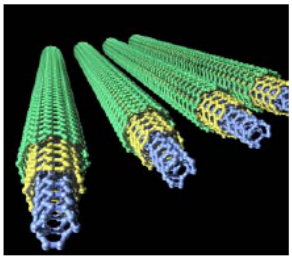
Deutsches Zentrum
DLR für Luft- und Raumfahrt e.V.
in der Helmholtz-Gemeinschaft

Internship at the Institute of Space Systems, DLR Bremen

The department System Analysis Space Segment (SARA) of the DLR Institute of Space Systems in Bremen, which was founded in 2007, is looking for an intern for continuous support of the department's team. The Institute of Space Systems analyses and reviews complex systems of astronautics from a technical, economical and socio-political viewpoint. For the upcoming ESA project "Identification and evaluation of disruptive technologies and concepts" the DLR research team is offering two internship positions.
Only new concepts, out-of-the-box thinking and radical technologies have the chance to bring up new momentum into the space sector development. In this way *Disruptive Space Technologies* (DST) might facilitate to innovate the space market (like for example former DSTs i.e. multistage rockets, solar cells, CFK materials).
Within the space sector already some DST candidates are visible, which can boost the performance of spacecraft applications and even establish new functions and mission options. Nano technology applications (i.e. Carbon nano tubes) are a good example for DST candidates. Also the wide range of Micro-Electro-Mechanical-Systems (MEMS, MOMS) is providing a breeding ground for new and disruptive space applications. 'Harness'-free satellites are thinkable, using wireless technologies as well as high data rate long-range laser communication for exploration missions are only some examples for DST candidates. During the project different DST candidates will be identified and evaluated.

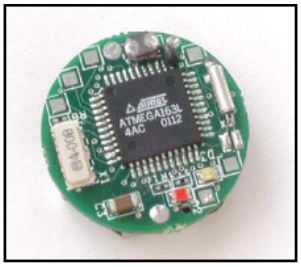
Disruptive Technologies

Start: 1st October 2010; Duration: at least 4 months



Carbon Nanotubes for Advanced Structures

Pico Sats & Swarm Concepts



Wireless Sensors & RFID for satellites & launchers

Range of activities:

- Literature research and understanding of terminology definition of technology and concept, and how different disruptive technologies can be classified
- Analysis of space sector infrastructure
- Analysis of R&D key players and Think Tanks within the space sector
- Analysis of space technology development procedures (TRL)
- Review of standard and state-of-the-art space technologies
- Survey on ongoing (and near-term future) developments of concepts and technologies within R&D key players as well as outside the space sector
- Search for Disruptive Space Concepts (DSC) on technical level
- Insight into the work of the DLR Institute of Space Systems and active participation in a young and highly motivated team of the system analysis department.

General Requirements for the Student:

- Undergraduate and postgraduate studies in e.g. engineering, aerospace, business sciences, physics
- Good skills in MS Office (Excel, PowerPoint, Word),
- Self-contained working and literature research on complex topics
- Very good English skills, oral and written
- Very good skills in team work and communication as well as the capability to pursue scientific work independently and result-oriented

Furthermore, the possibility exists to perform a Bachelor- or Master thesis after accomplishment of the internship.

Please send applications with curriculum vitae to the contact below. IMPORTANT: refer to position **SARA-006** in your application!

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