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## PREFACE

Second International conference on New Trends of the Applications of Differential Equations in Sciences (NTADES 2015) was organized by the Department of Differential Equations and Mathematical Physics at Institute of Mathematics and Informatics, Bulgarian Academy of Sciences ([www.math.bas.bg/ntades](http://www.math.bas.bg/ntades)) from 6th to 10th July, 2015. Differential equations have a lot of applications in many natural phenomena. This conference was devoted to such applications. A number of phenomena in nature (physics, chemistry, biology) and in society (economics) result in problems leading to study of linear and nonlinear differential equations.

During the conference invited and contributed papers were presented. Main topics were: Mathematical Physics; Mathematical Finance; Mathematical Biology; Nonlinear waves; Fractional Analysis; Neuroscience. The conference provided a wide range of problems concerning recent achievements in both theoretical and applied mathematics. The main goal was to present new ideas and research for scientists, who develop and study differential equations, and researchers, who apply them for solving real life problems. The conference promoted basic research in mathematics leading to new methods and techniques useful for applications of differential equations. This scientific forum was a media for the exchange of information and ideas between mathematicians and other technical and scientific personnel.

More than 50 participants from universities and institutes of different countries – Italy, Japan, Greece, USA, Ireland, Canada, Russia, Germany, China, etc. took part in NTADES 2015. They represented most of the strongest research groups in the fields of differential equations and applied mathematics. We are very glad to report that young researchers, Post Docs and Ph.D. students participated during NTADES 2015.

Angela Slavova  
Chair of the Program Committee  
NTADES 2015