

DLR is Germany's national research center for aeronautics and space as well as Germany's Space Agency. Approximately 6500 people at 13 locations work in the research areas aeronautics, space, transport, energy and security.

The **Helmholtz Research School on Security Technologies** at the German Aerospace Center (DLR) and the Technical University Berlin offers

PhD scholarship (m/f) on terahertz spectroscopy for security applications

The mission of the Research School is to contribute to civil security by excellent research and by training and education of young researchers in technology fields which are highly relevant for civil security.

Your Task: In the past years terahertz waves, also called „T-Rays“, attracted a lot of attention. With THz imaging systems it is possible to look through cloth and other materials in order to detect hidden weapons or explosives. THz radiation is expected to be not harmful for human beings because of its relatively small photon energy. However, little research has been done to prove this. It is planned to investigate the interaction of THz radiation with human skin and skin substitutes in order to determine properties such as scattering or reflection which are important for THz imaging systems. Also the interaction of THz radiation with cells will be investigated in-vitro at relevant THz frequencies. Experiments will focus on thermal effects and non-thermal, resonant effects. The capability of terahertz radiation to monitor and influence human physiology will be studied.

Your Qualification:

- study in physics, finished with high marks and a Diploma or Master degree that qualifies for starting a PhD study in Germany. Candidates who are about to earn their degree are welcome to apply.
- fluently spoken and written English is essential
- basic laboratory experience
- high motivation and dedication for scientific working
- ability to work creatively in a multidisciplinary team

Interested? More information and the details of the application procedure are available at www.dlr.de/research_school_security

Contact: Prof. H.-W. Hübers, German Aerospace Center, Institute of Planetary Research, Rutherfordstr. 2, 12489 Berlin, Germany, phone: +49 30 67055596, fax: +49 30 67055507, heinz-wilhelm.huebers@dlr.de



Deutsches Zentrum
für Luft- und Raumfahrt e.V.
in der Helmholtz-Gemeinschaft

