Preface

This is the first part of a special issue of *Matemática Contemporânea* in honor of Professor Renato de Azevedo Tribuzy, on the occasion of his 75th birthday.

Renato de Azevedo Tribuzy was born in Manaus in 1946. He graduated in Philosophy from the Universidade Federal do Amazonas (1968), and he received his PhD in Mathematics from IMPA - Associação Nacional Instituto de Matemática Pura e Aplicada (1978), and later obtained a postdoctoral fellowship at the University of California at Berkeley (1982). He was an associate member of the International Center for Theoretical Physics in Trieste, Italy (1990-2005). In 1995, he was granted the title of Commander of the National Order of Scientific Merit. In 2008, he became a member of the Brazilian Academy of Sciences. In 2019, he received the title of Professor Honoris Causa from the Universidade Federal do Acre. He is currently a retired Full Professor at the Universidade Federal do Amazonas and a Research Productivity Scholar at CNPq-Senior Level. The general area of expertise of Professor Tribuzy is Differential Geometry with particular emphasis on the theory of immersions of Kählerian manifolds. His contributions to mathematics range from the theory of surfaces with constant mean curvature to the theory of Kählerian manifolds, the latter being a multidimensional generalization of Riemann surfaces, that were introduced with the aim of a better understanding of complex functions. He also contributed to the theory of isometric embeddings by generalizing the concept of the mean curvature vector, which resulted in the extensions of several theorems from the theory of surfaces.

The high quality of his work is made evident by both the quality of the scientific journals in which he has published his results, and by the mathematical prowess of his collaborators. Indeed, Professor Tribuzy has published, among others, in prestigious journals such as the Transaction of the American Mathematical Society, the Journal of Differential Geometry, Mathematische Annalen, Arkiv for Matematik, Mathematische Zeitschrift, Communications in Analysis and Geometry, Topology (Oxford), Annali di Matematica Pura ed Applicata, Bulletin des Sciences Mathématiques and Bulletin of the Brazilian Mathematical Society (New Series). Moreover, he has a long list of collaborators, including Blaine Lawson, Jost Eschenburg, Manfredo do Carmo, Maria João Ferreira, Marco Rigoli, Keti Tenenblat, Harold Rosenberg, Carlos Gutierrez, and Hilário Alencar, among others.

Renato Tribuzy obtained his tenure at the Universidade Federal do Amazonas in 1969 and, in spite of the geographical isolation of this university, he has contributed significantly to both the national and international mathematical community ever since. He has participated in several organizing committees of scientific events in Mathematics, such as the School of Differential Geometry in Brazil and the College on Differential Geometry in Trieste, Italy. He has been collaborating as an ad hoc consultant for CNPq, Coordenação

de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) of the Ministry of Education, and other research funding agencies. He was a member of the Postgraduate Chamber of the Fundação de Amparo à Pesquisa do Estado do Amazonas (FAPEAM) and a member of the Mathematics Area Committee at CAPES. His major contribution, however, was undoubtedly the overall development of Mathematics in the state of Amazonas, and especially the initiation of the high level research in geometry at UFAM. Together with his brother, professor Ivan Tribuzy, he established his department as one of the distinguished research centers in Mathematics located in the northern region of Brazil. Their persistent efforts led to the creation and the subsequent consolidation of the Master's degree in Mathematics at UFAM, as well as the Doctorate in Mathematics in association with the Universidade Federal do Pará (UFPA). The legacy of professor Renato Tribuzy and his brother Ivan is currently carried over by their former students and fellow academics from both UFAM and UFPA.

The associate editors and the contributing authors, with great delight, respect, and satisfaction, are hereby solemnly dedicating the present special issue of Matemática Contemporânea to Renato de Azevedo Tribuzy in recognition of the relevance and impact of his work. It is a great privilege for all of us to participate in this celebration.

Finally, we would like to thank the Editor-in-Chief of Matemática Contemporânea, Jaqueline Godoy Mesquita, for opening this important space to honor Renato de Azevedo Tribuzy.

José N. V. Gomes
Paolo Piccione

Contributed papers

- A survey on critical metrics of the volume functional,
  A. Barros and E. Ribeiro Jr.

- Hopf type theorems for surfaces in Riemannian manifolds,
  Hilário Alencar, Gregório Silva Neto and Detang Zhou.

- The isoperimetric problem in the hyperbolic 3-torus,
  Guillermo Antonio Lobos, Alvaro Yucra Hancco and Valério Ramos Batista.

- On curvature estimates for four-dimensional gradient Ricci solitons,
  Huai-Dong Cao.

- A unified approach to Bäcklund type theorems for surfaces in 3-dimensional pseudo-euclidean space,
  F. Kelmer, L. A. Rodrigues and K. Tenenblat.

- The principal curvature theorem and its applications to constant mean curvature hypersurfaces in Euclidean space,
  Luis J. Alías, S. Carolina García-Martínez and Josué Meléndez.

- Cyclic conformally flat hypersurfaces revisited,
  João Paulo dos Santos and Ruy Tojeiro.

- On the principal eigenvalue of the truncated Laplacian, and submanifolds with bounded mean curvature,
  Gregório P. Bessa, Luquésio P. Jorge and Luciano Mari.

- Minimal real Kaehler submanifolds,
  S. Chion and M. Dajczer.

- Equivariant embeddings of symmetric spaces,
  J.-H. Eschenburg.

- Codazzi surfaces in 4-manifolds,
  Giulio Colombo, Gary R. Jensen and Marco Rigoli.