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**V IEEE Signal Processing Workshop on**  
**SIGNAL PROCESSING ADVANCES IN**  
**WIRELESS COMMUNICATIONS**



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# Welcome

Dear participants,

On behalf of the Organizing Committee, it is my pleasure to welcome you in Lisbon to attend the V IEEE Signal Processing Workshop on Signal Processing Advances in Wireless Communications (SPAWC).

SPAWC will be held at Hotel Tivoli - Tejo, in Lisbon, more precisely at the Parque das Nações. This site offers some of the most daring examples of contemporary architecture, Europe's largest Oceanarium, delightful thematic gardens, exhibition centers, theaters and event halls, all located along a breathtaking 5 km stretch of the Tagus riverfront, in the heart of Lisbon, benefiting from a wide array of shops, restaurants and bars. Only five minutes from Lisbon International Airport, Parque das Nações builds on the heritage of EXPO'98 - the last world exposition of the twentieth century.

SPAWC is essentially focused on the Signal Processing perspective in fields ranging from wireless communications to information theory, networks, and implementation issues. Rigour in using mathematical methodologies and tools is a common attribute of most of the works that have been selected along the history of SPAWC. This has been the motivation to include a special plenary session on Differential Geometric Methods in Signal Processing, which is considered to be a powerful mathematical theory that can contribute to real advances in the generic area of Signal Processing, namely in applications such as wireless communications. With the contributions of the four invited speakers, Jonathan H. Manton from the University of Melbourne, Anuj Srivastava from the Florida State University, João Xavier from Instituto Superior Técnico, and Jean Claude Belfiore from Ecole Nationale Supérieure des Télécommunications, this will be an exciting event of SPAWC. Following SPAWC's tradition, this year's edition also benefits from the participation of five distinguished keynote speakers: Prof. José Moura from Carnegie Mellon University, Prof. Ali H. Sayed from the University of California, Prof. Babak Hassibi from the California Institute of Technology, Prof. Amos Lapidoth from the Swiss Federal Institute of Technology, and Prof. Luc Vandendorpe from the Université Catholique de Louvain. The welcome reception, the cocktail offered by the City Hall at St. George's Castle, the tour to the Lisbon Oceanarium, and the banquet dinner, are the four social events that will contribute to make the stay of attendees and invited speakers as enjoyable as possible.

I take the opportunity to send a special thank to all the people that have contributed to make this event possible: the invited speakers, the technical committee members and the invited reviewers, and all the researchers that have sent a contribution for SPAWC. I wish you all a pleasant stay in Lisbon.

On behalf of the Organizing Committee,

Victor Barroso  
General Chair

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**Prof. José Moura, Carnegie Mellon University, USA**

Chair : Victor Barroso, Instituto Superior Técnico, Portugal

### **PS2 - *Signal Processing and Communications Challenges in Wireless Location***

**Prof. Ali H. Sayed, University of California, USA**

Chair: Alle-Jan Van der Veen, Delft University, NL

### **PS3 - *Distributed Space-Time Processing in Wireless Networks***

**Prof. Babak Hassibi, California Institute of Technology, USA**

Chair: Bjorn Ottersten, Royal Institute of Technology, Sweden

### **PS4 - *The Truth About Capacity Calculations for Fading Channels***

**Prof. Amos Lapidoth, Swiss Federal Institute of Technology, Switzerland**

Chair: Philippe Loubaton, Universite de Marne la Vallee, France

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**Prof. Luc Vandendorpe, Université Catholique de Louvain, Belgium**

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Chair: John Cozzens, Program Director, National Science Foundation, USA

*Theory of Optimization on Manifolds*

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