
OPEN POSITION FOR A PHD-STUDENT

within the FWF project "Stewart Gough platforms with self-motions"

There is an open position for a PhD-student within the project P 24927-N25 "Stewart Gough platforms with self-motions" funded by the Austrian Science Fund FWF. The research will be conducted at the research unit "Differential Geometry and Geometric Structures" of the Institute of Discrete Mathematics and Geometry, Vienna University of Technology.

The employment contains 30 hours per week for a gross monthly salary of approx. 2 000 EUR.¹ Moreover, the PhD-student has a moderate teaching load of max. two hours/week every semester.

The project leader is looking for a talented, self-motivated individual with a master degree in geometry and/or mathematics or a related subject, preferable with a diploma thesis in the field of kinematics. The candidate should also be familiar with the software MAPLE.

Abstract of the FWF project: A Stewart Gough platform (SGP) is a parallel manipulator, consisting of a moving platform, which is connected via six spherical-prismatic-spherical legs with the base, where only the prismatic joints are active. If the geometry of the SGP and the six leg lengths are given, then the manipulator is in general rigid, but under particular conditions it can perform an n -parametric motion ($n > 0$), which is called self-motion. Moreover, all self-motions are solutions to the still unsolved problem posed by the French Academy of Science for the *Prix Vaillant* of the year 1904, which is also known as Borel Bricard problem and reads as follows: "*Determine and study all displacements of a rigid body in which distinct points of the body move on spherical paths.*" The main aim of the project is the systematic determination, investigation and classification of SGPs with self-motions.

Candidates are asked to submit their application (curriculum vitae and motivation letter) to nawratil@geometrie.tuwien.ac.at. For further requests, please contact the project leader:

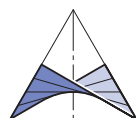
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¹For details see the personnel costs given by the FWF (www.fwf.ac.at).