkhadov, Natalia Toutova GPU-Aware Placement of Virtual Machines in Heterogeneous Data Centers (ID 3429)	Yaroslav Zotov Разработка инструментальной платформы для создания стендов полунатурного моделирования (ID 3312)
	12:40–13:00	Artem Mileshin, Victor Piskovski Хранилище секретов WireGuard на основе распределенного реестра (ID 3307)	Eugene Yu. Shchetinin, Leonid Sevastianov, Anastasiia Tiutiunnik Detection of coronary artery stenosis using artificial intelligence methods (ID 3300)
	13:00–13:20	Mouale B.M.N. , Hector Gibson Kinmanhon Houankpo, Soro M., Dmitry Kozyrev Dynamic Warehouse Workflow Optimization via Reinforcement Learning: Integrating Q-Learning and Priority-Based Routing (ID 3742)	
	13:20–14:00	Round Table with the participation of young scientists: Future networks, artificial intelligence and big data (Круглый стол с участием молодых ученых по вопросам сетей, искусственного интеллекта и больших данных) Chairs: Prof. Vladimir Vishnevsky, Prof. Konstantin Samouylov Room 6	
	14:00–14:20	Conference Closing	