

PREFACE

The *International Conference Zaragoza-Pau on Mathematics and its Applications* was organized by the *Departamento de Matemática Aplicada*, the *Departamento de Métodos Estadísticos* and the *Departamento de Matemáticas*, all of them from the *Universidad de Zaragoza* (Spain), and the *Laboratoire de Mathématiques et de leurs Applications*, from the *Université de Pau et des Pays de l'Adour* (France). This conference has been held every two years since 1989. The aim of this conference is to present recent advances in Applied Mathematics, Statistics and Pure Mathematics, putting special emphasis on subjects linked to petroleum engineering and environmental problems.

The Fifteenth Conference took place in Jaca (Spain) from 10th to 12nd September 2018. The official opening ceremony was graced by the presence of the Chancellor of the University of Zaragoza, Rector Mgfc. D. José Antonio Mayoral Murillo, and the Chancellor of the University of Pau, M. le Président Mohamed Amara. During those three days, 99 mathematicians, coming from different universities, research institutes or the industrial sector, attended 9 plenary lectures, 63 contributed talks and a poster session with 7 posters. We note that in this edition there were 10 mini-symposia, two of them co-organized by colleagues from the *Universidad de Zaragoza* and the *Université de Pau et des Pays de l'Adour*.

The principal talks were about theoretical and numerical analysis of deterministic models described by partial differential equations, statistics and stochastics processes, surface approximation and image analysis. At the same time, there was also a discussion session about problems in Algebra and Geometry. These proceedings contain 26 refereed research papers, 25 of them based on the corresponding contributions and one paper by E. Savin, which was mislaid and not included in the monograph of the previous conference.

We would like to thank the following institutions for their regular financial and material support in our cooperation programmes: *Université de Pau et des Pays de l'Adour*, *Universidad de Zaragoza* and *Gobierno de Aragón*. Thanks are also due to the *Institut Carnot ISI-FoR*, the *Centre National de la Recherche Scientifique (CNRS)*, *Common Funds Aquitaine-Aragón* and *European Social Fund (ESF)*, *Instituto Universitario de Matemáticas y Aplicaciones (IUMA)* and the *Fédération IPRA* of Pau (*Institut Pluridisciplinaire de Recherche Appliquée*) for the grants specially allotted at the time of the Fifteenth Conference.

We wish to express our gratitude to Alberto Abad (U. Zaragoza), Enrique Artal (U. Zaragoza), Carmelo Clavero (U. Zaragoza), Jacky Cresson (U. Pau), Marc Dambrine (U. Pau), Jacqueline Fleckinger (U. Toulouse I), Vincent Florens (U. Pau), Jacques Giacomoni (U. Pau), Pedro Jodrá (U. Zaragoza), Sophie Mercier (U. Pau), Pedro J. Miana (U. Zaragoza), Philippe Poncet (U. Pau), Carmen Sangüesa (U. Zaragoza), Peter Takáč (U. Rostock), Guy Vallet (U. Pau), who, together with us, formed the Scientific Committee. We would like also to express our special thanks to Pedro Mateo (U. Zaragoza) and to Juan José Torrens (U. Pública de Navarra), for their invaluable help in organizing the web and editing these proceedings, respectively. We are also indebted to all the others who helped in the organization of the Conference, in particular, María Luisa Gómez, Marta Gómez, María del Carmen Izaguerri and Beatriz Malo.

We finally acknowledge the kind cooperation of the referees, as well as the assistance provided for the realization of the proceedings by the Servicio de Publicaciones of the University of Zaragoza.

The next Conference Zaragoza-Pau will be held in Jaca from 9th to 11st September 2020. All of you are cordially invited to participate in this event.

Pau and Zaragoza, November, 2019

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