Postdoc Cometary Research

The planetary science department of the Max Planck Institute for Solar System Research in Göttingen/Germany intends to employ **two scientists** (post-docs, researchers) for a working group on the role of comets in the formation of the planetary system. The following research topics – in order of their priority - are identified for collaboration in the working group:

1. **The growth of cometary nuclei** in the environment of gas and dust during the era of the planetary system formation. Based upon a study of relevant physical processes numerical simulations of the growth of small bodies are performed for different environmental and/or orbital conditions and be compared with results and constraints from the population of minor bodies in the planetary system.
2. **The size and mass distribution of cometary dust and solids**, focussed on comet 67P/Churyumov-Gerasimenko. From the results of various dust and imaging instruments the size/mass distribution is reconstructed. An assessment on the impact of evolutionary effects and those from cometary activity is performed in order to identify the primordial characteristics that is related with the formation era of comets around the Sun.
3. **The Carbon-chain material in cometary nuclei**, as referenced by 67P/Churyumov-Gerasimenko. The goal is to evaluate these materials aiming for the identification of the likely organic compounds that are the parents species for the C3 and C2 gas in cometary comae.
4. **The elemental composition of cometary material**, in particular as seen in comet 67P/Churyumov-Gerasimenko (67P). Aspects of the gas and dust phase in comets are to be considered. The findings are compared with results available from other solar system bodies and are discussed in the context of the formation of the planetary system around the Sun.

Depending on qualification and knowledge, **the successful applicants will be associated with at least one of the listed research subjects.** It is expected that s/he plays an efficient leading role for the achievement and solution of the given research tasks. S/he is also expected to support and contribute to the research work of other tasks of the group.

Applicants should hold a PhD in physics with focus in planetary science and/or astrophysics. An outstanding research record as well as profound experience in research areas closely related to specific tasks described above, are expected. For efficient contributions in work tasks (2), (3) and (4) good knowledge of applicable data analysis techniques and a good understanding of related instrumentation are seen as an asset. For task (1) skills in N-body or equivalent simulations are highly advantageous.

The positions are **full-time, to be filled as soon as possible for a period of two years**. Salary will be in accordance with the German civil **service salary scale (TVöD),** pay level E13 or E14, depending on the agreed project and the candidate's profile.

MPS is an equal opportunity employer and places particular emphasis on providing career opportunities for women. Applications from disabled persons are encouraged and will be favored in the case of equally qualified applicants.

Your application includes a curriculam vitae, a short description of past research (2 pages) and a publication list. It should be sent **until 6 November 2017, 12 MEST**, by email to Hermann Böhnhardt (boehnhardt@mps.mpg.de), subject 'application research group 2017'.