FOREWORD

The Tenth Congress of Romanian Mathematicians took place in Pitești, Romania, between June 30th and July 5th, 2023, continuing the old tradition of holding congresses of Romanian mathematicians largely open to an international participation.

This edition of the congress was attended by over 380 participants from the following 41 countries: Algeria, Austria, Australia, Belgium, Brazil, Bulgaria, Canada, China, Czech Republic, Denmark, Finland, France, Georgia, Germany, Great Britain, Greece, Hungary, India, Israel, Italy, Japan, Jordan, Norway, Pakistan, Poland, Portugal, Republic of Moldova, Romania, Russia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, The Netherlands, Tunisia, Turkey, Ukraine, United Arab Emirates, U.S.A.

The previous nine congresses were organized in Cluj (1929), Turnu Severin (1932), Bucharest (1945, 1956), Pitești (2003), Bucharest (2007), Brașov (2011), Iași (2015), and Galați (2019). It is expected that future editions of the congress will continue with a periodicity of four years.

The Tenth Congress of Romanian Mathematicians was organized by the Section of Mathematical Sciences of the Romanian Academy, the Romanian Mathematical Society, the Simion Stoilow Institute of Mathematics of the Romanian Academy, the Faculty of Mathematics and Computer Science of the University of Bucharest, and the University of Pitești as host institution.

The congress worked in the following eight parallel sections, several special sessions also being included:

1. *Algebra and Number Theory*
   Special sessions: *Hopf Algebras, Tensor Categories and Related Topics*
   Special sessions: *Homological Methods in Commutative Algebra*
2. *Algebraic, Complex and Differential Geometry and Topology*
   Special sessions: *Geometry and Topology of Algebraic Varieties*
   Special session: *Geometry of Submanifolds and its Applications*
3. *Real and Complex Analysis, Potential Theory*
   Special session: *Integral Operators and Applications*
   Special session: *Sobolev Spaces in the Metric Setting*
   Special session: *Dynamical Systems*
4. *Ordinary and Partial Differential Equations, Controlled Differential Systems*
   Special session: *Recent Advances in Partial Integro-Differential Equations*

5. *Functional Analysis, Operator Theory and Operator Algebras, Mathematical Physics*

6. *Probability, Stochastic Analysis, and Mathematical Statistics*
   Special session: *Stochastic Dynamics and Potential*

7. *Mechanics, Astronomy, Numerical Analysis, and Mathematical Models in Sciences*
   Special session: *New Advances in the Numerical Solving of PDE*

8. *Theoretical Computer Science, Operations Research and Optimization*
   Special session: *Logic and Applications*

The congress also hosted the first Balkan Mathematics Conference, a regional meeting launched by the European Mathematical Society.

This volume contains 16 articles written by speakers to the congress, from a wide area of mathematical topics covered by the meeting.

Guest Editors: Lucian Beznea, Gabriela Marinoschi, and Dan Timotin