

**VII MOSCOW INTERNATIONAL CONFERENCE ON  
OPERATIONS RESEARCH  
(ORM2013)**

**MOSCOW, OCTOBER 15-19, 2013**

**PROGRAM**

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## TUESDAY, OCTOBER, 15

Date	Time	Talk
15.10 Tu		<b>CCAS RAS, Conference-hall</b>
	8:45	Registration
	9:45	Conference opening
	10:00	Plenary talk by <b>Yu.G. Evtushenko</b> (CCAS RAS) “Effective methods for solving of large-scale optimization problems” Chair I.G. Pospelov <i>Пленарный доклад: Ю.Г. Евтушенко (ВЦ РАН)</i> <i>«Эффективные методы решения задач оптимизации большой размерности»</i> <i>Председатель И.Г. Поспелов</i>
	10:45	Plenary talk by <b>A.A. Vasin</b> (CMC MSU) “Electricity markets: game-theoretic analysis of their mechanisms” Chair I.G. Pospelov <i>Пленарный доклад: А.А. Васин (ВМК МГУ)</i> <i>«Теоретико-игровой анализ механизмов рынка электроэнергетики»</i> <i>Председатель И.Г. Поспелов</i>
	11:30	“On Russian department of EURO association” by <b>V.V. Mazalov</b> Chair I.G. Pospelov <i>Сообщение В.В. Мазалова «О российском отделении ассоциации EURO»</i> <i>Председатель И.Г. Поспелов</i>
	11:50	Coffee break
	12:20	Plenary talk by <b>G.A. Agasandyan</b> (CCAS RAS) “Application of the continuous criterion VaR in financial markets” Chair A.V. Lotov <i>Пленарный доклад: Г.А. Агасандян (ВЦ РАН)</i> <i>«Применение непрерывного критерия VaR на финансовых рынках»</i> <i>Председатель А.В. Лотов</i>
	13:05	Plenary talk by <b>V.V. Podinovsky</b> (NRU HSE) “Criteria importance theory: state-of-the-art” Chair A.V. Lotov <i>Пленарный доклад: В.В. Подиновский (НИУ ВШЭ)</i> <i>«Теория важности критериев: современное состояние»</i> <i>Председатель А.В. Лотов</i>
	13:50	Lunch
	15:15	Plenary talk by <b>B. Stilman</b> (University of Colorado at Denver, USA) “Development of Linguistic Geometry: From Fighting Wars... To Computing Them” Chair Yu.A. Flerov <i>Пленарный доклад: Б. Штильман (Университет Колорадо в Денвере, США)</i> <i>«Создание Лингвистической Геометрии: от ведения войн ... к их компьютерному моделированию»</i> <i>Председатель Ю.А. Флёров</i>
	16:00	Plenary talk by <b>Ya.D. Sergeyev</b> (University of Calabria, Rende (CS), Italy) “Lipschitz global optimization methods” Chair Yu.A. Flerov <i>Пленарный доклад: Я.Д. Сергеев (University of Calabria, Rende (CS), Italy)</i> <i>«Методы глобальной липшицевой оптимизации»</i> <i>Председатель Ю.А. Флёров</i>
	16:45	Plenary talk by <b>M.G. Kreynes</b> (BASIC TECHNOLOGIES Llc) “Objectivity or magic of quantity” Chair Yu.A. Flerov <i>Пленарный доклад: М.Г. Крейнес («БАЗИСНЫЕ ТЕХНОЛОГИИ»)</i> <i>«Объективность или магия чисел»</i> <i>Председатель Ю.А. Флёров</i>

### WEDNESDAY, OCTOBER, 16

Date	Time	Stream				
16.10 We		CCAS Conf. hall	CCAS 355*	CCAS 113	CMC 685	CMC 526A
	9:00	ORE	ORFB		GTM 1	OM 1
	10:20	Coffee break				
		CCAS Conf. hall	CCAS 355	CCAS 113	CMC 685	CMC 526A
	11:00	ORE	ORFB	ORMBE	GTM 1	OM 1
	14:00	Lunch				
	15:15	ORE	<b>B. Stilman</b> Tutorial (15.15 - 17:30) Q&A session (17:40 - 19:00) (see. p. 13)	<b>The Round table:</b> "What is happening with the Science and the Education?"		OM 1

### THURSDAY, OCTOBER, 17

Date	Time	Talk / Stream				
17.10 Th		CCAS Conf. hall			CMC, P5	
	9:00	Plenary talk by <b>Yu.E. Nesterov</b> "Stochastic equilibrium in congested transportation networks" Chair A.V. Gasnikov <i>Пленарный доклад: Ю.Е. Нестеров</i> <i>«Стохастическое равновесие в</i> <i>загруженных транспортных сетях»</i> <i>Председатель А.В. Гасников</i>			Plenary talk by <b>G.-W. Weber</b> "Advances in Operational Research and Control of Stochastic Dynamics" Chair A.A. Vasin <i>Пленарный доклад: Г.-В. Вебер</i> <i>«Последние достижения в области</i> <i>исследования операций и управления</i> <i>в задачах стохастической</i> <i>динамики»</i> <i>Председатель А.А. Васин</i>	
	9:45				CMC MSU welcoming speech <i>Приветствие рук-ва ВМК МГУ</i>	
	10:00	Plenary talk by <b>André de Palma</b> "Individual and collective discrete choice models" Chair A.V. Gasnikov <i>Пленарный доклад: А. Де Пальма</i> <i>«Модели индивидуального и</i> <i>коллективного дискретного выбора»</i> <i>Председатель А.В. Гасников</i>			Plenary talk by <b>F.T. Aleskerov</b> "Choice Procedures for Big Data Analysis" Chair A.A. Vasin <i>Пленарный доклад: Ф.Т. Алескеров</i> <i>«Процедуры выбора</i> <i>для больших данных»</i> <i>Председатель А.А. Васин</i>	
	10:45	Coffee break				
		CCAS Conf. hall	CCAS 355	CCAS 113	CMC 685	CMC 526A
	11:10	PMCT 1	MODM	ORIRM	11:10 – 14:10 APPC & MA	NMM
	13:50	Lunch				
	15:00	PMCT 1	MODM	ORIRM	15:10 APPC & MA	NMM

\* The room 355 address is 42, Vavilova str. The passage to 42, Vavilova str. from CCAS RAS is located in the basement.

## FRIDAY, OCTOBER, 18

Date	Time	Talk / Stream		
18.10 Fr		<b>CCAS Conf. hall</b>		
	9:00	Plenary talk by <b>E.A. Nurminski*</b> , <b>N.B. Shamray</b> “A case study in the development of a system of the regional transport models” Chair Yu.E. Nesterov <i>Пленарный доклад: Е.А. Нурминский*, Н.Б. Шамрай</i> <i>«Опыт разработки системы региональных транспортных моделей»</i> <i>Председатель Ю.Е. Нестеров</i>		
	10:00	Plenary talk by <b>Yu.V. Dorn</b> , <b>A.V. Gasnikov*</b> , <b>Yu.E. Nesterov</b> , <b>S.V. Shpirko</b> “The Three-Stage Version of Stable Dynamic Model” Chair Yu.E. Nesterov <i>Пленарный доклад: А.В. Гасников*, Ю.В. Дорн, Ю.Е. Нестеров, С.В. Шпирко</i> <i>«Трехстадийная версия модели стационарной динамики»</i> <i>Председатель Ю.Е. Нестеров</i>		
	11:00	Coffee break		
		<b>CCAS Conf. hall</b>	<b>CCAS 355</b>	<b>CCAS 113</b>
	11:30	PMCT 2	GTM 2	OM 2
	14:00	Lunch		
	15:15	ORMS & CAD	GTM 2	OM 2
	18:00	Conference dinner (CCAS canteen)		

### New models and methods (NMM, Th, October, 17, CMC, 526A)

*Afternoon session 11:10-13:50, chair V.V. Morozov*

1. *I.S. Menshikov, R.I. Yaminov* Optimization methods of communication channels usage in the systems of public access to the Internet.
2. *R.I. Yaminov* Refinement of the model of experiment participants behavior with the psycho-physiological characteristics.
3. *I.S. Menshikov, O.R. Menshikova, A.N. Chaban* Using the methods of experimental economics in operations research.
4. *S.A. Skinderev* The study of the behavior of participants in laboratory games with changes in experimental conditions.
5. *M.B. Мурашкин* Размытое равновесие Байеса-Нэша в играх двух игроков.
6. *B.K. Исаев, B.B. Золотухин* Некоторые задачи построения интегрированной интеллектуальной системы организации и управления безопасным воздушным движением.
7. *V.U. Reshetov, S.A. Trofimov* Game approach in evaluation of risk for security ensuring problems.
8. *E.V. Khoroshilova* Boundary value problems of linear programming in optimal control.

*Evening session 15:00-17:30, chair V.V. Morozov*

1. *Yu.E. Malashenko, I.A. Nazarova* Control of Computational Intensive Tasks Performance under Uncertainty.
2. *I.A. Nazarova* Solution Methods for the Vertex Variant of the Multicommodity Network Vulnerability Analysis Problem.
3. *O.B. Муравьёва* Решение несобственных задач регрессии и классификации на основе методов коррекции.
4. *B. Dobronets, O. Popova* Linear optimization problems with random data.
5. *F.T. Aleskerov, V.V. Petrushchenko* Data Envelopment Analysis by sequential exclusion of

alternatives.

6. *A.L. Myachin* Pattern analysis in the study of education and patient activity.
  7. *O. Popova* Approaches to the construction of additional grounds in economic decisions.
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## **Optimization methods 1 (OM 1, We, October, 16, CMC, 526A)**

*Morning session 9:00-10:20, chair A.F. Izmailov*

1. *V.F. Demyanov, V.N. Malozemov* Optimality conditions via alternance.
2. *A.V. Dmitruk, I.A. Samylovskiy* On the optimal trajectories in a simple material point motion problem in the presence of a nonlinear friction and a bounded fuel expenditure.
3. *G.Sh. Tamasyan* On finding the distance from a linear manifold to an ellipsoid.
4. *A.D. Mizhidon, K.A. Mizhidon* An optimal control problem with state and mixed constraints.

*Afternoon session 11:00-14:00, chair A.F. Izmailov*

1. *V.A. Bereznev* Selection of extreme vectors of convex polyhedral cone.
2. *A.N. Daryina, A.F. Izmailov* Newton-type methods for quadratic programming problems.
3. *A.F. Izmailov, A.S. Kurennoy* Multiplier methods for optimization problems with Lipschitzian derivatives.
4. *A.F. Izmailov, E.I. Uskov* Attraction of Newton method to critical Lagrange multipliers.
5. *O.P. Burdakov, L. Gong, Y.-X. Yuan, S.K. Zikrin* On combining limited-memory and trust-region approaches in large-scale optimization.
6. *Z.R. Gabidullina* An application of linear separability criterion for verifying the non-emptiness of the cones of generalized support vectors.
7. *D.N. Zaporozhets, A.V. Zykina* Iterative methods with memory for the solution of variational inequalities
8. *В.И. Ерохин, А.С. Красников, М.Н. Хвостов* О разрешимости задачи линейного программирования при минимальной по евклидовой норме матричной коррекции её допустимой области.
9. *A.V. Arutyunov, D.Yu. Karamzin, F.L. Pereira, G.N. Silva* To the study of the impulsive problem with state constraints.

*Evening session 15:15-18:00, chair A.F. Izmailov*

1. *V.G. Zhadan* The variant of dual affine scaling method for linear semidefinite programming problem.
2. *V.M. Gordunovsky* Exponential approximation algorithm for linear programming problems.
3. *A.I. Kosolap* The method of the exact quadratic regularization for global optimization.
4. *V.G. Malinov* Versions of two projection two-step extragradient methods for saddle-point and other problems.
5. *P.E. Dvurechensky, Yu.E. Nesterov* Primal-dual optimization methods for solving optimal control problems with saddle-point structure.
6. *T.V. Gruzdeva, A.V. Orlov* On a local and global search in bilevel problems with a matrix game at the lower level.
7. *A.G. Korotchenko, V.M. Smoryakova* About algorithm of extremum search for classes of functions defined by piece-linear majorant.
8. *Yu.P. Laptin* Penalty coefficients adjustment and constructing exact penalty functions.

## Optimization methods 2 (OM 2, Fr, October, 18, CCAS, 113)

*Afternoon session 11:30-14:00, chair M.G. Furugyan*

1. *M.A. Посыпкин, И.Х. Сигал* Системный подход к созданию программных комплексов для решения задач глобальной оптимизации.
2. *N.A. Dunichkina, D.I. Kogan, Yu.S. Fedosenko* Towards the problem of stationary objects servicing by a mobile-processor.
3. *D.I. Kogan, A.S. Kuimova, Yu.S. Fedosenko* Problem of object flow scheduling in single processor system with refillable storage components.
4. *E.M. Bronshtein, D.M. Vagapova, A.V. Nazmutdinova* School bus problem.
5. *M.Х. Прилуцкий* Оптимальное планирование для моделей двухстадийных стохастических производственных систем.
6. *B.B. Рябов, М.В. Тихонова* Идентификация моделей радикально-цепного окисления параллельными методами условной глобальной оптимизации.
7. *A.S. Khokhlov, Y.M. Tsodikov* Nonlinear models for Refinery optimal planning.

*Evening session 15:15-18:00, chair M.G. Furugyan*

1. *L.G. Afraimovich* Flow algorithms for multi-index axial transportation problem with decomposable costs.
2. *P.E. Shestov, V.A. Kostenko* Problems of scheduling during designing information control systems which are based on existing systems.
3. *P.M. Vdovin, I.A. Zotov, V.A. Kostenko, A.V. Plakunov, R.L. Smelyansky* Problem of datacenter's resource scheduling and approaches to solving it.
4. *D.A. Zorin* Convergence and accuracy measurement of scheduling on multiprocessors with simulated annealing.
5. *B.A. Балаханов, В.В. Балашов, В.А. Костенко* Задача построения многопроцессорного статико-динамического расписания.
6. *M.G. Furugyan* Planning of calculations in the multiprocessor real-time systems with the additional resource.
7. *D.R. Gonchar, M.G. Furugyan* Algorithms of planning of calculations in the multiprocessor systems with the non-uniform set of jobs.
8. *G.-W. Weber, A. Özmen* Robust counterparts for MARS and CMARS under polyhedral uncertainty.

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## Multiple objective decision making (MODM, Th, October, 17, CCAS, 355)

*Afternoon session 11:10-13:50, chair A.V. Lotov*

1. *V.V. Podinovski, O.V. Podinovskaya, A.P. Nelyubin* Matrix ordinal decision rules in the criteria importance theory.
2. *I.F. Shahnov* The Method of Medians in the Problem of Ranking Interval Objects Specified by Three Points.
3. *G.K. Kamenev* A multicriterial investigation method based on the approximation of the nonlinear dynamic systems reachable sets.
4. *V.D. Noghin* Axiomatic approach to reduce the Pareto set: computational aspects.
5. *O.V. Baskov* Narrowing the Pareto set using fuzzy information on the preference relation.
6. *S.O. Mashchenko, O.M. Bovsunivskiyi* Decision making problem with fuzzy set of preference relations.
7. *G.G. Fedin* On the distance between interval orders generated by the two types of objects distribution on the axis.

*Evening session 15:00-18:00, chair A.V. Lotov*

1. *A.V. Lotov, K.G. Fateev* Multiobjective analysis of medicine influence on a cancer tumor by using the multiple-valued identification of tumor growth model.
  2. *I.V. Konnov, O.A. Kashina, E. Laitinen* Vector resource allocation problems in networks with moving nodes.
  3. *A.P. Karpenko, D.T. Mukhlisullina (Shvarts)* Interactive multiobjective optimization method based on estimations of the decision maker's preference function.
  4. *B. Yatsalo, V. Didenko, S. Gritsyuk, O. Mirzeabasov, A. Babutski, I. Pichugina* The Use of Multi-Criteria Spatial Decision Support System Decerns for Risk Management and Land-Use Planning.
  5. *Я.И. Рабинович* Метод “идеальной” точки для оценки качества решений в задачах векторной оптимизации.
  6. *А.И. Рябиков* Применение метода прокси-критериев в задаче многокритериальной оптимизации с конечнозначными критериями.
  7. *В.В. Михайлов, А.А. Томилов, В.М. Умывакин* Агрегированное оценивание в задачах морфологического синтеза природно-технических систем.
  8. *I.V. Konnov* On primal gap functions for mixed variational inequalities.
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**OR in economics (ORE, We, October, 16, CCAS, Conf. hall)**

*Morning session 9:00-10:20, chair I.G. Pospelov*

1. *V.V. Dikusar, N.N. Olenev* Nonregular points in the problem of foreign debt.
2. *С.В. Чуканов* Разрушение простых асимптотик в моделях оптимальной экономической динамики (численные исследования).
3. *N.K. Obrosova, A.A. Shananin* About production functioning in the conditions of irregular demand.
4. *A. Cadenillas, P. Lakner, M. Pinedo* Optimal production management when there are business cycles.

*Afternoon session 11:00-14:00, chair I.G. Pospelov*

1. *V.I. Arkin, A.D. Slastnikov* Optimization of governmental guarantees in financing risky projects.
2. *V.M. Gordunovsky, S.Yu. Samokhvalov, V.G. Tsedrik* Multicriteria problem of investing into the real economy.
3. *E.S. Palamarchuk* Long-run optimality, time preference and risk in linear economic systems under uncertainty.
4. *A. Makarenko* Sustainable development: formalization, models and tasks of optimal management.
5. *V. Matveenko* Weak links, misallocation and dynamics of agglomerations.
6. *A.I. Prangishvili, K.J. Kachiashvili, O.B. Shonia* Models of Sustainable development of production.
7. *Б.В. Дугас, В.Л. Розенберг* Комплексная оценочная модель MERGE: структура и возможности применения к моделированию социально-экономической динамики.
8. *П.Г. Сурков* Оптимизационное исследование экономического блока комплексной оценочной модели MERGE.

*Evening session 15:15-18:00, chair I.G. Pospelov*

1. *E.I. Alekseeva* The productivity application of modeling on networks in continuous/discrete media.



2. *L.F. Petrov, A.V. Stepanov* Predictive migration modeling.
3. *Л.Л. Делицын* Обобщенная модель CGS с зависящей от возраста силой смертности.
4. *S.A. Radionov, I.G. Pospelov* Multisector monopolistic competition model.
5. *A.A. Zhukova, I.G. Pospelov* Analysis of a market with frictions and identification results.
6. *S.A. Dementeva* Position of equilibrium in the Demand-Supply model as the point of two mappings coincidence.
7. *Е.Ю. Можжерина* К исследованию человеческого капитала и его устаревания.
8. *М.А. Makarova, N.N. Olenov* On a model of firm investment policy including employee training.
9. *A.G. Solomakha* Problem of optimum control of advertising expenses in indistinct statement.

## **OR in military science & Computer-aided design (ORMS & CAD, Fr, October, 18, CCAS, Conf. hall)**

*Evening session 15:15-18:00, chair Yu.A. Flerov*

1. *Л.Л. Вышинский, Н.И. Широков* САПР ЛА. Подсистема расчетов МИХ ЛА с переменной массой.
2. *Л.Л. Вышинский, В.Л. Дунин-Барковский* Автоматизация проектирования нейрокомпьютерных моделей.
3. *Н.И. Широков, А.А. Логинов* Развитие инструментального комплекса «Генератор проектов».
4. *И.Л. Гринев, В.П. Катунин, М.Г. Трошенкова* Клиент-серверная архитектура АСУ инженерного обслуживания платежных банковских систем.
5. *А.Н. Широков, А.А. Логинов, С.А. Скиндерев* Архитектура многоуровневых клиент-серверных систем, реализуемая средствами «Генератора проектов».
6. *И.Л. Гринев, А.Н. Широков* Генератор проектов, как эффективное средство сопровождения, модификации и модернизации АБС.
7. *М.В. Прудский* Модель локальных конфликтов.

## **OR in finance and banking (ORFB, We, October 16, CCAS, 355)**

*Morning session 9:00-10:20, chair F.I. Ereshko*

1. *А.Н. Сытов* Модели коалиции заемщиков с механизмом выдачи кредитов на основе жребия.
2. *А.Ф. Еreshko, А.Н. Сытов* Вычислительные эксперименты с управлением коалицией заемщиков.
3. *И.И. Гасанов, Ф.И. Еreshko, А.Н. Сытов* Анализ принятия решений в моделях кредитных организаций.
4. *И.И. Гасанов, Ф.И. Еreshko* Неопределённые факторы в организации коалиции заёмщиков.
5. *О.Б. Байрамов* Задачи оперативного управления коалицией заёмщиков.

*Afternoon session 11:00-14:00, chair F.I. Ereshko*

1. *Г.А. Агасандян* Комбинированные рынки опционов и CC-VaR.
2. *Г.А. Агасандян* Генераторы базисов для многомерных рынков опционов и CC-VaR.
3. *А.Ф. Еreshko, А.М. Аникин* Исследование операций в автоматизированном трейдинге.
4. *Г.А. Агасандян* Применение континуального критерия VaR на финансовых рынках.
5. *И.М. Промахина* Оценка потенциалов развития рынков ИЖК европейских стран.

## **OR in insurance and risk-management (ORIRM, Th, October, 17, CCAS, 113)**

*Afternoon session 11:10-13:50, chair D.V. Denisov*

1. *D.V. Denisov, O.V. Nekrasova* Optimization problem of the definition of dividend payment.
2. *V.A. Babin* Consumption Optimization in Portfolio Problem with Cox-Ingersoll-Ross interest rate.
3. *В.Г. Киселев* Процедура формирования программ агрострахования.
4. *D. Golembiovsky, A. Abramov* Option portfolio management based on stochastic programming.
5. *E. Antonov* An influence of different types of immunization on interest margin of assets/liabilities portfolio.
6. *L. Egorova, H. Penikas* Agent-based Models of Stock Exchange: Analysis via Computational Simulation.

*Evening session 15:00-17:00, chair D.V. Denisov*

1. *A.F. Kononenko, V.V. Shevchenko* About construction of industrial-financial models of the functioning of multilevel corporations.
2. *В.В. Морозов, К.В. Хижняк* An upper bound on the value of an infinite American option on difference of two assets.
3. *O.B. Shonia, I.I. Kartvelishvili, L.G. Bejanishvili* Basic Models of Handwritten Symbols.
4. *O.B. Shonia* Information Security Method (Authentication Methods) Used for Banking System.
5. *V.V. Morozov, A.I. Soloviev* On optimal partial hedging in incomplete discrete markets.

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## **OR in medicine, biology and ecology (ORMBE, We, October, 16, CCAS, 113)**

*Afternoon session 11:00-14:00, chair A.A. Belolipetski*

1. *A.A. Belolipetskii, K.O. Semenov* Mathematical model of single-layer shells filling with real gas as a mixed type singular perturbed problem of the diffusion equation.
2. *E.A. Malinina* Optimization of the cryogenic channel parameters for the FST production technology.
3. *А.А. Белолипецкий, В.Ф. Галанжа* Задача определения рационального срока эксплуатации парка машин.
4. *А.Н. Герасимов, М.И. Шпитонков* Зависимость смертности пожилого населения от заболеваемости гриппом и другими инфекциями.
5. *V.N. Razzhevaikin* On a leader existence in the diffusion competition model.
6. *Н.В. Белотелов, И.А. Коноваленко* Индивидуально-ориентированная модель «ресурс – потребитель» с учетом коллективного поведения особей.
7. *E.A. Gubar, E.M. Zhitkova* Impact of personal decision on the epidemic process.
8. *Г.В. Зибров, В.М. Умывакин, А.В. Швец* Квалиметрическая модель интегральной оценки экологической опасности территорий природно-технических систем.
9. *М.Г. Крейнес* Семантическая категоризация текстов на естественных языках без знания семантики.

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## **Game-theoretic models 1 (GTM 1, We, October, 16, CMC, 685)**

*Morning session 9:00-10:20, chair N.S. Kukushkin*

1. *A.N. Rettieva* Bioresource management problem and Nash bargaining solutions.

2. *V.V. Mazalov, J.S. Tokareva* Tender models with expertise of project parameters.
3. *A.E. Mentcher* Combined arbitration procedure with quadratic payoff function.
4. *V.V. Mazalov, A.A. Ivashko, E.N. Konovalchikova* Mutual mate choice problem with age dependent payoffs.

*Afternoon session 11:00-14:00, chair N.S. Kukushkin*

1. *N.S. Kukushkin* Games with ordinal preferences and the single crossing property.
2. *X.V. Grigorieva, P.G. Shaikina* Multicriteria coalitional model of decision-making with different preferences of players.
3. *D.V. Kuziyutin, M.V. Nikitina* On the consistency of weak equilibria in n-person multicriteria games.
4. *V.A. Bulavsky, V.V. Kalashnikov, N.I. Kalashnykova* Consistent conjectures are optimal Nash strategies in the Upper Level Game.
5. *V.A. Gorelik, T.V. Zolotova* Estimation of collective risk in the hierarchical systems connected with decentralization.
6. *V.A. Gorelik, T.V. Zolotova* Analysis of the model of regulated equilibrium in hierarchical control systems.
7. *V.A. Gorelik* Data correction methods for the coordination of different decision concepts in cooperative games.
8. *M.A. Gorelov* Continuous informational aggregates in two person hierarchical games.
9. *V.V. Morozov, K.D. Shalbuзов* Zero-sum game of resource allocation.
10. *A.I. Mashechkin, N.M. Novikova* Game-theoretic problem of veto voting with leader.

## **Game-theoretic models 2 (GTM 2, Fr, October, 18, CCAS, 355)**

*Afternoon session 11:30-14:00, chair V.V. Morozov*

1. *N.V. Smirnova, S.I. Tarashnina* The set of  $\alpha$ -prenucleoli in a 3-person cooperative TU-game.
2. *V.A. Vasil'ev* An extension of Bondareva-Shapley theorem to fuzzy cooperative games.
3. *M.M. Lutsenko, N.V. Shadrintseva* Shapley Value for Games with a Partially Ordered Set of Players.
4. *N.A. Zenkevich, A.V. Zyatchin* Cooperative strong equilibrium in a vehicle routing game.
5. *M.S. Sandomirskaya* Lower bounds for values of discrete bidding games with finite numbers of stages.
6. *Е.З. Мохонько* О равновесии в некоторых повторяющихся играх.

*Evening session 15:15-18:00, chair V.V. Morozov*

1. *G.A. Zograbyan, V.Yu. Reshetov* Research of equilibria in a multi-step two-person game.
  2. *E.V. Shevkoplyas, D. Gromov* Differential games with random duration: a hybrid systems formulation.
  3. *K. Kudryavtcev* A strongly guaranteed solution of one cooperative game under uncertainty.
  4. *A.A. Sergeeva, V.M. Bure* Non-cooperative game with asymmetric clients and different service schemes.
  5. *В.Н. Лебедев, И.А. Башлаева* Игровые методы логических вычислений и их приложение.
  6. *И.А. Башлаева* Игра на графе.
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**Analysis of political processes and corruption &  
Markets and auctions: analysis and design  
(APPC & MA, Th, October, 17, CMC, 685)**

*Afternoon session 11:10-14:10, chair A.A. Vasin, co-chair F.T. Aleskerov*

1. A.A. Vasin, P.V. Nikolaev Models for corruption suppression with the use of morale quality of employees.
2. С.А. Вартапов, Ю.В. Сосина О структуре и устойчивости равновесий в модели эндогенного образования коалиций.
3. Д.А. Шварц Государственная дума и мера сбалансированности полных знаковых графов.
4. А.Ю. Flerova, Т.А. Nagapetyan A mathematical model of several durable goods monopolistic market.
5. М.А. Андрушко, А.А. Иванов, В.И. Якуба Система представления данных по манипулированию правил коллективного выбора.
6. I.A. Vyukorov, S.G. Kokovin, E.V. Zhelobodko Technological Choice under Monopolistic Competition and Large Markets.
7. В.И. Зоркальцев, И.В. Мокрый Имитационная модель олигопольного рынка.
8. N.I. Auzenberg, M.A. Kiseleva Models of Imperfect Competition in Analysis of Siberian Electricity Market.

*Evening session 15:10-18:10, chair A.A. Vasin, co-chair F.T. Aleskerov*

1. А.Ю. Филатов, Ю.М. Соколовский Монополистическая конкуренция с неоднородным трудом. Модель торговли двух стран.
2. А.Ю. Филатов, Я.С. Макольская Ограничение конкуренции на отраслевых рынках: увеличение общественной эффективности и возможные риски.
3. V.M. Gorbachuk, I.A. Rusanov To search of a social welfare on the market of gasolines.
4. A. Vasin, M. Dolmatova, G.-W. Weber Best response dynamics for the repeated supply function equilibrium auctions.

*Break*

5. E.A. Daylova, A.A. Vasin Game-theoretic analysis of equilibrium in a two-stage market.
6. N. Blinov Game-theoretic analysis of advertisers ranking rules in search engines.
7. M.R. Davidson A method for computing price indicators in unit commitment problem.
8. A.Yu. Kondratev Bargaining with honest optimal strategies.

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**Predictive models for congested traffic 1  
(PMCT 1, Th, October, 17, CCAS, Conf. hall)**

*Afternoon session 11:10-13:50, chair A.V. Gasnikov*

1. A. Bogdanova, N.N. Smirnov, A.B. Kiselev, V.F. Nikitin, A.S. Manenkova Predictive models for traffic flows.
2. N. Ivkin Voronoi diagram for oriented generators in Origin-Destination matrix estimation.
3. Е.И. Ершов Анализ поведения равновесия системы распределения транспортных потоков в случае его не единственности. Вычислительный эксперимент.
4. E.Yu. Klochkov On the estimation of correspondence matrix using non-asymptotic results.

*Evening session 15:00-18:00, chair Yu.E. Nesterov*

1. V.V. Balashov, A.V. Smirnov, T.O. Tseytlina Predictive modeling for the development of Russia's trunk air routes.

2. *V.V. Zakharov, A.Y. Krylatov* Optimal transportation network construction based on game model "administration - navigation providers".
3. *M.S. Vasilev* Reorganization and transformation road networks schemes.
4. *Ю.Н. Богданова, Е.А. Макарова, Д.А. Фрумкин* Задачи сетевой компьютерной лаборатории транспортного моделирования.
5. *A.M. Valuev* Informational mechanism for establishment of the dynamic equilibrium of regular correspondences in a road network.
6. *A.M. Valuev, K.K. Glukharev* Traffic flow modeling via the formalism of hybrid systems (event-switched processes).

**Predictive models for congested traffic 2  
(PMCT 2, Fr, October, 18, CCAS, Conf. hall)**

*Afternoon session 11:30-14:00, chair Yu.E. Nesterov*

1. *Yu.V. Dorn, A.V. Gasnikov, Yu.E. Nesterov, S.V. Shpirko* The connection between Beckmann and Stable Dynamics model.
2. *Yu.V. Dorn, A.V. Gasnikov, Yu.E. Nesterov, S.V. Shpirko* Application of Primal-Dual Subgradient Method to Three-Stage Version of Stable Dynamic Model.
3. *E.G. Dorogush* Capacity and congestion level of a transportation network.
4. *A.A. Lykov, V.A. Malyshev, V.Yu. Milchevskaya* Critical number of cars in a region.
5. *E.L. Pervukhina, V.V. Golikova, J.-F. Emmenegger* Operational research for sustainable strategies of cargo transport development.

**Tutorial by B. Stilman  
Linguistic Geometry: Constructing Strategies Step by Step  
(We, October, 16, CCAS, 355, 15:15-17:30,  
Tutorial will be conducted in Russian)**

I will explain briefly foundations of Linguistic Geometry (LG) including abstract board games (ABG), languages of trajectories and zones as well as formal grammars generating those languages. The rest of the tutorial will be devoted to the so-called No-Search Approach in LG, the major theoretical result showing that LG generates optimal solutions for a class of opposing games without search. Based on the dynamics of the LG zones, the Terminal Set Expansion permits to expand the subsets of terminal states into "bubbles", i.e., the larger sets of states. For each of the states from those bubbles we can determine a strategy leading to the respective terminal states. It appears that the bubbles of states permit to decompose the entire state space into subspaces. This decomposition called the State Space Chart could serve as a strategic "geographical map" of the state space by providing guidelines for travel from state to state. The Chart permits to construct classes of potential strategies for all the opposing sides and to prune those classes that cannot be implemented for a given problem. Subsequent application of the non-pruned potential strategies leads to construction of the optimal solution – the only real strategy existing in this problem. Participants of the tutorial asking the most interesting questions will receive DVDs with recorded narrated demos and pdf copies of recent papers on LG and the Primary Language.

**Q&A Session "R&D at Universities and Businesses in the USA"  
(We, October, 16, CCAS, 355, 17:40-19:00)  
Session will be conducted in Russian**

Various topics of interest to the audience such as

- R&D on Linguistic Geometry and Algorithm of Discovery;
- Computer Science education in the USA;
- R&D at the universities in the USA;
- Starting and surviving of research-oriented small & large businesses in the USA;
- Obtaining government & private funding for R&D for universities and businesses in the USA;
- other topics.