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## Workshop on Environmental Informatic Challenges

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The current availability of huge databases offers unprecedented opportunities for analyzing and understanding our environment. We are able now to answer questions of great importance for the future of our planet. However, these new possibilities come together with new challenges to solve. At this point, computer science techniques like machine learning algorithms become really valuable. The interdisciplinarity between geosciences and computer sciences needs then for a mutual understanding and comprehension.

In BACI we are already facing these challenges, we are working with variables from very different nature and more often than not they have different spatio-temporal scales and resolutions. Additionally, the variety in backgrounds within our consortium needs for a special effort to reach collective agreements.

Therefore we are happy to announce the organization of a Workshop here in Jena to work on this direction: **Workshop on Environmental Informatic Challenges, 19<sup>th</sup>-21<sup>th</sup> June**. The overall aim of this workshop is to bring together and stimulate discussions among researchers from various disciplines when dealing with geosciences topics with the help of computer sciences techniques.

The format of the workshop will combine keynote talks from experts in different fields and brainstorming break-out sessions. Additionally, we will take the chance of gathering a considerable group of people from the BACI consortium and dedicate a day specifically to BACI-related questions and issues. This will be helpful for the organization of near future deliverables and also to prepare our next review meeting taking place this Autumn in Italy.

The workshop will count with keynote speakers from institutions outside BACI from varied fields. This benefits us twofold: we could gain new perspectives for our tasks in BACI and we will disseminate the results of our research project. Here some potential invited speakers:

- Gustau Camps-Valls - University of Valencia
- Ribana Roscher - University of Bonn
- Jonas Peters - University of Copenhagen
- Diego Miralles - University of Ghent
- Jan Verbesselt - Wageningen University & Research
- Neil Lawrence - University of Sheffield
- Maurizio Santoro - Gamma Remote Sensing and Consulting AG
- Veronika Eyring - DLR Institut of Atmospheric Physics

In the break-out sessions we will discuss about topics of common interests like the following ones. But the final topics to be treated will be defined accordingly to the people coming and their preferences:

- Machine learning, data mining or statistics applied to geoscience
- Working with different spatio-temporal scales
- Uncertainties and results validations
- Interpretation of high-dimensionality (hyperspectral) data
- Model-data fusion/data assimilation of Remote Sensing data
- Combining different nature data
- Methods for modeling and predicting extremes

Additionally, we have also scheduled a poster session for your contributions and to enhance the communication of the work done by the partners from different work packages. With all the contributions we will compile a proceedings book as a result of the event that will serve as report document for the project.

The first two days of the workshop will be dedicated to the keynote speakers contributions and the break-out sessions, while in the third day we will address BACI-related issues.

The Workshop on Environmental Informatic Challenges will take place from Monday 19<sup>th</sup> to Wednesday 21<sup>th</sup> June at the Dornburger Castles near Jena, Germany.



### **Organizing Committee:**

- Prof. Dr.-Ing. Joachim Denzler (Computer Vision Group, FSU Jena)
- Prof. Dr. Christiane Schmullius (Geography Department, FSU Jena)
- Prof. Dr. Markus Reichstein (MPI for Biogeochemistry Jena)
- Dr. Miguel Mahecha (MPI for Biogeochemistry Jena)
- Dr. Yanira Guancho (Computer Vision Group, FSU Jena)
- Dr. Marcel Urban (Geography Department, FSU Jena)
- M Sc. Johannes Balling (Geography Department, FSU Jena)