

Nonlinear Dynamics

**An International Journal of
Nonlinear Dynamics and Chaos in Engineering Systems**

Special Issue:
Nonlinear Dynamics of Electronic Systems

Editors:
João Corte-Real, Mourad Bezzeghoud and David Berry





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Preface

This special issue of *Nonlinear Dynamics* includes a selection of articles presented at the conference *Nonlinear Dynamics of Electronic Systems (NDES, 2004)* held at the University of Évora, Portugal, 9–13 May 2004. The conference was the twelfth in a series of international conferences, which were initiated at Dresden in 1993. It brought together specialists in the mathematical, natural and engineering sciences to address new theoretical and practical results, novel analysis and design methods in nonlinear dynamic systems and circuits and to discuss open problems in nonlinear science.

The conference was held in the magnificent and historic Colégio do Espírito Santo, the main building of the University of Évora. It was very well attended with over 80 scientists and students from 15 countries from around the world. The city of Évora, being a UNESCO World Treasure full of ancient monuments, a great cultural atmosphere and a traditional academic environment – helped to contribute to lively and stimulating discussions throughout. Furthermore, as a small walled city, the participants were able to wander around during the lunch breaks and the balmy evenings discussing, if not nonlinear dynamics, the wide range of Portuguese wines available in the many restaurants spread throughout the city.

During the 5 days of the conference, approximately 80 contributions were presented as invited lectures, oral presentations and posters. Out of these contributions, approximately 40 were considered to be of exceptionally high quality and represent important contributions in nonlinear science; it was accordingly felt that these should contribute to the present special issue of *Nonlinear Dynamics*. To reflect the scientific program of the conference, the contributions were divided into the themes: circuit systems, circuit oscillators, chaos, stability and control, synchronization analysis and nonlinear time series analysis and broad applications of nonlinear dynamics. The program had been extended this year to include other applications of nonlinear dynamics in such areas as geophysical systems, biological systems and econophysics. Several of the specialist contributors were also invited to broaden out their contribution as a tutorial to introduce each of these themes. We hope that this will enrich the scope of this issue.

Finally, it is appropriate here to express gratitude to the Geophysics Centre of Évora for providing the financial, technical and administrative support for getting the conference underway and to its president, Prof. Rui Namorado Rosa, for his many valuable suggestions and advice during its preparation. Gratitude must also be extended to the numerous (anonymous) referees and the conference participants. Special thanks goes to Sally Shrader for providing exceptional support and a cool head throughout the tense period leading up to the publication of this special issue.

Évora, July 2005

The Editors, João Corte-Real, Mourad Bezzeghoud, and David Berry.