

## Internship – Basic Data

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- Provisional start date: Any
- Length of placement: From minimum 16 weeks up to 12 months
- Application method preferred: Email with CV and covering letter
- Salary per month: 511 €

## Internship Description

<b>Placement Job Title:</b>	Internship Renewable Energy Research
<b>Organisation:</b>	Ingolstadt University of Applied Sciences, Germany
<b>Department:</b>	Centre of Excellence for Renewable Energy Research

### **Our main business activity is:**

The CENTRE OF EXCELLENCE FOR RENEWABLE ENERGY RESEARCH at Ingolstadt University of Applied Sciences is a platform for applied research in the field of all renewable energy sources. In co-operation with renewable energy technology companies, applied research is currently carried out in the following fields of technology:

- Heating and Cooling System Technology (solar climatisation, solar process heat, renewable district heating,...)
- Solar Thermal Collectors (flat plate collector optimisation, in-situ-collector testing, absorber development,...)
- Innovative Building Technologies (optimal building control, CHP systems, heat pumps,...)
- Bioenergy (biogas upgrading technology, technical and economic optimisation of biogas plants, biogas grids,...)

Next to adequate engineering software equipment, for the experimental support of the research work several laboratory facilities for component and system testing are available, such as a thermal system test stand, a solar simulator and a combined heat and power generation installation.

### **Main duties and responsibilities**

Students will get the opportunity to actively take part in some of our research projects within the field of renewable energy technology and thus experience how applied research is carried out in cooperation with renewable energy technology companies.

The internship will include:

- Simulation work using specific simulation software,
- Laboratory work on the institute's indoor and outdoor test stands including data processing and evaluation,
- Experimental work on the institute's field test objects including data processing and evaluation,
- Literature research, evaluation and preparation of technical documentation.

Critical discussions of research methods and results with our Master and PhD students form an important part of the offered research oriented internship.

**Personal attributes, experience, knowledge and skills required:**

Essential	Desirable
<ul style="list-style-type: none"> <li>• Dependability and responsibility</li> <li>• Interest in renewable energy technology</li> <li>• Advanced office software skills</li> <li>• Basic engineering knowledge in:               <ul style="list-style-type: none"> <li>○ Mechanics</li> <li>○ Thermodynamics</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Possessing a positive attitude / take initiative</li> <li>• Basic programming and Matlab skills</li> </ul>

**Course related experience that the post holder can expect to gain during the period of the placement:**

<ul style="list-style-type: none"> <li>• Understand how renewable energy can be harnessed in buildings as well as local energy generation scenarios</li> <li>• Be able to undertake the simulation and modelling tasks that are essential for credible building performance design and analysis</li> <li>• Be able to work creatively within a multi-national design team</li> </ul>
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**Computer hardware/software used:**

<p><b>Simulation software:</b></p> <ul style="list-style-type: none"> <li>• Matlab/Simulink in combination with the CARNOT toolbox</li> <li>• SIMBA</li> <li>• ANSYS</li> <li>• StarCCM+</li> <li>• INSEL</li> </ul> <p><b>CAD software:</b></p> <ul style="list-style-type: none"> <li>• CATIA</li> </ul>	<p><b>Office software:</b></p> <ul style="list-style-type: none"> <li>• Microsoft Word, Excel, PowerPoint</li> <li>• Microsoft Project, Visio</li> <li>• OpenOffice</li> </ul>
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