



GROUP FOR EXPERIMENTAL STUDIES ON MATHEMATICAL MODELING OF  
ATMOSPHERIC AND SURFACE PROCESSES—GEMMAS

## 14<sup>th</sup> International Regional Spectral Model (RSM) Workshop

28–29 September 2016

Centro de Ciências Matemáticas e da Natureza (CCMN)  
Universidade Federal do Rio de Janeiro (UFRJ)  
Cidade Universitária, Ilha do Fundão  
Rio de Janeiro, RJ, Brazil

### Purpose of the Meeting

The RSM workshops are designed to gather together international regional model developers and users, to learn the latest modeling features being developed, especially through invited talks and contributions from end-users of modeling outputs on various time scales for applications (e.g., weather/climate risk management, wildfire, agriculture, water resources and energy production). Through these discussions we wish to formulate plans for the development of regional modeling systems.

The 14th International RSM Workshop will focus on building international collaborations and will involve members of the RSM International Group in outreach/extension activities, through lectures aimed to broader audience (e.g., high-school teachers and students), during the Meeting on Risk Analysis and Environmental Disasters to be held on 27 September 2016 at the Federal University of Rio de Janeiro, Rio de Janeiro, Brazil.



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The 14th International RSM Workshop  
Wednesday, September 28, 2016

**09:30 – 10:00 Breakfast: Main Hall, CCMN, UFRJ.**

**10:00 – 12:00 Session 1: Amphitheater, CCMN, UFRJ**  
**"Integrated Regional Modeling Systems."**

Chair: Ana Nunes, Dept. of Meteorology, UFRJ

10:00 – 10:30 "Development of Regional Earth System Model with RSM."

Kei Yoshimura\*, Institute of Industrial Science, The University of Tokyo.

10:30 – 11:00 "Development of River–Atmosphere–Ocean Coupled Regional Model."

Gavin Madakumbura\*, Dept. of Civil Engineering, The University of Tokyo;  
Kei Yoshimura, Institute of Industrial Science, The University of Tokyo.

11:00 – 11:30 "Sensitivity Tests of Boundary Condition and the Correction Method of Precipitation for IsoRSM Tracer Transport Simulations of Radioactive Materials in FDNPP Accident."

Akane Saya\*, Dept. of Civil Engineering, The University of Tokyo;  
Takao Yoshikana, Atmosphere and Ocean Research Institute, The University of Tokyo;  
Eun-Chul Chang, Dept. of Atmospheric Science, Kongju National University;  
Kei Yoshimura, Institute of Industrial Science, The University of Tokyo.

11:30 – 12:00 "Application of the Global/Regional Integrated Model System (GRIMs) to the Southern Plains."

Liqiang Sun, Cooperative Institute for Climate and Satellites–North Carolina (CICS-NC), North Carolina State University (NCSU) and NOAA's National Centers for Environmental Information (NCEI).

**12:00 – 14:00 Lunch: Restaurant at UFRJ main campus.**

**14:00 – 15:00 Session 2: Amphitheater, CCMN, UFRJ**  
**"Modeling Extreme Events: A Multi-Scale Approach."**

Chair: Kei Yoshimura, Institute of Industrial Science, The University of Tokyo.

14:00 – 14:30 "Multi-Scale Urban System Modeling for Sustainable Planning and Design."

Tian Kuay Lim, National Environment Agency, Singapore;  
Hann-Ming Henry Juang, Environmental Modeling Center, NCEP.

**Presenting:** Liqiang Sun, CICS-NC/NCSU/NCEI.

14:30 – 15:00 "Satellite-Enhanced Regional Downscaling for Applied Studies."

Ana Nunes\*, Dept. of Meteorology, IGEO–UFRJ.

15:00 – 15:20 Coffee Break. **Main Hall, CCMN, UFRJ.**

15:20 – 16:30 **Roundtable 1: Amphitheater, CCMN, UFRJ**  
**"Integrated Modeling System Development and Collaborations."**

Moderator: Liqiang Sun, CICS-NC/NCSU/NCEI.

16:30: Adjourn



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**09:30 – 10:00 Breakfast: Main Hall, CCMN, UFRJ.**

**10:00 – 11:30 Session 3: Amphitheater, CCMN, UFRJ**

***"Modeling Approaches for Seasonal Simulations and Predictions at Regional Scale."***

Chair: Liqiang Sun, CICS-NC/NCSU/NCEI.

10:00 – 10:30 "The Seasonal Rainfall Simulations using Regional Spectral Model and Comparisons with Grid-Point Model Techniques over East Africa."

George Otieno\*, IGAD Climate Prediction and Application Center, and University of Nairobi;

K. In-Won, Dept. of Environmental Atmospheric Sciences, Pukyong National University;

O. Jaiho, Dept. of Environmental Atmospheric Sciences, Pukyong National University;

G. Artan, IGAD Climate Prediction and Application Center;

L. Ogallo, IGAD Climate Prediction and Application Center;

F. J. Opijah, University of Nairobi;

J. N. Mutemi, University of Nairobi.

10:30 – 11:00 "Downscaling Seasonal Forecast System Using Regional Spectral Model at FUNCEME."

Eduardo Sávio P. R. Martins, Ceará Institute for Meteorology and Water Resources (FUNCEME);

José Marcelo R. Pereira\*, FUNCEME;

Francisco das C. Vasconcelos Jr., FUNCEME;

Liqiang Sun, CICS-NC/NCSU/NCEI.

11:00 – 11:30 "Verification of the Seasonal Forecast System Using Regional Spectral Model."

José Marcelo R. Pereira\*, Ceará Institute for Meteorology and Water Resources (FUNCEME);

Eduardo Sávio P. R. Martins, FUNCEME;

Francisco das C. Vasconcelos Jr, FUNCEME,

Liqiang Sun, CICS-NC/NCSU/NCEI.

**11:30 – 13:30 Lunch: Restaurant at the UFRJ campus**

**13:30 – 15:30 Roundtable 2: Amphitheater, CCMN, UFRJ.**

***"Downscaling of Climate Projections and Seasonal Predictions using the Regional Spectral Model: Plans and Collaborations."***

Moderators: Liqiang Sun, CICS-NC/NCSU/NCEI, and Ana Nunes, IGEO, UFRJ.

15:30 Meeting ends.