

Preface of the volume TYAN virtual thematic workshop in mathematics

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Matemática Contemporânea, a journal edited by SBM - Sociedade Brasileira de Matemática (Brazilian Mathematical Society) presents this volume, titled “TYAN Virtual Thematic Workshop in Mathematics”, curated and edited by José N.V. Gomes, Paolo Piccione, and Eduardo Teixeira. This volume encapsulates the rich and diverse contributions of Differential Geometers – Renato G. Bettiol, Emilio Lauret, Chen-Yun Lin, Barbara Nelli, and Christina Sormani – and Analysts – Claudio Muñoz, Felipe Linares, Edgard Pimentel, and Mariel Saez – who actively participated in the International Thematic Workshops in Mathematical Sciences organized by the TWAS Young Affiliates Network (TYAN). The workshop, held in an online format, provided a virtual space for collaborative engagement and scholarly discourse.

TYAN, an interdisciplinary scientific network, envisions a world connected by scientific cooperation, striving to catalyze interdisciplinary research collaborations among early career scientists in the developing world

to address global challenges. The Scientific Committee of the TYAN Virtual Thematic Workshops in Mathematical Sciences is formed by Alicia Dickenstein (Universidad de Buenos Aires, Argentina), Carlos Kenig (University of Chicago, United States), Maria José Pacífico (Universidade Federal do Rio de Janeiro, Brazil), Paolo Piccione (Universidade de São Paulo, Brazil), and Renato Iturriaga (CIMAT, Mexico).

The organizing Committee, comprised of Jaqueline Mesquita (Universidade de Brasília, Brazil), Ferrán Valdez (Universidad Nacional Autónoma de México, Mexico), Eduardo Teixeira (University of Central Florida, USA), Hernan Grecco (Universidad de Buenos Aires, Argentina), and Franco M. Cabrerizo (Universidad Nacional de San Martín, Argentina), worked tirelessly to ensure a flawless execution of the virtual workshops, providing an ideal environment for productive discussions and collaborations.

This volume not only captures the essence of the TYAN Virtual Thematic Workshop in Mathematics but also serves as a repository of knowledge and insights shared during the event. The contributions of all authors, from Geometry and Analysis, reflect the depth and significance of contemporary research in their field.

For those who wish to delve further into the workshop's content, the full videos of the talks are readily accessible at [Academia Joven de Argentina](#), providing an immersive experience and a valuable resource for the mathematical community. We extend our heartfelt gratitude to all the contributors, and to the Brazilian Mathematical Society for providing a platform for dissemination. May this volume inspire further collaboration, promote the consolidation of mathematics in developing countries, and exemplify the spirit of TYAN's vision for a globally connected scientific community.

Editorial Board
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