

# ANNUAL REPORT 2023



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ICMU Annual report 2023

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ICMU is grateful to the photographers, friends and colleagues whose pictures illustrate this report: Piotr Achinger, Gregory Bob, J.-F. Dars, Fanny Dufour, Michał Kotowski, Joseph Sywenkyj, Iryna Yehorchenko.

# A FEW WORDS FROM THE CO-ORDINATION COMMITTEE



The new Centre will serve as a place of intensive collaboration between Ukrainian scientists and their foreign colleagues, a place where aspiring researchers will be learning about the latest mathematical discoveries. While there are reputable mathematics schools and institutions with history in Ukraine, our infrastructure is insufficient. It is essential to provide favourable conditions for professional interaction and exchange of ideas, so that it would be possible to host gatherings with the participation of scientists of different generations, from different countries. Such gatherings are inspiring and there one can learn things one won't read about in any book or hear about at a university. I believe that knowledge resides in the human heart, and the exchange of knowledge is carried from heart to heart.

#### MARYNA VIAZOVSKA

Winner of the Fields Medal 2022 Member of the Co-ordination Committee & Managing Board Member



There has long been talk about establishing a global centre for mathematical research in Ukraine. When our country's very existence was in danger because of the full scale war, mathematicians of Ukrainian descent banded together and began to realise this longheld goal. The project immediately gained support of the international mathematical community. Prominent scientists from throughout the globe supervised the establishment of the new centre from the outset.

In November 2022, ICMU registered as a non-profit organisation in Ukraine. Its mission is to support top-level research in mathematics with a special focus on training young scientists and fostering the development of mathematics in Ukraine. The centre adheres to scientific excellence and freedom of research. Internationality, accessibility for all, and diversity are among its key characteristics. The major regular activity of ICMU in the future will be thematic research programmes that will bring together early career mathematicians and world-class professionals. Postdoctoral and other long-term visiting positions will also be available.

In 2023 our Centre held its first international event, started running outreach and educational activities, held a successful call for proposals, and got some great offers for organising summer schools next year. In partnership with the London Mathematical Society, the visiting programme commenced in November. We set up ICMU's temporary workspace in December on the grounds of our partner organisation Kyiv School of Economics. This workspace will welcome collaboration groups and LMS Distinguished Visiting Fellows starting in 2024.

Since martial law forbids Ukrainian men from leaving the country, mathematical life has slowed down, and there is a need for quality events and meetings to maintain the motivation of Ukrainian scientists and students. Notwithstanding the challenges posed by the war, ICMU focused on planning activities across the country, operating in a safe environment, and bringing to Ukraine foreign visitors who were content with their mission.

In selecting its location in Ukraine, ICMU has been collaborating with the Ukrainian authorities. The Co-ordination Committee was looking at a number of possibilities in 2023 that the Ministry of Education and Science of Ukraine, institutions of the Academy of Sciences of Ukraine and the Kyiv City State Administration had to offer. At this time, a location in the downtown area of Kyiv is considered to be the most practical, and a long-term contract will probably be signed in 2024.

The members of the Co-ordination Committee generously devote their time to this initiative. We also rely on the assistance of many colleagues and friends, whose advice was frequently crucial to the prosperous growth of ICMU. Lastly, we would like to express our sincere gratitude to the donors of ICMU whose kindness keeps our Centre alive and promotes the mathematical culture and pursuit of knowledge for its own sake.

#### **MASHA VLASENKO**

Member of the Co-ordination Committee & Managing Director

#### The Co-ordination Committee of ICMU:

#### **OLEKSANDRA ANTONIOUK**

Institute of Mathematics of the National Academy of Sciences of Ukraine / Kyiv Academic University / American University Kyiv

#### **DMITRI FINKELSHTEIN**

Swansea University, UK, Member of the Managing Board of ICMU

#### **ANDREY GOGOLEV**

The Ohio State University, USA, Member of the Managing **Board of ICMU** 

#### **KOSTIANTYN IUSENKO**

**PAVLO PYLYAVSKYY** 

University of São Paulo, Brazil

University of Minnesota, USA

#### **OLEKSIY KLURMAN**

University of Bristol, UK

#### **DMYTRO SAVCHUK**

University of South Florida, USA

#### **VOLODYMYR NEKRASHEVYCH**

Texas A&M University, USA

#### LYUDMYLA TUROWSKA

Chalmers University of Technology and University of Gothenburg, Sweden

#### MARYNA VIAZOVSKA

Winner of the Fields Medal 2022, Swiss Federal Institute of Technology in Lausanne, Member of the Managing Board of ICMU

#### MASHA VLASENKO

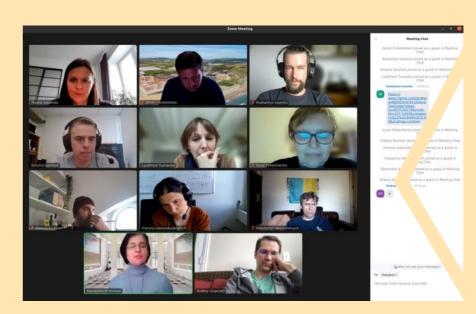
Institute of Mathematics of the Polish Academy of Sciences, Managing Director of ICMU

#### IRYNA YEHORCHENKO

Institute of Mathematics of the National Academy of Sciences of Ukraine

"We follow the models of other established institutions for fundamental research choosing those paths which would have maximal impact in the scientific community at this particular moment in our history."

### Working around the globe: mathematicians creating the first independent centre of mathematical research in Ukraine



Picture: Co-ordination Committee at work, May 2023



Picture: Annual Meeting of the Scientific Board of ICMU, December 2023

# **SCIENTIFIC BOARD**

Scientific activities of ICMU are overseen by distinguished scientists from around the world. The Scientific Board is evaluating proposals for organising events at ICMU. In 2023 the Scientific Board consisted of the following mathematicians:

#### **TARAS BANAKH**

Ivan Franko National University of Lviv

#### **ALEXANDRE EREMENKO**

Purdue University

#### **PAVEL EXNER**

Nuclear Physics Institute of the Czech Academy of Sciences, Vice President of the European Research Council for the Physical Sciences and Engineering Domain (2011-2014), President of the European Mathematical Society (2015-2018)

#### **VLADIMIR DRINFELD**

University of Chicago, winner of the Fields Medal 1990

#### **PAVEL ETINGOF**

Massachusetts Institute of Technology

#### ROSTISLAV GRIGORCHUK

Texas A&M University

#### **OLEKSIY KAPUSTIAN**

Taras Shevchenko National University of Kyiv

#### YULIYA MISHURA

Taras Shevchenko National University of Kyiv, member of the International Statistical Institute

#### **PETER SCHOLZE**

Director of the Max Planck Institute in Bonn, winner of the Fields Medal 2018

#### **DMITRY SHEPELSKY**

B. Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine

#### MARCELO VIANA

Director of Instituto Nacional de Matemática Pura e Aplicada in Rio de Janeiro, Vice President of the International Mathematical Union (2011–2014). President of the Brazilian Mathematical Society (2013–2015)

#### **VOLODYMYR MAZORCHUK**

Uppsala University, President of the Swedish Mathematical Society (2020-2023)

#### SIMON SALAMON

King's College London, Representative of the London Mathematical Society in the Scientific Board of ICMU for coordination of the joint programme

#### **MARIYA SHCHERBINA**

B. Verkin Institute for Low Temperature Physics and Engineering of the National Academy of Sciences of Ukraine. Member of the Institute for Advanced Study in Princeton, Member of the Virtual Ukraine Institute for Advanced Study

#### **ADAM SKALSKI**

Deputy director of the Institute of Mathematics of the Polish Academy of Sciences in Warsaw, chair of the European Research Centres on Mathematics Committee of the European Mathematical Society (ERCOM)

#### **EFIM ZELMANOV**

Southern University of Science and Technology in China, winner of the Fields Medal 1994

# **SUPERVISORY BOARD**

As an independent institution, ICMU is governed by a board of trustees consisting of prominent people in science and technology, entrepreneurs and public figures. The Supervisory Board engages in strategic planning, supports Centre's project implementation and reviews our annual reports.



#### JEAN-PIERRE BOURGUIGNON

#### Chair of the Supervisory Board

Nicolaas Kuiper Honorary Professor at Institut des Hautes Études Scientifiques (IHES), Director of IHES (1994-2013), President of the Mathematical Society of France (1990-1992), and of the European Mathematical Society (1995-1998), President of the European Research Council (2014-2019)

"The aim [of ICMU] is to provide conditions conducive to the practice of high-level mathematics in Ukraine, even before the end of the war, by promoting international contacts for Ukrainian mathematicians and welcoming researchers from all over the world for research visits. In our modern societies, it is essential to bring basic research closer to practical applications and to train large numbers of young graduates to an advanced level. This is particularly important for mathematics, whose relevance to the economy has grown with modelling, the massive use of data and artificial intelligence.

After the war, Ukraine will need to rebuild and develop activities in cutting-edge, high added-value fields, which will require a high level of training in mathematics."

- Jean-Pierre Bourguignon, in an interview for Springer Nature



#### JØRGEN ELLEGAARD ANDERSEN

Founder and Head of the Center for Quantum Mathematics and Professor at the Department of Mathematics and Computer Science (IMADA) and DIAS Chair of Quantum Mathematics at the University of Southern Denmark (SDU)



# OLHA BUDNYK & FUND OF THE PRESIDENT OF UKRAINE FOR THE SUPPORT OF EDUCATION, SCIENCE, AND SPORTS

#### Ex-officio member

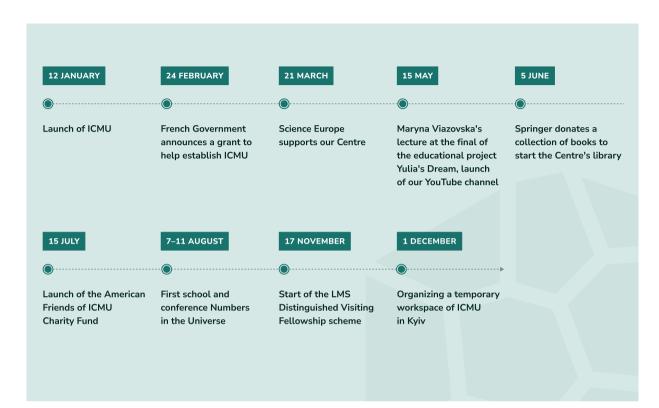
Advisor to the President of Ukraine on the affairs of the Fund of the President of Ukraine for the support of Education, Science, and Sports

The Fund supports the advancement of talented Ukrainians in education, science, and sports aiming to restore, empower and strengthen Ukraine's leadership positions in the world.

icture:

Olha Budnyk speaking at the grand opening of ICMU, Kyiv School of Economics, 9 August 2023

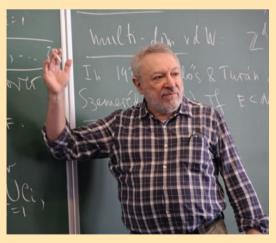
# **HIGHLIGHTS OF 2023**



# Driven by excellence and freedom in research



Pictures: lectures of Danylo Radchenko (left) and Vitaly Bergelson (right) during the Numbers in the Universe school and conference organised by ICMU in August



## Working in safe environment during the war

## **Training young scientists**

Picture: problem session in a bomb shelter



## Supported by international community



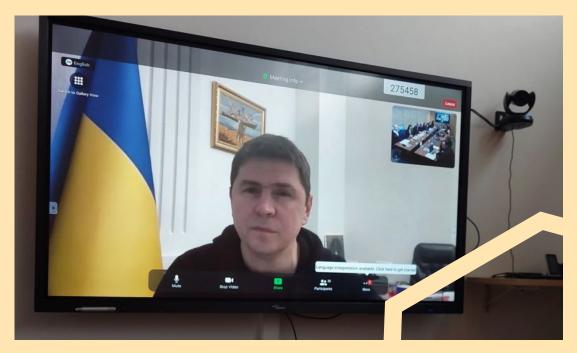


Pictures: Claire Giry, Director General for Research and Innovation at the French Ministry of Higher Education and Research (left) and Simon Coyle, Head of Philanthropy at XTX Markets (right), addressing participants of the ICMU opening ceremony.

# LAUNCH OF ICMU: THE KICK-OFF EVENT IN FRANCE

#### 12 January 2023

The Institut des Hautes Etudes Scientifiques (IHES) in Bures-sur-Yvette, France, hosted the first support meeting for the creation of ICMU. The event was attended by mathematicians leading the project, representatives of European mathematical institutes and a few leading figures in mathematics philanthropy. Six Fields Medal laureates (Vladimir Drinfeld, Hugo Duminil-Copin, Peter Scholze, Maryna Viazovska, Cédric Villani, Efim Zelmanov) participated in this meeting, showing their support and solidarity with the Ukrainian mathematical community.



Opening speech of Mykhailo Podolyak, Advisor to the Head of the Office of President of Ukraine.

Picture from the twitter page of Claire Giry, Director General for Research and Innovation at the French Ministry of Higher Education and Research.

"Though at this time the major efforts of Ukrainian authorities are concentrated on solving the humanitarian and military problems, we acknowledge the importance of science in raising our economy after the war. It is of vital importance for Ukraine to be a part of the global scientific process,"

declared Advisor Podolyak in his speech from Kyiv.

#### **PROGRAMME**

#### **EMMANUEL ULLMO**

Director of IHES **Opening remarks** 

MYKHAILO PODOLYAK Call-in

Advisor to the Head of the Office of the President of Ukraine

#### **CLAIRE GIRY**

Director General for Research and Innovation of the Ministry of Higher Education and Research of France

#### Presentation of ICMU by members of its Co-ordination Committee

#### MARYNA VIAZOVSKA

Winner of the Fields Medal 2022, Swiss Federal Institute of Technology in Lausanne

#### MASHA VLASENKO

Institute of Mathematics of the Polish Academy of Sciences in Warsaw

#### **OLEKSIY KLURMAN**

University of Bristol, UK

#### **DMITRI FINKELSHTEIN**

Swansea University, UK

#### **OLEKSANDRA ANTONIOUK**

Institute of Mathematics of National Academy of Sciences of Ukraine / Kyiv Academic University / American University Kyiv

#### SIMON COYLE

Head of Philanthropy at XTX Markets, Founding and Principal Donor of ICMU

#### **JEAN-PIERRE BOURGUIGNON**

Former director of IHES and former president of the European Research Council

Presentation of European programmes possibly relevant for ICMU

OLGA POLOTSKA Call-in

Executive Director of the National Research Foundation of Ukraine

PETER SCHOLZE  Director of MPIM, Fields Medal 2018	Prerecorded
ADAM SKALSKI  Deputy Director of the Institute of Mathematics of the Polish Academy  of Sciences in Warsaw & Chairman of ERCOM – European Research  Centres on Mathematics	Call-in
Brainstorming: how the international mathematical community and make it one of the main vectors of solidarity with Ukrainia	• •
CÉDRIC VILLANI	Call-in
Université Lyon 1-IHES, Fields Medal 2010	
ADRIEN DELORO	
Sorbonne Université - representing the Société Mathématique de France	
PASCAL HUBERT	
Director of CIRM, Marseille-Luminy	
ALESSANDRA SARTI	
Deputy Scientific Director of INSMI-CNRS	
GREGORY GABADADZE	Call-in
NYU, Associate Director of the Mathematics and Physical Sciences division of the Simons Foundation	
DIERK SCHLEICHER	
Aix-Marseille Université	
TARAS BANAKH	Call-in
Ivan Franko National University of Lviv	
TYMOFII BRIK	Call-in
Rector of the Kyiv School of Economics	

**AHMED ABBES** 

IHES





Pictures: Cédric Villani speaking remotely about solidarity with the Ukrainian colleagues (left), participants at IHES from left to right: J.-P. Bourguignon, M. Viazovska, M. Vlasenko, O. Klurman, D. Finkelshtein, O. Antoniouk, D. Schleicher, E. Trebbia, C.Lenz, A. Deloro, A. Sarti, A. Abbes, E. Ullmo, C. Giry.

"We are very proud that French mathematics supports the creation of the new International Centre for Mathematics in Ukraine. I recall our collective desire to build a long-lasting partnership between our two research communities,"

– said Claire Giry, Director General for Research and Innovation at the French Ministry of Higher Education and Research, who represented the French authorities in the meeting.

# EDUCATIONAL AND OUTREACH PROGRAMME

Scientific programmes (areas of activities) proposed by ICMU are divided into three categories:



#### FOR RESEARCHERS

Thematic programmes, collaboration, visiting scholarships



# FOR UNDERGRADUATE AND GRADUATE STUDENTS

Summer and winter schools, research work competitions



# FOR HIGH SCHOOL STUDENTS, TEACHERS AND BROADER AUDIENCE

Mathematical literature, accessible public lectures on mathematics

As ICMU is an independent institution funded from charitable donations, outreach and educational components in its activities are extremely important. This motivates our slogan "ICMU is for everyone!"

On May 15 we organized a special session during the First Annual Conference of Yulia's Dream, a free remote maths enrichment and research programme for gifted high school students from Ukraine run under MIT PRIMES. Yulia's Dream is dedicated to the memory of a young Ukrainian mathematician and educator, Yulia Zdanovska, who died in the Russian missile attack of her home city Kharkiv in March 2022.

During the special session Maryna Viazovska gave an accessible lecture "Nearly impossible Leech lattice". Her lecture reinforced the commitment of ICMU to provide students with access to world-class mentors and role models. Watch the lecture on our YouTube channel: <a href="https://www.youtube.com/@the\_ICMU">https://www.youtube.com/@the\_ICMU</a>

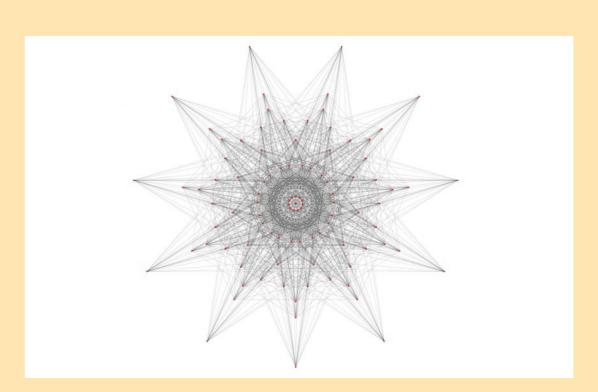
In the framework of its educational and outreach programme, ICMU plans to organise translation of mathematical literature into Ukrainian language and run more lectures, in which professional scientists explain mathematical concepts and ideas in an accessible manner. Watch out for our activities in 2024!



Picture: Andrey Gogolev speaking to participants of Yulia's Dream event



Picture: a shot from the video record of Yulia Zdanovska (left) speaking about her dream of teaching children to love mathematics. Together with the participants of Numbers in the Universe, the record is watched by Pavel Etingof, member of the Advisory Board of ICMU and Chief Research Advisor of Yulia's Dream (right).



The Leech lattice, a sophisticated and useful mathematical object. Picture from the slides of Maryna Viazovska's lecture at the special session of the First Annual Conference of Yulia's Dream organised by ICMU on May 15.

# **NUMBERS IN THE UNIVERSE**

## 7-11 August 2023

The first school and conference organised by ICMU aimed to present some of the latest breakthroughs in number theory and its applications to the broad mathematical public.

The event took place on the premises of the Kyiv School of Economics and the Stefan Banach International Mathematical Center in Warsaw with a live connection between the two audiences. The parallel locations were necessary since martial law prevents adult Ukrainian men from travelling outside the country and the organisers hesitated to invite foreigners into a war zone. There were 110 participants on site in Warsaw and 75 in Kyiv.

Pictures: participants of Numbers in the Universe in Warsaw (top) and Kyiv (bottom)





#### **PROGRAMME**

#### Lecture series

Ergodic theory at the service of combinatorics and number theory

VITALY BERGELSON, The Ohio State University

Analytic prime number theory in the twenty-first century

TERENCE TAO, University of California, Los Angeles

Old and new ideas in sphere packing

MARYNA VIAZOVSKA, Swiss Federal Institute of Technology in Lausanne

#### Research talks

Introduction to Sarnak's conjecture

JOANNA KUŁAGA-PRZYMUS and MARIUSZ LEMAŃCZYK,

Nicolaus Copernicus University, Toruń

Distributional limit theorems for multiplicative arithmetic

functions of random integers

**OLEKSANDR MARYNYCH**, Taras Shevchenko National University of Kyiv

Fourier interpolation from nontrivial zeros

of the Riemann zeta function

**DANYLO RADCHENKO**, University of Lille/CNRS

An update on hypergeometric motives

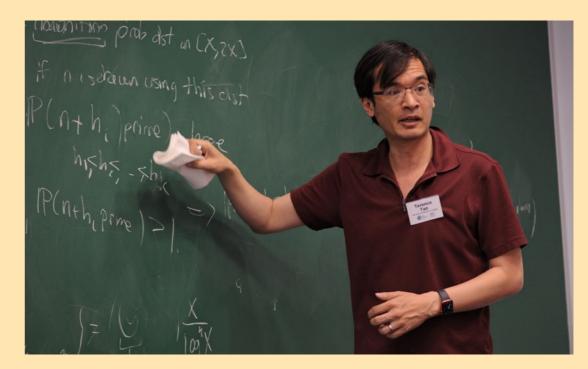
FERNANDO RODRIGUEZ VILLEGAS, ICTP, Trieste

#### Problem sessions in Warsaw:

Artem Dudko, Institute of Mathematics of the Polish Academy of Sciences (IMPAN) and Oleksiy Klurman, University of Bristol

## Problem sessions in Kyiv:

Jakub Byszewski, Jagellonian University



Picture: Terence Tao lecturing in Warsaw

"The Ukrainian mathematical community was a lot more substantial than I realized, from its eager students all the way to its two Fields medalists Drinfeld and Viazovska.

...Even in (perhaps especially in) a deadly war, it is still possible to have laughter and jokes and a generally pleasant time,"

– wrote on social media professor Tao recollecting his experience from the week at Numbers in the Universe.

### **Event organisers**

Piotr Achinger (IMPAN), Oleksandra Antoniuk (NAS of Ukraine / Kyiv Academic University / American University Kyiv), Artem Dudko (IMPAN), Oleksiy Klurman (University of Bristol), Georgy Shevchenko (Kyiv School of Economics), Adam Skalski (IMPAN), Lyudmyla Turowska (Chalmers University of Technology / University of Gothenburg), Masha Vlasenko (IMPAN), Iryna Yehorchenko (NAS of Ukraine)

The participants of Numbers in the Universe came from the Czech Republic, Egypt, Finland, France, Germany, India, Israel, Italy, the Netherlands, Norway, Poland, South Korea, Switzerland, the UK, Ukraine and the USA. About 75% of them were students and young researchers, in some cases even high schoolers who already studied mathematics at the university level.



Picture: Maryna Viazovska answering questions in Kyiv

#### **Event sponsors**























# THE GRAND OPENING OF ICMU



9 August 2023

Picture: Olga Polotska, Executive Director of the National Research Foundation of Ukraine, speaking in Kyiv, with Warsaw audience on the screen behind her

#### **PROGRAMME**

(K): Kyiv School of Economics, Mykoly Shpaka 3, Kyiv

(W): Institute of Mathematics of the Polish Academy of Sciences, Sniadeckich 8, Warsaw

## **Opening remarks**

TYMOFIY MYLOVANOV	(K)
President of KSE	
ADAM SKALSKI	(W)
Deputy director of IMPAN, Chair of ERCOM - European research centres on mathematics, member of the Scientific Board of ICMU	

MYKHAILO PODOLYAK

Advisor to the Head of the Office of the President of Ukraine

PAWEŁ SZROT

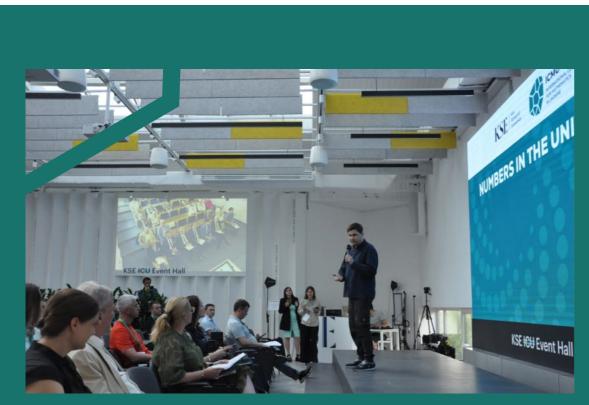
Secretary of State, Chief of the Cabinet of the President of the Republic of Poland

IHOR TARANOV

Director of the Directorate of Science and Innovations at the Ministry of Education and Science of Ukraine

(K)

WOJCIECH MURDZEK Secretary of State, Ministry of Education and Science of Poland	(W)	SIMON COYLE  Head of Philanthropy at XTX Markets, Founding and Principal Donor of ICMU	Call-in
ANATOLIY ZAHORODNIY	(K)	OLHA BUDNYK	(K)
President of the National Academy of Sciences of Ukraine		Advisor to the President of Ukraine on the Fund of the President of Ukraine for the support of Education Science and Sport, member	
MAREK KONARZEWSKI	(W)	of the Supervisory Board of ICMU	
President of the Polish Academy of Sciences		OLGA POLOTSKA	(K)
VASYL MELNYCHUK	(₩)	Executive Director of the National Research Foundation of Ukraine	
Third Secretary of the Embassy of Ukraine in Poland	, ,	KAROL PALKA	(W)
		Director of IMPAN	
Presentation of ICMU by members of its Co-ordination Committee			
MARYNA VIAZOVSKA	(K)	Discussion among mathematicians and educators:	
EPFL Switzerland, Fields Medal 2022	(K)	role of the ICMU project for Ukraine and beyond	
		PAWEŁ STRZELECKI	(W)
LYUDMYLA TUROWSKA  Chalmers University of Technology and University	(K)	Dean of the Faculty of Mathematics, Informatics, and Mechanics at the University of Warsaw	
of Gothenburg, Sweden		TERENCE TAO	
IRYNA YEHORCHENKO	(K)	TERENCE TAO  University of California, Fields Medal 2006	(W)
Institute of Mathematics of NASU, Ukraine	(14)		
		STANISŁAW BETLEY	(W)
OLEKSANDRA ANTONIUK	(K)	University of Warsaw, President of ASBB Foundation	
Institute of Mathematics of NASU / KAU / AUK, Ukraine		OKSANA BEZUSHCHAK	(K)
VOLODYMYR NEKRASHEVYCH	(W)	Dean of the Faculty of Mathematics and Mechanics at the	
Texas A&M University, USA		Kyiv National University	
OLEKCIW KLUDMAN	ΛΑΛ	TYMOFII BRIK	(K)
OLEKSIY KLURMAN University of Bristol, UK	(W)	Rector of KSE	
		TARAS BANAKH	(K)
MASHA VLASENKO IMPAN, Poland	(K)	Ivan Franko National University of Lviv	
		ANNA GONCHARUK	(K)
CLAIRE GIRY	Pre-recorded	Vasyl Karazin National University of Kharkiv	. ,
Director General for Research and Innovation of the Ministry of Higher Education and Research of France, donor of ICMU			



Picture: the speech of Mykhailo Podolyak in Kyiv. In the audience from left to right: M. Viazovska, A. Zahorodniy, I. Taranov, O. Polotska, U. Avtonomova, P. Kobrin, T. Mylovanov. Polish audience on the screen, first row from left to right: A. Skalski, K. Palka, W. Murdzek, P. Szrot, V. Melnychuk, M. Konarzewski, T. Tao.

The opening ceremony was interrupted by an air-raid siren after which the participants and special guests in Kyiv moved to the bomb shelter, where the Co-ordination Committee of ICMU gave a presentation of the new Centre.

"Stefan Banach argued that mathematics remains 'the most beautiful and powerful creation of the human spirit'. Emphasizing the importance of the queen of sciences, the eminent representative of the Lviv school of mathematics saw its fundamental role in the construction of culture. Today, mathematics appears not only as the foundation of technological progress, but also as a factor determining many minor aspects of human life. Therefore, I am very pleased that, thanks to the efforts of XTX Markets and distinguished group of representatives of this field of science, the idea of establishing an International Mathematical Centre in Ukraine has materialized.

I am deeply convinced that this place will foster the creative exchange of ideas, educate the next generations of scholars and, above all, it will enable conducting mathematical research at the highest world level,"

– Przemysław Czarnek, Minister of Education and Science of Poland, Warsaw, 9 August 2023



Picture: doctoral student from Kharkiv, Anna Goncharuk, speaking in the bomb shelter



Picture: press conference in Kyiv. Members of the Co-ordination Committee of ICMU from left to right: Oleksandra Antoniouk, Masha Vlasenko, Maryna Viazovska, Iryna Yehorchenko, Lyudmyla Turowska

# **FINANCIAL REPORT 2023**

INCOME

#### **Grants**

Ministry of Higher Education and Research of France (MESR)	200,000 EUR*
XTX Markets	70,000 EUR
Nova Ukraine	10,000 USD*
Donations	
American Friends of ICMU 5% operational fee for the King Baudouin Foundation US was subtracted from the total amount of donations	29,587 USD*
Provecta Electromobiles LCC	100,000 UAH*
Other individual donors	200 EUR*   200 USD*   28,893 UAH*

#### **PLEDGES**

London Mathematical Society	100,000 GBP*
This amount should be spent in the following 10 years in the programme LMS Distinguished Visiting Fellowships @ICMU	
XTX Markets	308,460 EUR
The total amount of matched funding in 2023 is 358,460 EUR, of which 50,000 EUR were already transferred and the remaining amount is	

<sup>\*</sup>matched by XTX Markets, our Founding and Principal Donor

available to ICMU and will be transferred on later requests.

#### **American Friends of ICMU**

Daniel W. Stroock & Jewish Communal Fund

Anonymous Donor & Fidelity Charitable Gift Fund

Sergiy Merenkov

Dmytro Savchuk

Susan Paju

#### Individual donors

Maryna Viazovska Lyudmyla Turowska Dmytro Savchuk Masha Vlasenko
Oleksandra Antoniouk Iryna Yehorchenko Dmytro Finkelshtein Kostiantyn Korotkov

Kostiantyn Iusenko Andrey Gogolev

#### In-kind donations

In the beginning of 2023 XTX Markets contributed with the production of the press kit and landing web page of ICMU along with the initial page and poster for the Numbers in the Universe event.

Starting from December 2023 the Kyiv School of Economics provides ICMU with a temporary working space at their premises and assists in its arrangements.

Société Mathématique de France and Springer-Verlag donated books for the start of the library of ICMU.

#### **EXPENSES**

## Trademark and web page development

Logo and web page development: 776,235 UAH

796,772 UAH

Brights Software, 653 hours of work from May to October

Web services: 9,637 UAH Domain and server hosting

Trademark registration: 10,900 UAH

## **Operational expenses**

Accounting service: 118,894 UAH

137,330 UAH

By Unifinance company, 300 EUR/month starting from March

Electronic signatures of director and chief accountant: 3,436 UAH

Administrator salary: 15,000 UAH

Position started in December, candidate chosen through a public contest

#### **Public relations**

Printed materials: 5,525 UAH 19,515 UAH

Brochures, postcards

Translation services: 13,990 UAH

Founding documents, speeches of politicians at our events

#### Numbers in the Universe event

ICMU has paid 237,647 UAH + 54,140 UAH of taxes towards the expenses of this event in Ukraine; the number here comes after the subtraction of taxes and the IMU-CDC grant which was converted in August as  $2,000 \, \text{EUR} \times 39.94 = 78,800 \, \text{UAH}$ .

158,847 UAH

### Banking fees

#### Raiffeisen Bank: 14,986 UAH

15,460 UAH

This amount includes the 10,916 UAH commission for the transfer of foreign currency to Ukrsibbank on the closing of accounts of ICMU in Raiffeisen Bank.

Ukrsibbank: 474 UAH

#### **Taxes**

Numbers in the Universe: 54,140 UAH

80,367 UAH

Taxes paid along with the expenses for Numbers in the Universe, namely the 18% tax for additional benefits and 1.5% military fee on the accommodation, dinner and travel expenses of participants of the Kyiv site.

Book delivery from SMF: 18,495 UAH

Taxes on administrator's salary: 7,732 UAH

### Total expenses of ICMU:

1,208,291 UAH (circa 30k EUR)

As an independent scientific institution, ICMU must look for various funding sources to ensure its continuous functioning and scientific development. The ultimate goals of our fundraising campaign are creating an initial fund which would allow the Centre to plan its activities for several years ahead and collecting money for the construction works and equipment of our building.

#### NUMBERS IN THE UNIVERSE

Total budget: circa 38,000 EUR (27k Warsaw site, 11k Kyiv site)

## **Sponsor contributions**

used towards the expenses of the Warsaw site; this amount was	
equivalent to 13370 EUR in August	
IMPAN / Banach Center	42,000 PLN**
used towards the expenses of the Warsaw site; this amount was equivalent to 9430 EUR in August	
ICMU	158,847 UAH
This is the total contribution from ICMU budget including taxes and excluding the IMU-CDC grant, which was operated by ICMU; this amount was equivalent to 3977 EUR in August.	
Foundation Compositio Mathematica	3,000 EUR**
1,725 EUR used for accommodation and partial travel support of participants at the Warsaw site and 1,275 EUR used towards travel expenses of international participants of the Kyiv site	
International Mathematical Union: IMU-CDC programme	2,000 EUR*
used for accommodation and travel of Ukrainian participants of the Kyiv site and related taxes	
CIMPA	1,850 EUR**
used for accommodation and travel of young participants from developing countries who attended the Warsaw site	
Polish Academy of Sciences: Department of Foreign Relations	600 EUR**
used for accommodation and travel of Ukrainian participants of the Warsaw site	
Kyiv School of Economics (KSE)	153,324 UAH***
coffee breaks, name tags, chalk boards and video recording at the Kyiv	

<sup>\*</sup> matched by XTX Markets, our Founding and Principal Donor

site; this amount was equivalent to circa 3,800 EUR in August

<sup>\*\*</sup> administered by IMPAN in Warsaw

<sup>\*\*\*</sup>administered by KSE in Kyiv

# **MEDIA ABOUT ICMU**

\*ResearchProfessional News



12 January 2023, by Robin Bisson

# Leading mathematicians forming new Ukrainian research centre

Former ERC head and multiple Fields medalists involved in International Centre for Mathematics in Ukraine

www.researchprofessionalnews.com/rr-news-europeother-nations-2023-1-leading-mathematicians-formingnew-ukrainian-research-centre/ 13 January 2023, by Pola Lem

# Ukrainian research backed with creation of new maths institute

Four Fields Medal winners and former European Research Council president among advisory board for independent research institute

www.timeshighereducation.com/news/ukrainian-research-backed-creation-new-maths-institute

# PHYSICS TODAY

17 February 2023, by Toni Feder

#### Mathematicians establish new center in Ukraine

The 13 founders, including a Fields Medalist, envision strengthening ties with the international math community. The war has added urgency to their mission.

pubs.aip.org/physicstoday/Online/41802/Mathematicians-establish-new-center-in-Ukraine

# УКРАЇНСЬКА ПРАВДА

14 December 2023, translation of the article by Martin Schlak, with kind permission of Stern magazine

# Формула майбутнього: як під час війни 13 математиків будують в Україні центр передових досліджень

life.pravda.com.ua/society/2023/12/14/258224/

# The New York Times



12 September 2023, by Siobhan Roberts

## In Ukraine, Mathematics Offers Strength in Numbers

Mathematicians gathered in Kyiv and Warsaw to inaugurate a new center and "open, or reopen, Ukrainian science for the world."

www.nytimes.com/2023/09/12/science/ukrainemathematics-yulia.html 11 November 2023, by Martin Schlak

# Die Zukunftsformel – ein Forschungszentrum in der Ukraine

Mitten im Krieg bauen 13 Mathematiker in der Ukraine ein Zentrum für Spitzenforschung auf. Es ist ihr Weg, ihrem Land beizustehen.

www.stern.de/panorama/wissen/forschungszentrum-fuer-mathematik-in-der-ukraine--die-kraft-der-zahlen-34181264.html