

Seminar on Analysis, Differential Equations and Mathematical Physics

Семинар «Seminar on Analysis, Differential Equations and Mathematical Physics»

Семинар по Анализу, дифференциальным уравнениям и математической физике «Seminar on Analysis, Differential Equations and Mathematical Physics» проводится регулярно с середины 2020 года. Организаторы и руководители: А.Н.Карапетыяц и В.В.Кравченко. Ученый секретарь семинара: Т.М.Андреева.



Карапетыяц
Алексей Николаевич



Кравченко
Владислав Викторович

На сегодняшний день, среди докладчиков - ученые из более чем 30 стран, аудитория участников также обширна, и количество варьируется от 40 до 120 человек. Некоторые видеозаписи семинаров достигают сотни и даже тысячи просмотров, как например, лекция В. Протасова, набравшая более 8400 просмотров. Научный онлайн семинар проводится регулярно раз в две недели, объявления о новых семинарах и видеозаписи предыдущих семинаров доступны на сайте <https://msrn.sfedu.ru/sl>.



Семинар объединяет математиков по всему миру



$$\sqrt{m-1} \frac{\bar{X}-u}{s^2} \quad f(x) = \frac{a_0}{2} + \sum_{n=1}^{\infty} (a_n \cos nx + b_n \sin nx) \quad \frac{\sigma}{n-2}$$
$$\tilde{G}^2(\varepsilon) = \tilde{S}^2(\varepsilon) = \frac{\sum_{i=1}^n e_i^2}{n-2}, (1) \quad \beta_{yx} = r_{yx} * \frac{S_y}{S_x}, (4)$$



Лекторы семинара, 2024г.



25 July 2024

Stefan Ivkovic

Serbian Academy of Sciences and Arts,
Serbia

**On various classes of hypercyclic and
topologically transitive operators on
Banach spaces**



11 July 2024

Erdal Karapinar

Atilim University, Turkey
**Some remarks on the recent publications
in the metric fixed point theory**



27 June 2024

Ramón G. Plaza

National Autonomous University of
Mexico, Mexico
**Instability theory of stationary kink
and anti-kink profiles for the sine-
Gordon equation on a Y-junction graph**



13 June 2024

Victor Kovtunenکو

Karl-Franzens-Universität Graz, Austria
**Well-posedness of the governing
equations for quasi-linear viscoelastic
model with pressure-dependent moduli
in which both stress and strain appear
linearly**



30 May 2024

Amar Debbouche

8 Mai 1945 - Guelma University, Algeria
**Solvability and Mittag-Leffler stability
analysis for time fractional partial
differential equations**



6 May 2024

The Tuan Hoang

Vietnam Academy of Science and
Technology, Vietnam
**Separation of solutions and the
attractivity of fractional-order positive
linear delay systems with variable
coefficients**



2 May 2024

Milos Arsenovic

University of Belgrade, Serbia
**Gradient estimates for harmonic and
generalized harmonic functions**



18 April 2024

Andrey Muravnik

Peoples' Friendship University, Russia
**The Cauchy problem for parabolic
differential-difference equations: integral
representations of solutions and their
long-time behavior**



4 April 2024

Alexander Skubachevskii

Peoples' Friendship University, Russia
**On smoothness of generalized
eigenfunctions for differential-
difference operators**



21 March 2024

Igor Andrianov

Aachen University, Germany
**Mathematical Models in Pure and
Applied Mathematics**



7 March 2024

Vladimir Nazaikinskii

Russian Academy of Sciences, Russia
**Semiclassical asymptotics on stratified
manifolds**



22 February 2024

Andrei Lebedev

Belarusian State University, Belarus
**How to calculate the roots of an
arbitrary polynomial**

Лекторы семинара, 2024г.



8 February 2024

Oleg Avsyankin

Southern Federal University, Russia
**On algebras generated by integral operators
 with homogeneous kernels**



25 January 2024

Fernando León-Saavedra

University of Cádiz, Spain
**Minimal commutant and double commutant
 property for analytic Toeplitz operators**



11 January 2024

Sergei Konyagin

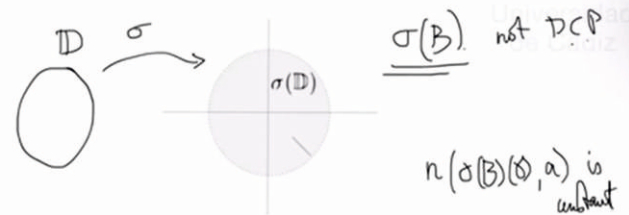
Lomonosov Moscow State University, Russia
**On the norm of the Riesz projection
 from L^∞ to L^p**

Фрагмент лекции профессора Леон-Сааведры

Double commutant property

... multiplication by functions in the Thomson-Cowen's class

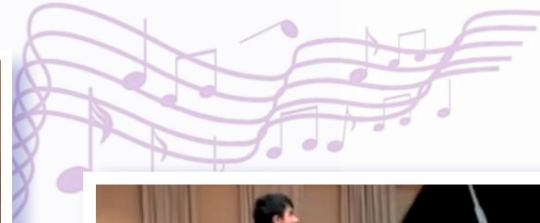
Example: σ maps univalently \mathbb{D} onto a slit disk.



If B is a finite Blaschke product, then $M_{\sigma(B)}$ don't have the double commutant property.

Наши участники талантливы не только в математике.

На фотографиях – Стефан Ивкович, профессор Сербской академии наук и искусств и лектор семинара, а также пианист, сумевший завоевать более 30 различных наград Сербии и других стран.





Семинар проводится регулярно без перерывов, несмотря на плотный график поездок организаторов. На фото - Владислав Кравченко (слева), Алексей Карапетянц (в центре), Хельмут Малонек (справа) проводят семинар во время конференции ОТНА Spring-2023 в Ереване.



Ученый секретарь семинара
Татьяна Андреева
с профессором
Роландом Дудучавой
на конференции ОТНА Fall –
2023г.



Руководители семинара А.Н. Карапетянц
(слева) и В.В. Кравченко (в центре)
вместе с лектором семинара Фернандо
Леон-Сааведрой (справа) проводят
семинар во время конференции «From
Classical to Modern Analysis» в 2024 году в
г. Санлукар де Баррамеда, Испания.



Лекторы семинара, 2023г.



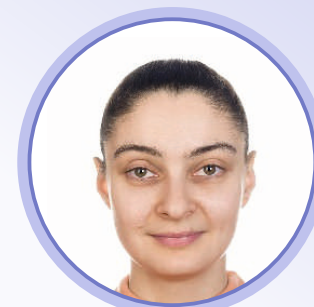
28 December 2023

Francisco Javier García Pacheco
University of Cadiz, Spain
On the Bishop-Phelps property



14 December 2023

Boris Osilenker
Moscow State University of Civil
Engineering, Russia
**Orthogonal polynomials. Fourier series in
orthogonal polynomials. Trace formula
and asymptotics of Forsythe determinant**



30 November 2023

Yana Kinderknecht
University of Kassel, Germany
**Subordination principle, stochastic
solutions and Feynman-Kac
formulae for generalized time fractional
evolution equations**



16 November 2023

Nicola Arcozzi
University of Bologna, Italy
**Bi-parameter Potential theory and
some applications to holomorphic
spaces**



2 November 2023

Armen Jerbashian
Institute of Mathematics, National
Academy of Sciences of Armenia, Armenia
**On the theory of functions of omega-
bounded type**



19 October 2023

Albert Shiryaev
Steklov Mathematical Institute of RAS
and Moscow State University, Russia
**On direct and inverse Kolmogorov
equations for purely jump-like Markov
processes and their generalizations**



5 October 2023

Jussi Behrndt

Graz University of Technology, Austria

The Landau Hamiltonian with delta-potentials supported on curves



16 September 2023

Barry Simon

California Institute of Technology, United States
of America

**A Tale of Three Coauthors: Comparison of
Ising Models**



7 September 2023

Ernani de Sousa Ribeiro Júnior

Federal University of Ceará, Brazil

On Hitchin-Thorpe inequality for four-dimensional compact Ricci solitons



27 July 2023

Suheil Khoury

American University of Sharjah, United
Arab Emirates

**Fixed-point theory and Green's functions
for the solution of DEs: An iterative
strategy**



13 July 2023

Jim Byrnes

Prometheus Inc., USA

**The Energy Spreading PONS Transform and its
Applications**

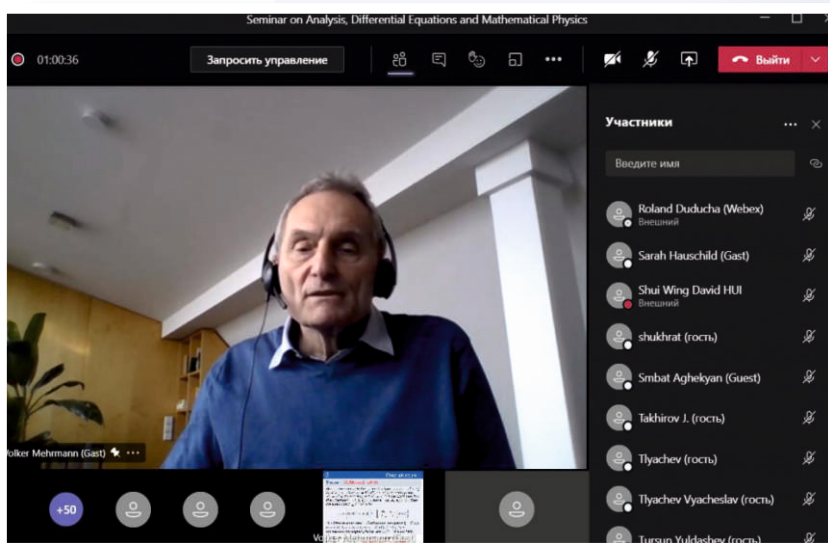


29 June 2023

Mohammad Sal Moslehian

Department of Pure Mathematics, Ferdowsi
University of Mashhad, Iran

Hilbert C^* -module independence



Президент European Mathematical Society Волкер Миерман прочитал лекцию об энергетическом моделировании, симуляции и оптимизации мультифизических систем.




Фрагмент презентации профессора Волкера Миермана. В 2019 г. профессор Миерман приезжал в Ростов-на-Дону для участия в III Кавказской конференции, организованной Региональным научно-образовательным математическим центром в кооперации с РАН и математическими обществами стран Кавказа.




Components of gas flow model

Network of partial differential equations with constraints.
 Euler eqs 1D (or 3D) with temperature to describe flow in pipes.
 Network model, flow balance, network elements: Sources S_i , pipes P_i , valves CV_i , compressors $Comp_i$, consumers C_i .



Data based surrogate and reduced order models.






15 June 2023

Ari Laptev

Imperial College London, UKA
**Survey on current results in Theory
of Lieb-Thirring inequalities**



1 June 2023

Wolfgang Lusky

University of Paderborn, Germany
**Toeplitz operators and Bergman
projections on weighted spaces of
holomorphic functions**



18 May 2023

Taimanov Iskander

Sobolev Institute of Mathematics, Russia,
and Novosibirsk State University, Russia
**Formation of singularities of two-
dimensional soliton equations
represented by L,A,B-triples**



4 May 2023

Daniel Girela

University of Malaga, Spain
**Superposition operators on spaces of
analytic functions**



20 April 2023

Pavel Dubovski

Stevens Institute of Technology, USA
**Quasi-Bessel equations: existence and
hyper-dimensionality**



6 April 2023

Mark Lawrence

Nazarbayev University, Kazakhstan
**Partially holomorphic functions in
several variables**



23 March 2023

Sören Kraußhar

The University of Erfurt, Germany
A theory of reproducing Hardy and Bergman spaces in octonionic settings



9 March 2023

Isroil A. Ikromov

Institute of Mathematics named after
V.I. Romanovsky, Uzbekistan
On the sharp estimates for convolution operators with oscillatory kernel



23 February 2023

Richard M. Aron

Kent State University, USA
Investigation of common properties of Lip and H^∞ functions (preliminary report)



9 February 2023

Eravimangalam Krishnan Narayanan

Indian Institute of Science, India
Toeplitz operators on quotient domains



26 January 2023

Konstantin Fedorovskiy

Lomonosov Moscow State University, Russia,
and Saint Petersburg State University,
Russia
Bianalytic polynomial approximations, Nevanlinna domains and univalent functions in model spaces



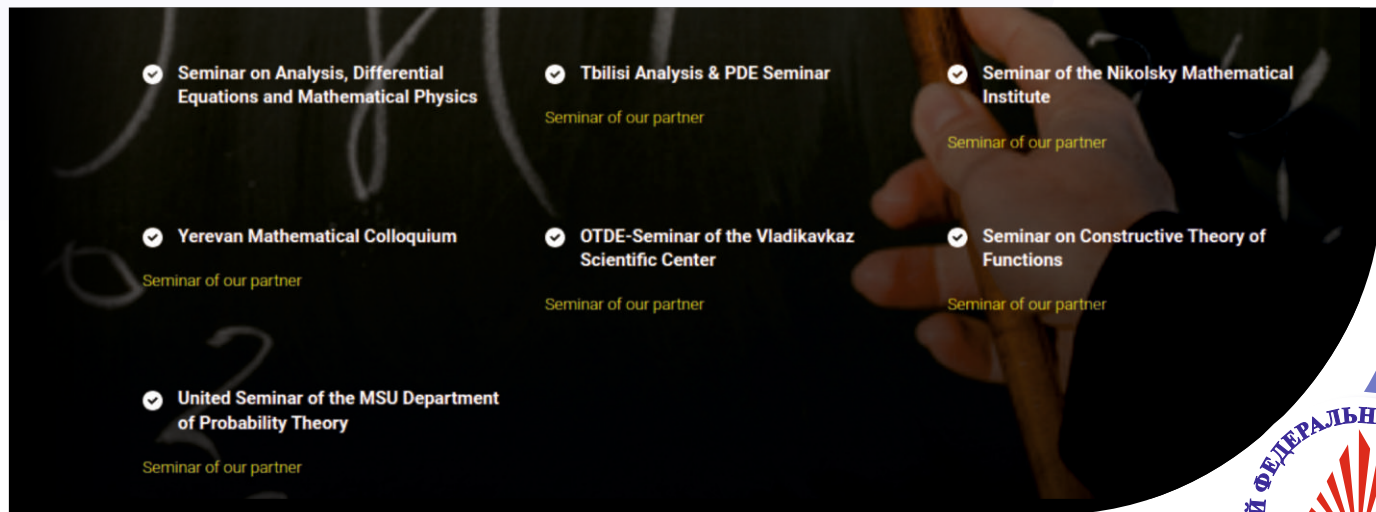
12 January 2023

Kim Tuan Vu

University of West Georgia,
USA
Multi-term fractional integro-differential equations in power growth function spaces

Семинар «Seminar on Analysis, Differential Equations and Mathematical Physics»

Онлайн платформа семинаров (<https://msrn.sfedu.ru/sl>) объединяет не только семинары партнеров из России, но также Ереванский Коллоквиум (руководитель – Севак Мкртчян) и Тбилисский семинар по Анализу и PDE (руководитель – Роланд Дудучава). Эта платформа интегрирует также и Российские семинары: университетов РУДН («Научный семинар по дифференциальным и функционально-дифференциальным уравнениям», руководитель – А.Л.Скубачевский), МГУ («United Seminar of the Department of Probability Theory», руководитель – А.Н.Ширяев), СПбГУ («Конструктивная теория функций», руководитель – М.А.Скопина) и ВЦ РАН («Теория операторов, дифференциальные уравнения и их приложения», руководитель – А.Г.Кусраев).



Лекторы семинара, 2022г.



22 December 2022

Pavel Kurasov

Stockholm University, Sweden

On spectral theory of metric graphs



8 December 2022

Grigori Rozenblum

Chalmers University of Technology, Sweden,
The Euler International Mathematical Institute,
Russia and University of Science and Technology
"Sirius", Russia

**Discrete spectrum of polynomially compact
pseudodifferential operators and applications to
the Neumann-Poincare operator in 3D elasticity**



24 November 2022

Evgeny Panov

Yaroslav-the-Wise Novgorod State
University, Veliky Novgorod, Russia
**On solutions of a multi-phase Stefan-
Riemann problem**



10 November 2022

Vitalii Vol'pert

Institut Camille Jordan, France, and
Nicol'skii Mathematical Institute of Peoples'
Friendship University of Russia, Russia

**Do biological species exist as
mathematical solutions?**



27 October 2022

Praveen Agarwal

Anand International College of
Engineering, India
**Extended Fractional Hypergeometric
Function and Applications**



13 October 2022

Alexey Kanel-Belov

Bar-Ilan University, Department of
Mathematics, Israel
**Distance between two subsets of a
unit-volume convex body**



29 September 2022

Xiao-Jun Yang

China University of Mining and
Technology, China

**On the theory of the subtrigonometric
functions**



15 September 2022

Viacheslav Yurko

Saratov State University, Russia

**Inverse Spectral Problems for
Differential Operators**



1 September 2022

Alexei Rybkin

University of Alaska Fairbanks, USA

**Norming constants of embedded bound
states and bounded positon solutions of
the Korteweg-de Vries equation**



21 July 2022

Adolf Mirotin

Francisk Skorina Gomel State
University, Belarus

**To the Spectral Theory of Hausdorff
Operators**



7 July 2022

Vladimir Protasov

Lomonosov Moscow State University,
Russia,

and University of L'Aquila, Italy

**Multivariate approximation and one
problem of combinatorial number theory**



23 June 2022

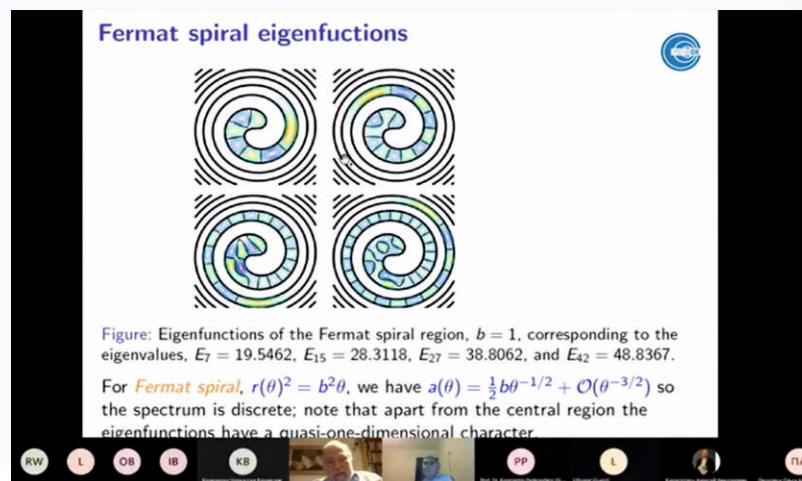
Oleg Kudryavtsev

Russian Customs Academy, Southern
Federal University, Russia

**A Simple Wiener-Hopf factorization
method for pricing options with
barriers in Levy-driven models**



Чешский математик и научный директор Доплеровского института математической физики и прикладной математики, экс-президент Европейского математического общества, Павел Экснер читает лекцию о спектральных свойствах лапласиана Дирихле в спиралевидных областях.



В рамках семинара выступают ведущие исследователи из разных стран мира, научные интересы которых связаны с анализом, дифференциальными уравнениями и математической физикой. Научный семинар математического центра открытый, в нем могут принять участие все желающие.





9 June 2022

Sergey Simakov

Moscow Institute of Physics and
Technology, Russia
**Multiscale modeling of cardiovascular
system**



26 May 2022

Valeriy Serov

University of Oulu, Finland
**Recovery singularities in quasi-linear
biharmonic operator**



12 May 2022

Dobrokhotov Sergey

Ishlinsky Institute for Problems in
Mechanics, Russian
Academy of Sciences, Russia
**Semiclassical Approximation with Complex
Phases for Constructing Effective
Plancherel-Rotach type asymptotics of 1-D
and 2-D orthogonal polynomials**



28 April 2022

Bondarenko Natalya

Samara National Research University,
Saratov State University, Russia
**Inverse spectral problem for the
matrix Sturm-Liouville operator**



14 April 2022

Armen Sergeev

Steklov Mathematical Institute of RAS,
Russia, and MSU Faculty of Mechanics
and Mathematics, Russia
**Mathematical problems in the theory of
topological insulators**



31 March 2022

Viktor Burenkov

S.M. Nikol'skii Mathematical Institute,
Russia
**An analogue of Young's inequality for
convolutions for general Morrey-type
spaces**



17 March 2022

Dmitry Millionschikov

MSU Faculty of Mechanics and Mathematics, Russia, and Gubkin University, National University of Oil and Gas, Russia

Characteristic Lie algebra of Klein-Gordon equation and higher symmetries



3 March 2022

Massimo Lanza de Cristoforis

University of Padova, Italy
Nonlinear composition operators in generalized Morrey spaces



17 February 2022

Sergei Grudsky

National Polytechnic Institute, Mexico
Asymptotics of eigenvalues and eigenvectors of Toeplitz matrices



3 February 2022

Maria Skopina

St. Petersburg State University, Russia, and Regional Mathematical Center SFedU, Russia

Wavelet Approximation in Orlicz Spaces



20 January 2022

Carsten Trunk

Technical University Ilmenau, Germany
Perturbations of periodic Sturm-Liouville operators



06 January 2022

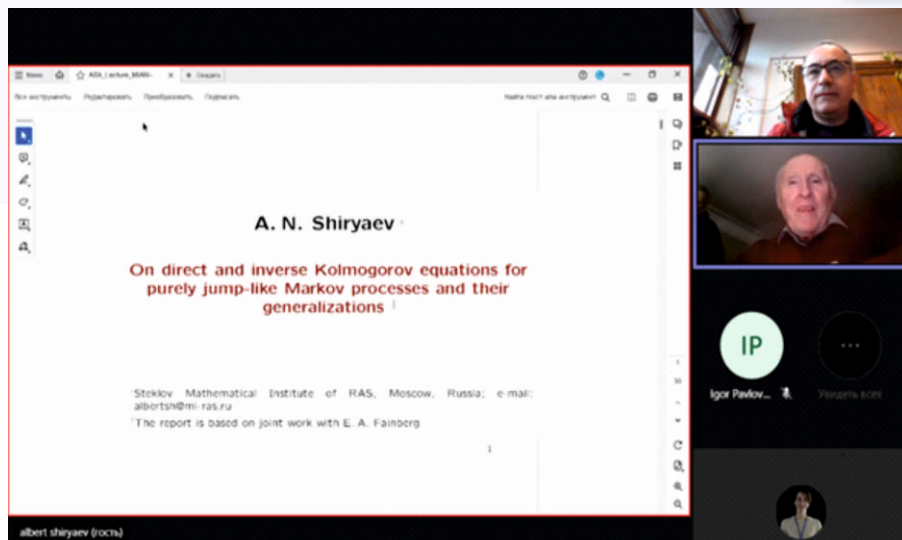
Luis Octavio Silva

National Autonomous University of Mexico, Mexico
Oversampling in symmetric, regular de Branges spaces

Семинар «Seminar on Analysis, Differential Equations and Mathematical Physics»

Слушатели семинара - специалисты из ведущих научных и образовательных мировых центров России и других стран, в том числе аспиранты и студенты мехмата ЮФУ и молодые ученые.

На фото: Академик РАН А. Н. Ширяев и профессор А. Г. Сергеев – лекторы семинара, а также участники мероприятий ОТНА (на докладе академика Ширяева во время воркшопа ОТНА Fall-2023).



Академик РАН А. Н. Ширяев выступает на семинаре с лекцией, посвященной прямым и обратным уравнениям Колмогорова для чисто скачкообразных марковских процессов и их обобщениям.



Лекторы семинара, 2021г.



23 December 2021

Yuri Luchko

Berlin University of Applied Sciences
and Technology, Germany
**Subordination principle for the
space-time-fractional diffusion
equations**



09 December 2021

Tuncay Aktosun

University of Texas at Arlington, USA
**Inverse scattering for the half line
matrix Schrödinger operator
pseudodifferential operators and
applications to the Neumann-Poincare
operator in 3D elasticity**



25 November 2021

Lars-Erik Persson

UiT The Arctic University of Norway
and Karlstad University, Sweden
**On Hardy-Type Inequalities as an
intellectual adventure for 100 years**



11 November 2021

Swanhild Bernstein

Technical University of Bergakademie
Freiberg, Germany
Dirac-type operators and applications



28 October 2021

Vladimir Mityushev

Cracow University of Technology,
Poland
**Riemann-Hilbert problem for a
multiply connected domain and its
applications to the effective properties
of 2D random composites**



14 October 2021

Roman Novikov

Centre de Mathématiques Appliquées,
École Polytechnique, France
**The Gelfand-Krein-Levitan problem
and passive imaging**



30 September 2021

Ricardo Abreu Blaya

Autonomous University of Guerrero,
Mexico

**Sets of uniqueness for inframonogenic
functions**



16 September 2021

Laurent Baratchart

Project APICS, INRIA, France

**Pseudo-holomorphic functions and
Dirichlet problems on planar domains
with rectifiable boundary**



02 September 2021

Elijah Liflyand

Bar-Ilan University, Israel

**Wiener algebras and trigonometric
series in a coordinated fashion**



22 July 2021

Ferenc Weisz

Eotvos University, Hungary

**Higher dimensional summability and
Lebesgue points**



08 July 2021

Yuri Antipov

Louisiana State University, USA

**Free boundary problems and Riemann-
Hilbert problems on Riemann surfaces**



24 June 2021

Lars Diening

Bielefeld University, Germany

**Elliptic equations with degenerate
weights**



10 June 2021

Winfried Sickel

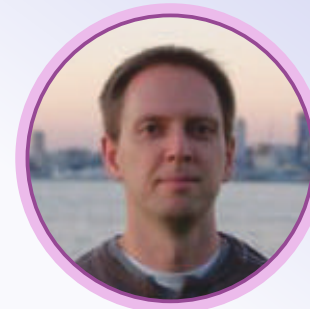
Friedrich-Schiller-Universität Jena,
Germany
**On the regularity of characteristic
functions**



27 May 2021

Konstantin Dyakonov

ICREA & Universitat de Barcelona, Spain
Fewnomials in L1 and their geometry



13 May 2021

Maxim Zinchenko

University of New Mexico, USA
Nonlinear Fourier Analysis



29 April 2021

Michael Ruzhansky

Ghent University, Belgium
**Nonharmonic pseudo-differential
analysis**



15 April 2021

Tibor K. Pogány

University of Rijeka, Croatia & Óbuda
University, Hungary
**Hilbert-type inequalities with non-
homogeneous kernel: another view**



1 April 2021

Lubos Pick

Charles University, Czech Republic
On fractional Orlicz-Sobolev spaces



18 March 2021

Helmut Malonek

University of Aveiro, Portugal

**A Sturm-Liouville equation on the
crossroads of discrete and continuous
hypercomplex analysis**



04 March 2021

Stefan Samko & Humberto Rafeiro

Algarve University, Portugal & United Arab
Emirates University, UAE

**Grand Lebesgue space for $p=\infty$ and
applications or a new life of a 36 years
old result of Nikolay Karapetyants and
Boris Rubin**



18 February 2021

Volker Mehrmann

Technical University of Berlin,
Germany

**Energy based modeling, simulation
and optimization of multiphysics
systems**



04 February 2021

Sundaram Thangavelu

Indian Institute of Science, India

**On the decay of spectral projections
associated to Laplacians on certain
Riemannian manifolds**



21 January 2021

Aleksey Kostenko

University of Ljubljana, Slovenia &
University of Vienna, Austria

Kirchhoff Laplacians on metric graphs



07 January 2021

Alexei Karlovich

NOVA University Lisbon, Lisbon,
Portugal

**A lower estimate for weak-type
Fourier multipliers**

Семинар «Seminar on Analysis, Differential Equations and Mathematical Physics»



21 сентября 2023 года на семинаре выступил профессор Барри Саймон из Калифорнийского технологического института, США, собрав более 120 слушателей.

Он прочитал лекцию, посвященную модели Изинга - математической модели статистической физики, предназначенной для описания намагничивания материала.

Фрагмент презентации
профессора
Барри Саймона.



The Proof

- Introduction
- Ginibre
- Wells' Framework
- Wells' Big Theorem
- Examples
- More on the Conjecture
- From One to Three Authors
- Proof of The Inequality

$$\sum_{j=-S}^S (3j^2 - S(S+1))^{2m+1} \geq 0$$

The proof that $x \succ y$ relies on a new criteria for majorization that we found:

Lemma Suppose that $x, y \in \mathbb{R}_{+, \geq}^n$ with $\sum_{j=1}^n x_j = \sum_{j=1}^n y_j$ and that for some $\ell \in 2, \dots, n-1$,

$$j < \ell \Rightarrow x_j > y_j \quad j \geq \ell \Rightarrow x_j \leq y_j$$

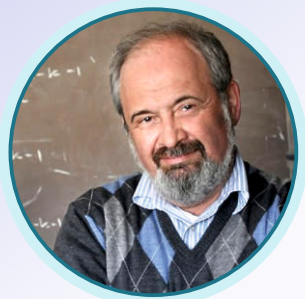
Then $x \succ y$.

Proof If $k < \ell$, it is immediate that $\sum_{j=1}^k x_j \geq \sum_{j=1}^k y_j$ and similarly, it is immediate that if $k \geq \ell$, then $\sum_{j=k}^n x_j \leq \sum_{j=k}^n y_j$.

osimlenker (гость)
Barry Simon
Карапетянц Алексей Вик...



Лекторы семинара, 2020г.



24 December 2020

Peter Kuchment

Texas A&M University, USA

**Can one hear the heat of a body?
Mathematics of some novel techniques
of medical imaging**



10 December 2020

Pavel Exner

Doppler Institute for Mathematical
Physics and Applied Mathematics, Czech
Republic

**Spectral properties of Dirichlet Laplacian
in spiral-shaped regions**



26 November 2020

Ioannis Stratis

National and Kapodistrian University of
Athens, Greece

**On an interior Calderon operator and a
related Steklov eigenproblem for
Maxwell's equations**



12 November 2020

Mark Agranovsky

Bar-Ilan University, Holon
Institute of Technology, Israel

Funk-Radon transforms



29 October 2020

Ricardo Weder

Institute of Research in Applied
Mathematics and Systems, National
Autonomous University of Mexico, Mexico

**Dispersive estimates for Schrödinger
equations**



15 October 2020

Luca Zampogni

Department of Mathematics and Computer
Science, University of Perugia, Italy

**Some results on the inverse spectral
theory for the Sturm-Liouville operator
on the line**



01 October 2020

Alexander Nazarov

St. Petersburg State University and St.
Petersburg Department of Steklov
Mathematical Institute of RAS, Russia
**Some inequalities for fractional
Laplacians**



17 September 2020

Sergei Avdonin

University of Alaska Fairbanks, USA
**Control and inverse problems for
Krein's string**



03 September 2020

Eugene Shargorodsky

King's College London, United Kingdom
**Quantitative results on continuity of the
spectral factorisation mapping**



20 August 2020

Ilya Spitkovsky

New York University Abu Dhabi,
United Arab Emirates
**Revisiting Stampfli's "The norm of a
derivation": Fifty years later**



06 August 2020

Natasha Samko

UiT The Arctic University of Norway,
Norway
**Integrability properties of integral
transforms via Morrey spaces**



23 July 2020

David Cruz-Uribe

The University of Alabama, USA
**Norm inequalities for linear and
multilinear singular integrals on
weighted and variable exponent Hardy
spaces**



09 July 2020

Vladimir Rabinovich

Instituto Politecnico Nacional, Mexico

Fredholm property and essential spectrum of 3-D Dirac operators with regular and singular potentials



25 June 2020

Hans Georg Feichtinger

University of Vienna, Austria

The Banach Gelfand Triple and its role in Classical Fourier Analysis and Operator Theory



11 June 2020

Stephen Shipman

Louisiana State University, Baton Rouge, USA

Reducible and irreducible Fermi surfaces for periodic operators



28 May 2020

Uwe Kähler

CIDMA - Department of Mathematics, University of Aveiro, Aveiro, Portugal

Inversion of the noisy Radon transform and Wavelet and Gabor frames on S^3



14 May 2020

Sergii Torba

Mathematics department, CINVESTAV del IPN, Mexico

A series representation of integral kernels of the transformation operators and application to numerical solution of spectral problems

f is u.c. then f is Lipschitz and $f(0)=0$
 On the other hand if f is Lipschitz and $f(0)=0$
 $\Rightarrow T_f$ is Lipschitz
 The problem of α -Holder conti with $\alpha < 2, \alpha \in \mathbb{R}$
 Hence the point is that
 If $T_f \in \mathcal{L}(C^{\alpha,1}(\mathbb{R}^n)) \rightarrow \alpha \in \mathbb{R}$ is α -Holder
 continuous then
 $\|T_f\|_{\mathcal{L}(C^{\alpha,1}(\mathbb{R}^n))} \approx \|f\|_{C^{\alpha,1}(\mathbb{R}^n)}$

On the norm of the Riesz projection from L^∞ to L^p

Sergei Konyagin

January 11, 2024

Participant list:

- AM: Augusto T., Jim Byrne
- RJ: Roman L., Lyubov
- ЛН: Petr P.
- Г: Petr P.
- КД: Krasimira
- ПА: Прохор
- DD: David
- MC: Massimo

Subdivision scheme

The subdivision operator: $S_{\alpha, \beta}(f)(x) = \sum_{k \in \mathbb{Z}} \alpha_k f(\frac{x-\beta k}{2})$

The subdivision scheme converges if the mask $\alpha \in \ell^1$, the dilation $f \in C(\mathbb{R})$

$\|S_{\alpha, \beta}^n(f)\|_{\infty} \leq \|f\|_{\infty} \|\alpha\|_1^n$

Population distribution with respect to its phenotype (example: human height)

$p_{t+1}(x) = \int p_t(x-y) p_t(y) dy$

On the norm of the Riesz projection from L^∞ to L^p

Sergei Konyagin

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PARABOLIC SECOND-ORDER DIFFERENTIAL-DIFFERENCE EQUATIONS IN HALF-SPACES

Mikhailov, Anagnostopoulos

Flowering Meadow or Minefield?

Book of Pure Mathematics

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Personalized Computational Hemodynamics

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Models, Methods, and Applications for Vascular Surgery and Antithrombotic Therapy

Authors: Yuri Yatsivskiy, Maxim Oshchepkov, Sergey Simakov, Andrey Kolobov, Alexander Davitov

Published Date: 27th April 2023

On the theory of the subtrigonometric functions

Xiao-Jun Yang



