

Tasks

The Institute for Applied Photogrammetry and Geoinformatics is part of the division geoinformation of the Department of Civil Engineering and Geoinformation. It deals with application-oriented education, research and development within the areas of competence photogrammetry, geoinformation and cartography. The institute constitutes on successful accomplished projects and long time contacts to cooperating universities, public authorities and companies.

Beside educational tasks the Institute concentrates on funded project work and the processing of practical projects. These projects are often done in collaboration with external partners. In these activities students are usually integrated, e.g. within their final thesis works. In the range of the research areas the Institute participates in different research networks and organises internationally accepted scientific meetings. The results of the projects and research activities directly support the education.

The Institute is member of:

- GiN: Association for the encouragement of Geoinformatics in Northern Germany (e.V.)
- Research network: "Image based sensor technology"
- ISPRS Commission V, Working Group 1, Industrial vision metrology systems and applications
- Association of Geographic Information Laboratories for Europe (AGILE)
- EVIGeM (The European Virtual Institute of Geometric and Dimensional Metrology)
- FIG (Fédération Internationale des Géomètres)
- DGPF (German Society for Photogrammetry, Remote-Sensing and Geoinformation)



Contact

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Location



Fachhochschule - University of Applied Sciences



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and Geoinformatics

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Civil Engineering and Geoinformation
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in Oldenburg



Photogrammetry

The division of photogrammetry provides application-oriented education and is very active in the achievement of research projects in collaboration with external partners.

Research areas

- German guideline for optical metrology
- Camera modelling and calibration
- Accuracy analyses
- High-speed applications
- Dynamic optical 3D measurement techniques

Aerial photogrammetry

- Bundle adjustment
- Analysis of 3D objects
buildings and monuments, DTM-generation,
data acquisition for planning purposes and GIS

Architectural photogrammetry

- 2D analysis
Image maps, facade maps, panoramas
- 3D analysis
Reconstructions for monument preservation, planning
aims, visualisation, panorama photogrammetry

Industrial photogrammetry

- Deformation measurements
of buildings, industrial plants, machines

Technology transfer

- Establishment of research contacts
- Collaboration projects

Cartography

The laboratory for cartography serves for the practical education of students in the field of cartography, photogrammetry and reproduction techniques. It offers service for the divisions photogrammetry and geoinformatics and supports practical education and research projects of the Institute.

The equipment consists of software and devices for recording acquisition, processing and presentation of maps and images. It enables the processing of versatile cartographic activities to reproductions in low charges.

The lab cooperates with numerous publishers, companies and institutions and thus provides a practical relationship to education, research and development.

Research areas

- Sensor, camera and reproduction techniques
- Development of cartographic software
- Conception and performance of maps and map-based Information systems
- Applied development for spatial web services and web-mapping applications

Applications and services

- Acquisition, processing and presentation of maps and images
- Photographic and cartographic services
- Reproductions
- Infrared reflectography

Geoinformatics

The division of geoinformatics serves for the practical education for students with focus on the development and application of Geographical Information Systems. The education contains the modeling of geospatial information and the design of databases for various applications as well as computer graphics. The equipment covers comprehensive modern hardware and software for the acquisition, management, analyses and presentation of geospatial data.

Research areas

- Development of GIS applications
- Network information systems
- Vectorization / pattern recognition
- Spatial database systems
- Geospatial data, internet and standards
- Geomarketing
- Mobile (geographical) information systems
- Location-based services

GIS applications

- Land area information systems
- Digital terrain models
- Traffic telematics
- Digital city guides
- Disaster management
- Flood risk management

