

Inscription and web-based platform

The event will be in zoom web-base platform.

Inscriptions must be done at

comite.wavelets@gmail.com,

with (a) as subject [WWLET 2023- inscription], (b) name, institution, position (student, researcher, etc..), email to be send the event link, and short description of interest; **it must be done until 4 days before the event, i.e. Oct. 16th**. No taxes involved.

Organizers

Margarete O. Domingues (INPE, Brazil) Luciano A Magrini (IFSP, Brazil.) Odim Mendes (INPE, Brazil) Gilcéia de Souza (UFSJ, Brazil) Victoria Vampa (FI, UNLP, Argentina)

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

SBMAC was founded in 1978 to: (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 **XI WWlet is an initiative of the committee “Análise Multiescala e Wavelets - Teoria, Desenvolvimento e Aplicações” and “Aplicación de la Transformada Wavelet en el estudio de Sistemas Dinámicos ”, UNLP, Argentina.**

About our Committee:

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

Sponsors

INPE, IFSP, FAPESP, CAPES and CNPq, Brazil.
UNLP, Argentina.

Sociedade Brasileira de Matemática
Aplicada e Computacional - SBMAC

XI WWLET

Wavelets

&

Applications

in Signal and PDEs

Oct. 20th, 2023

About this event

The Organizing Committee of XI WWlet is pleased to invite you to participate in the event Wavelet Applications in Signal and Image Processing and Partial Differential Equations on October 20th, 2023. In the last decades, 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 signal and image processing PDEs in Fluid mechanics simulations.

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: comite.wavelets@gmail.com.

Program

Opening Remarks :

8 : 45h-9 : 00h (São Paulo LT, Buenos Aires LT, GMT - 3,)

M. Domingues, L. Magrini, O. Mendes, and V. Vampa

Lectures I: 9:30h-9:55h (São Paulo LT)

- ▶ *Wavelet aplicada a series climatológicas* **R. Piotrkowski and E. Zitto**
- ▶ **Technical Section I** : 10 : 00h-12 : 00h (São Paulo LT)
- ▶ *Improving time series forecasting with a Recurrent Wavelet Neural Network with exogenous layer* **M. H. C. Leme, and E. Menezes**
- ▶ *Wavelet bidimensional: variabilidade espacial da condutividade hidráulica do solo saturado em escala de bacia hidrográfica* **L. N. Centeno, A. S. Ferreira, J. Kloeckner, S. T. Cecconello, W. S. Barros, and L. C. Timm**
- ▶ *Applications of the Cross Wavelet Transform and Wavelet Coherence in the Analysis of Possible Correlations between COVID-19 Spread and Climate/Social Variables* **L. A. Magrini, M. P. M. A. Baroni, and M. C. Gadotti**

- ▶ *Bidimensional adapted wavelet construction for mass type anomalies localization in mammographic images*

D. Valdés-Santiago, A. M. Leon-Mecías, and M. L. B. Díaz-Romañach

Lunch Break 12 : 00h-14 : 00h (São Paulo LT)

Lectures II: 14:00h-14:55h (São Paulo LT)

- ▶ *Wavelet in my research life* **M. Calim Costa**
- Technical Section:** 15 : 00h-16 : 30h (São Paulo LT)
- ▶ *Time and Frequency Spillovers between a Twitter-based Uncertainty Index and Commodity Futures* **A. F. Bariviera, M. B. Arouxet, V. Pastor and V. Vampa**
- ▶ *Super-oscillations analysis under the perspective of time-frequency methods: Part 1* **V. Vampa, F. Videla**
- ▶ *Superoscillations analysis under the perspective of time-frequency methods: Part 2* **V. Vampa, F. Videla**
- ▶ *Analysis of Wavelet-Based Spatial Adaptivity on Simulations of the Magnetosphere of the Earth* **L. S. Cassará, M. O. Domingues, O. Mendes, M. Moreira Lopes, and R. Deiterding**