

2 PhD positions in Inverse Modeling and Tomography at Juelich Center

We are seeking two Ph.D. students to join our team at Research Center Juelich working on the development of new methodology and algorithms for remote sensing measurements. The design of next-generation remote sensing instruments combining imaging Michelson interferometers and infrared detector arrays makes high demands in data processing. The two German research centers at Juelich and Karlsruhe are building such an instrument in a joint project, called GLORIA-AB (GLOBAL limb Radiance Imager for the Atmosphere – AirBorne). This instrument will fly on the new German High Altitude and Long Range Research Aircraft (HALO). A satellite version of the instrument is proposed for a future ESA mission. It is designed to study chemical and dynamical processes in the upper troposphere / lower stratosphere region and will sound altitude profiles of atmospheric trace species and cloud properties with unprecedented spatial and temporal resolution.

One Ph.D. student will work on the design and optimization of the inverse model. The general task will be to find the 'best' representation of certain atmospheric parameters, e.g. with respect to precision, accuracy or spatial resolution. The construction of appropriate regularizations and their influence on the solution of the inverse problem is one of the topics which has to be addressed.

The second Ph.D. student will review and adopt tomographic methods into the JURASSIC retrieval package. This includes the assessment of tomographic methods in different scientific fields. The test of the tomographic retrieval by means of high resolution model data will be another topic.

Both candidates should have a M.Sc. in Physics, Numerical Mathematics or Simulation Science with an overall grade of at least "good". Good mathematical and computational skills and an interest in interdisciplinary research are a prerequisite. Each candidate should be a well-balanced individual able to work effectively in a team.

For further information please contact: Dr. Martin Kaufmann, ICG-1, e-mail: m.kaufmann@fz-juelich.de

The appointment will be for a period of three years.

Equal opportunities is a cornerstone of our staff policy for which we have received the TOTALE-QUALITY accolade.

Applications from disabled persons are welcomed.

Payment of the PhD fellow will be based on salary grade 13/2 Collective Agreement for the Civil Service (TVöD). Depending on the candidate's profile and the subject of his/her PhD thesis an additional allowance may be granted.

Please send your application with the relevant documentation to:

Mr K. Beumers, Head of Administration, Institut of Chemistry and Dynamics of the Geosphere (ICG), Forschungszentrum Juelich GmbH, 52425 Juelich, Germany.

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