

ROYAUME DU MAROC  
UNIVERSITE ABDELMALEK ESSAADI  
FACULTE DES SCIENCES ET  
TECHNIQUES  
TANGER



المملكة المغربية  
جامعة عبد الملك السعدي  
كلية العلوم والتقنيات  
طنجة

Scientific report on CIMPA research school and workshop:  
Nonlinear EPDs and Applications: Theoretical and numerical studies  
Faculty of Sciences and Techniques, Tangier  
May 5-17, 2014,  
Morocco

Faculty of sciences and Techniques, University Abdelmalek Essaadi, represented by the Laboratory of Mathematics and Applications and in collaboration with the International Center for Pure and Applied Mathematics (CIMPA) and University of Picardie, Amiens, had organized CIMPA research school and workshop during the period of 5-17 of May 2014 under the title : Nonlinear EPDs and Applications: Theoretical and numerical studies. The responsibilities of Moroccan and French Universities have been provided by Prof. Mohammed Rhoudaf and Prof. Mohamed Guedda respectively.

The organized event was consisting of two parts. The first was the workshop on the nonlinear EDPs starting from 05 until 07 of May, 2014 and the second was the CIMPA research school between May 8 and May 17, 2014. The two parts of the manifestation were held on a Hotel in a city center, where the majority of the participants were hosted.

This manifestation, CIMPA research school and workshop, enabled participants to present their research, meet specialists from diverse backgrounds, to acquaint with open problems in several areas of applied mathematics and discover the possibilities of their applications to problems of development. It has also created an enthusiastic environment among students and opens their appetite to research. Exchanges with leading researchers have been very beneficial to the participants and especially to the young students from several universities. More than 130 participants with 80 papers including 16 plenary lectures, two parallel sessions on a numerical analysis of PDEs and others on the theory of PDEs were brought to workshop. Beside the workshop, eminent experts' Professors were invited to discuss their research in the topics covered by the school which are ranged from theoretical and application of EPDs. . Although the limitation of our sponsoring resources, the school has received 90 participants from different countries with 40 participants are female gender. More than 90 per cent of them are PhD and master students.

Without any exception all participants have demonstrated the high quality of the presented courses and the good organization of the workshop and school. They also attested that the scientific objective of the event was met.

#### **List of school's courses:**

- Gabriella Bognar, University of Miskole, Hungary: (6h) Analysis of the boundary flow in a non-Newtonian fluids.
- Linda El alaoui, University of Paris 13, France: (6h) Eléments Finis Non-conformes.
- Robert Eymard, University of Marne la Vallée France: (8h) Finite volume method.
- Zoubida Mghazeli, University Ibn Tofail, Morocco: (6h) Estimations à posteriori d'erreur et applications à l'adaptation de maillage.
- Otared Kavian University of Versailles, France: (8h) Introduction aux problèmes inverses et de détermination de paramètres.
- Alesio Porretta, University of Roma, Italy: (8h) Nonlinear elliptic and parabolic equations with first order terms.
- Mohamed Seaid, School of Engineering Durham, UK: (6h) Relaxation and Kinetic Methods for Nonlinear Hyperbolic PDEs.

Closing of the school was carried out in the presence of Mr. Vice Dean of Research of the Faculty of Sciences and Techniques of Tangier, which distributed training diplomas to the participants' students of Abdelmalek Essaadi University.

#### **Acknowledgments:**

The local organizing committee thanks Professor Alain Damlamian and Ahmed Sufi CIMPA and all those who directly or indirectly contributed to the success of this event. The acknowledgments are given, in particular, to Professor Mohamed Addou Dean of the FSTT for material support and encouragement throughout the organization and Professor Sbihi Director ENSAT for material support.

Great thanks to the ICIAM and all other institutions for their supports.

#### **The organizers**

Mohamed Rhoudaf, Mohamed Guedda, Arhrib abdesslam.

NB: The proceeding of the manifestation and photos are also sent with this report.

























