



# Spanish+Polish Mathematical Meeting

RSME SEMA SCM PTM

Łódź, September 4-8, 2023

## Plenary Speakers

**JESÚS ÁLVAREZ LÓPEZ**

Universidade de Santiago de Compostela

**JOAN BOSA PUIGREDON**

Universidad de Zaragoza

**NÚRIA FAGELLA RABIONET**

Universitat de Barcelona

**ŁUKASZ GRABOWSKI**

Lancaster University

**SŁAWOMIR KOŁODZIEJ**

Uniwersytet Jagielloński

**GUILLERMO LORENZO GÓMEZ**

University of Texas at Austin

**ANDRZEJ ŁUCZAK**

Uniwersytet Łódzki

**ANA MANCHO SÁNCHEZ**

ICMAT Madrid

**ALEKSY TRALLE**

Uniwersytet Warmińsko-Mazurski

**PIOTR ZWIERNIK**

University of Toronto

## Programme Committee

**PERE ARA**

Universitat Autònoma de Barcelona

**LEOKADIA BIALAS-CIEŻ**

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**ANNA ZDUNIK**

Uniwersytet Warszawski



[es-pl.math.uni.lodz.pl](http://es-pl.math.uni.lodz.pl)



Lodz University of Technology  
Faculty of Technical Physics, Information Technology  
and Applied Mathematics



Ministry of Education and Science  
Republic of Poland



## Second announcement

The **Spanish-Polish Mathematical Meeting** (or shortly ES-PL) is a joint initiative of *Polskie Towarzystwo Matematyczne* (PTM = Polish Mathematical Society) and three Spanish societies: *Real Sociedad Matemática Española* (RSME), *Sociedad Española de Matemática Aplicada* (SEMA), and *Societat Catalana de Matemàtiques* (SCM).

The ES-PL will be hosted in Łódź by **Uniwersytet Łódzki** and **Politechnika Łódzka**. The event starts in the morning of September 4th (Monday) and ends in the afternoon of September 8th (Friday). All the information on the ES-PL is available at [es-pl.math.uni.lodz.pl](http://es-pl.math.uni.lodz.pl).

The organizers hope that your participation in the congress as well as your stay in Łódź will be an enjoyable and fruitful experience. Developing the cooperation between Spanish and Polish mathematicians is the main goal of the project.

### Plenary lectures

**Jesus Alvarez Lopez** (Universidade de Santiago de Compostela), *Zeta invariants on Morse forms*

**Joan Bosa Puigredon** (Universidad de Zaragoza), *Classification of separable nuclear unital simple  $C^*$ -algebras. History and final results*

**Nuria Fagella Rabionet** (Universitat de Barcelona), *Structural stability in complex dynamics*

**Łukasz Grabowski** (Lancaster University), *Some applications of expansion in algebra and geometry*

**Sławomir Kołodziej** (Uniwersytet Jagielloński, Kraków), *Solutions of complex Hessian type equations*

**Guillermo Lorenzo Gomez** (University of Texas at Austin), *Imaging-informed patient-specific computational modeling of organ-confined prostate cancer*

**Andrzej Łuczak** (Uniwersytet Łódzki, Łódź), *Entropies of states in von Neumann algebras*

**Ana Mancho Sanchez** (Instituto Ciencias Matematicas, Madrid), *A journey from dynamics and geometry to the environment and climate*

**Aleksy Tralle** (Uniwersytet Warmińsko-Mazurski, Olsztyn), *Sasakian structures on Smale-Barden manifolds*

**Piotr Zwiernik** (University of Toronto), *Convex covariance matrix estimation and sparsity*

## Thematic sections

**Arithmetic Geometry and Number Theory** (G. Banaszak, F. Bars, W. Gajda)

**Complex Analysis and Function Spaces** (Ł. Kosiński, M. Maestre, D. Seco, W. Zwonek)

**Differential Geometry and Geometric Analysis** (M. Czarnecki, M. Dominguez Vazquez, J. Jezierski, M. Sanchez Caja)

**Discrete Dynamical Systems** (L. Alsedra, N. Fagella, B. Karpińska, A. Zdunik)

**Dynamics of Differential Equations** (M. Capiński, A. Delshams, M. Guardia, P. Zgliczyński)

**Geometric and Combinatorial Group Theory** (Y. Antolin, M. Casals Ruiz, D. Osajda, E. Ventura)

**Geometry and Topology of Manifolds** (V. Munoz, A. Viruel, K. Pawłowski, R. Wolak)

**Hilbert Spaces Methods** (E. Gallardo Gutierrez, J. Gale Gimeno, F. H. Szafraniec, M. Wojtylak, J. Stochel)

**Mathematical Economics** (C. Herves Beloso, E. Moreno Garcia, M. Kornafel, A. Wiszniewska-Matyszkiewicz)

**Mathematics and Statistics in Machine Learning** (E. Dominguez, A. Nowakowski)

**Mathematics in Biology and Medicine** (U. Foryś, J. Belmonte Beitia)

**Operator Algebras** (J. Bosa, S. Goldstein, B. Kwasniewski, F. Perera, T. Shulman)

**Ordered Random Variables and Reliability Theory** (J. Navarro, T. Rychlik)

**Real Algebraic Geometry and Singularities** (E. Garcia Barroso, J. Fernando Galvan, T. Krasieński, W. Kucharz)

**Applications of Set Theory** (A. Aviles Lopez, P. Borodulin-Nadzieja)

All sections will be arranged by section leaders. All participants are welcome to contribute by proposing a talk within the section of their research.

Also **Miscellanea** section (A. KomisarSKI, K. Niedziałowski) is planned for those not identifying with any of the above sections.

Abstracts of contributed talks (dedicated to the chosen section) should be sent to the main e-mail address [es-pl@math.uni.lodz.pl](mailto:es-pl@math.uni.lodz.pl) using template available at the main webpage.

## Venue

**Uniwersytet Łódzki** (4th, 6th, 7th, 8th of September)

Faculty of Management (Matejki 22/26)

Faculty of Mathematics and Computer Science (Banacha 22)

**Politechnika Łódzka** (5th of September)

Faculty of Technical Physics, Information Technology and Applied Mathematics  
(Politechniki 8)

Faculty of Chemistry (Żeromskiego 114)

## Accommodation

For our guests we reserve several possible accommodations with a good connection to the venues of the meeting. Prices given below are guaranteed up to the end of June. After these date reservations could be made in the price of the day. All the rates are in PLN per night (1 EUR is approx. 4,7 PLN).

**Student dormitories:** 111 PLN (single), 166 PLN (double) – reservation is made by organizers  
address: Strajku Łódzkich Studentów 1981 r. 3/5

To obtain special rates in the hotels use the password „**Mathematical Meeting**”

\*\* **B&B:** 215 PLN (single), 245 PLN (double), breakfast 45 PLN, parking 35 PLN  
address: Kościuszki 16, phone: +48 42 2070040, e-mail: lodz@hotelbb.com

\*\* **Ibis:** 275 PLN (single), 310 PLN (double), breakfast included, parking 30 PLN  
address: Piłsudskiego 11, phone +48 42 6386700, e-mail: H3096@accor.com

\*\* **Mazowiecki:** 150 PLN (single), 200 PLN (double), breakfast 38 PLN, parking free  
address: 28 Pułku Strzelców Kaniowskich 53/57, phone +48 42 6374333, e-mail: recepcja@hotelmazowiecki.com

\*\*\* **Hampton by Hilton** (*up to May 31st*): 340 PLN (single), 395 PLN (double), breakfast included, parking 60 PLN  
address: Piotrkowska 157, phone +48 42 2022022

\*\*\* **Qubus:** 300 PLN (single), 370 PLN (double), breakfast included, parking 30 PLN  
address: Mickiewicza 7, phone +48 42 2755100, e-mail: lodz@qubushotel.com

\*\*\* **Tobacco:** 309 PLN (single), 389 PLN (double), breakfast included, parking 30 PLN  
address: Kopernika 64, phone +48 42 2070707, e-mail: recepcja@hoteltobaco.pl

\*\*\*\* **Novotel:** 485 PLN (single), 520 PLN (double), breakfast included, parking 30 PLN  
address: Piłsudskiego 11A, phone +48 42 2543900, e-mail: h7830@accor.com

\*\*\*\* **Puro:** price of the day – 20%, parking 70 PLN  
address: Ogrodowa 16, phone +48 42 7159000, e-mail: lodz@purohotel.pl

\*\*\*\* **Vienna House andel's:** price of the day – 15%, parking 60 PLN  
address: Ogrodowa 17, phone +48 42 2791000, e-mail: info.andels-lodz@viennahouse.com

## Registration and fee

The registration starts on March 27th at [es-pl.math.uni.lodz.pl/registration.php](https://es-pl.math.uni.lodz.pl/registration.php)

The conference fee covers conference materials, access to all scientific sessions, lunches, coffee breaks, excursions, reception on September 4th and banquet on September 7th.

**Early fee** (*up to April 30th*) **1250 PLN** (or **270 EUR**)\*

**Regular fee** (*up to June 30th*) **1400 PLN** (or **300 EUR**)\*

**Late fee** (*from July 1st*) **1700 PLN** (or **350 EUR**)\*

\*discount of **100 PLN** (or **20 EUR**) for actual members of RSME, SEMA, SCM or PTM

**Reduced fee** (*for PhD students*) **700 PLN** (or **150 EUR**)

## **Accompanying person fee 450 PLN (or 100 EUR)**

Bank accounts for transfers of the fee are in Santander Bank Polska  
owner of accounts: Polskie Towarzystwo Matematyczne

**For payment in PLN:** PL 93 1500 1777 1217 7009 8779 0000

**For payment in EUR:** PL 48 1090 0088 0000 0001 5295 8454

SWIFT: WBKPPLPP

## **Important dates**

March 27th, 2023: registration starts, fee = 270 EUR or 1250 PLN  
April 30th, 2023: registration fee raises (to 300 EUR or 1400 PLN)  
May 31st, 2023: deadline for applications for contributing talks  
June 15th, 2023: 3rd announcement, preliminary schedule  
June 30th, 2023: registration fee raises (to 350 EUR or 1700 PLN)  
July 31st, 2023: final schedule  
September 3rd, 2023: arrival day  
September 4th-8th, 2023: scientific and social programme  
September 9th, 2023: departure day

## **Contact information**

e-mail: [es-pl@math.uni.lodz.pl](mailto:es-pl@math.uni.lodz.pl)

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