

Organizers

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About the Sociedade Brasileira de Matemática Aplicada e Computacional (SBMAC)

The Sociedade Brasileira de Matemática Aplicada e Computacional (SBMAC) was founded in 11/01/1978 during the Primeiro Simpósio Nacional de Cálculo Numérico in the Instituto de Ciências Exatas (Universidade Federal de Minas Gerais). Its purposes are: (a) Develop mathematical applications; (b) Promote the development and implementation of mathematical methods and techniques for the benefit of science and technology; (c) Support the training of human

resources in Mathematics; (d) Promote the exchange of ideas and information between areas of mathematical applications. The specific interests of the community are represented by the thematic committees. The VIII WWlet is an initiative of the committee “Análise Multiescala e Wavelets - Teoria, Desenvolvimento e Aplicações”.

About the Committee:

“Análise Multiescala e Wavelets - Teoria, Desenvolvimento e Aplicações”

The committee emerged from the growing interest of several scientific communities in wavelet techniques applied in signal processing and in adaptive methods in partial differential equations. Our aim is to explore the concepts of these analyzes and their theoretical, numerical and computational aspects, expanding them broadly for the different purposes of the work segments of the Brazilian community. Information can be found at <http://www.sbmac.org.br/comAnalise1.php>.

Sponsors

FAPESP, Brazil and CNPq, Brazil.



Ministério de Ciências, Tecnologia,
Inovação e Comunicações – MCTIC
Instituto Nacional de Pesquisas Espaciais

VIII WWLET

Wavelets

&

Applications

in Numerical Methods for PDEs and
Signal Processing

<http://www.lac.inpe.br/wwlet>

September 21st, 2017

CNMAC, São José dos Campos - SP - Brazil

About this event

The Organizing Committee of VIII WWlet in 2017 is pleased to invite you to participate in the event Wavelet Applications in Numerical Methods for PDEs and Signal Processing to be held in the XXXVII Congresso Nacional de Matemática Aplicada e Computacional (CNMAC), São José dos Campos, SP, Brazil on September 19-22th, 2017. In the last decade, we have been organizing a regular scientific group activity in São José dos Campos, SP, with CNPq and FAPESP financial support. One of the main goals of this event is to explore concepts of wavelet analysis and its theoretical, numerical and computational aspects applied to the field of partial differential equations and signal processing. This special event is dedicated to space applications.

Contact Information

We also have regular meetings during the year at INPE and under-graduate, master, doctorate, post-doctorate and research positions on these topics applied to space science and technology. If you have any further questions, please don't hesitate to contact us using the email address: wwlet@inpe.br.

Program

8:15h **Open Section:**

Margarete O. Domingues

Maria Teodora Ferreira

Cláudia A. A. S. Mesquita

Morning Lectures (Signals): 8:30h-10:00h

- ▶ *Multiresolution analysis of magnetic field fluctuations in the Jupiter's magnetotail,*
Ezequiel Echer (DGE/CEA/INPE, Brazil) .
- ▶ *Study about spectral properties of the Global, hemispheric and latitudinal air surface temperature series from NASA/GISS database and Sunspot Number,*
Mariza Pereira de Souza Echer (PNPD/CAPES-GES/INPE, Brazil).
- ▶ *Forecasting with Wavelet Hybrid Models,*
Eniuce Menezes de Souza (UEM, Brazil).

10:00h – On this occasion we pay posthumous homage to Dr. **Daniel Jean R. Norde-mann** for his achievements in signal analysis and wavelet applications in Sun-Earth-Climate relations, conducted by Mariza Echer and Alan Prestes.

Afternoon Lectures (PDEs): 14:00h-15:30h

- ▶ *Wavelet criteria in magnetohydrodynamics modelling using the parallel framework AMROC,*
Ralf Deiterding (University of Southampton, UK), **Margarete O. Domingues** (LAC/CTE/INPE, Brazil).
- ▶ *High order time synchronisation in multiresolution adaptive models,*
Müller Moreira Lopes (CAP/SPG/INPE), **Margarete O. Domingues** (LAC/CTE/INPE), **Odin Mendes** (DGE/CEA/INPE, Brazil); **Kai Schneider** (Aix-Marseille Univ., France).
- ▶ *Sampled irregularly functions approximation with tensorial elements compacts adaptive hierarchical bases ,*
Gilcélia R. de Souza (Federal Univ. of São João del Rei, Brazil), **Jorge Stolfi** (Unicamp).

15:30h – **SBMAC Multiscale Committee: discussions, planning and elections.**

Localization

The event will happen at the Universidade Federal de São Paulo (UNIFESP) in Avenida Cesare Monsueto Giulio Lattes, 1211 - Jardim Santa Ines I, São José dos Campos - SP / Brazil