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## Job opening for two 2 yr post-doctoral positions in the field of exoplanet modeling

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*Interdisciplinary project on exoplanet atmosphere modeling between the Institute of Astronomy, the Centre of Plasma-Astrophysics and the Quantum Chemistry and Physical Chemistry Section at the Leuven University, Belgium*

### **The project**

At the Leuven University (Belgium), we seek candidates for two post-doctoral research positions, ready to play a key role in a new interdisciplinary project on exoplanet atmosphere modeling. The postdocs will interact closely with a team consisting of astrophysicists, computational mathematicians, and chemists, as the goal is to develop a 3D exoplanet atmosphere model where circulation dynamics, dust formation, chemistry and ultimately non-LTE radiative transfer modeling gets combined in a new state of the art computational tool. The exoplanet atmosphere models will be benchmarked against solar system planet data, and must pave the way to use the detailed spectral characterisation of exoplanets which will be possible through the future James Webb Space Telescope.

We seek one postdoc preferentially having experience with existing atmospheric flow computations (e.g. through using the public MITgcm code or through similar global modeling efforts), and having in any case sufficient experience in implementing and exploiting advanced numerical algorithms for fluid dynamics. The other postdoc should have experience in either chemical-dynamical models with the aim to include microphysical cloud modelling or in multi-D non-LTE radiative transfer.

The postdocs will interact with two PhDs obtaining improved info on the pressure-temperature dependent chemical kinetics. At the Leuven University, we have access to parallel computing facilities, to be exploited extensively in this project.

### **The position**

At the Leuven University, the postdoc will join the Institute for Astronomy (Prof. L. Decin) or the Centre for Plasma Astrophysics (Prof. R. Keppens). The interdisciplinary project is carried out in collaboration with Prof. S. Carl and Prof. M. Nguyen from the Chemistry department, all at K.U.Leuven.

As is common at the Leuven University, the postdoc shall take up a teaching assistance task of maximum 4 hours per week in the Bachelor of Physics (Dutch) or in the Master of Astronomy & Astrophysics (English).

### **Contract**

You will be employed for a fixed period of 2 years. The salary will be commensurate to the standard scale for post-doctoral researchers at the Leuven University. The preferred starting date is between 1 June 2012 and 1 September 2012, but will be adapted to the selected candidate's availability. Candidates are thus requested to indicate their preferred starting date in the application.

### **Interested?**

The successful candidate must have a PhD degree in astrophysics, mathematics, physics or chemistry. Applications must include a letter of interest, a CV with clear indication of achieved grades on all university master course topics related to this post, and must be accompanied by two recommendation letters. The latter are to be submitted separately to the address mentioned below.

**DEADLINE: 31 March 2012**

More information can be obtained by contacting Leen Decin or Rony Keppens:

Prof. L. Decin

Institute for Astronomy, K.U. Leuven

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<http://fys.kuleuven.be/ster/staff/senior-staff/leen>

See also: <http://www.fys.kuleuven.be/ster/>

Prof. R. Keppens

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See also: <http://wis.kuleuven.be/cpa/>