

Location	Institute/Department	Placement No.	Placement available in one/several of the following areas /on one/several of the following topics:	Knowledge of German Required
Hannover	Laser Zentrum e.V.	LUHH/08/01	Constructive dimensioning of a powder conveyor for laser build-up welding.	No
Hannover	Institute of Materials Science	LUHH/08/02	1. Non-destructive testing, 2. Non-destructive determination of material properties	Basic knowledge in German would be fine
Hannover	Institute of Materials Science	LUHH/08/03	Investigation of deformation mechanism using TEM	No
Hannover	Institute of Materials Science	LUHH/08/04	1. Thermal Spraying of Corrosion and Wear Resistant Coatings, 2. Physical Vapour Deposition (PVD) of Wear Resistant Multilayer-Coatings, 3. Vacuum Brazing of Ceramic-Metal-Joints	No
Hannover	Institute of Materials Science	LUHH/08/05	Thermal treatment of extruded magnesium alloys	No
Hannover	Institute of Metal Forming and Metal-Forming Machines	LUHH/08/06	1.Influence of Tool Material or Coating for Reducing Damage of Coating Caused by Clinching	No
Hannover	Institute of Metal Forming and Metal-Forming Machines	LUHH/08/07	2.Investigations on TRIP-Effect - Consideration of Martensite Evolution in Metastable Austenitic Steels	No
Hannover	Institute of Metal Forming and Metal-Forming Machines	LUHH/08/08	3.Joining of Magnesium with other Sheet Metal Materials Using Ceramic Rivets – Strength and Corrosion Behaviour	No
Hannover	Laser Zentrum Hannover e.V.	LUHH/08/09	1. Hierarchical nanostructures: Biomaterials from laser ablation of ceramics in a titanium precursor	No
Hannover	Laser Zentrum Hannover e.V.	LUHH/08/10	2. Bioactive Nanocomposites: Laser generated bioactive nanomaterials: laser ablation in monomer solution.	No
Clausthal	Mechanical Engineering	CUT/08/01	Mechanical engineering, design and calculation, numerical simulation, multi body simulation, testing of automotive and wind turbine drive line components, measurement and simulation of solid borne sound and vibrations	No
Clausthal	Mechanical Engineering	CUT/08/02	Mechanical engineering, design and calculation, numerical simulation, multi body simulation, testing of automotive and wind turbine drive line components, measurement and simulation of solid borne sound and vibrations	No

Location	Institute/Department	Placement No.	Placement available in one/several of the following areas /on one/several of the following topics:	Knowledge of German Required
Clausthal	Welding and Machining	CUT/08/03	1.) modelling and simulation of fluid dynamics / magnetohydrodynamics in welding torches (computational work) 2.) modelling and simulation of fluid dynamics in low temperature fuel cells (PEM) (computational work) 3.) design of components for test rigs of high temperature fuel cells (SOFC) (CAD work) 4.) soldering tests on high strength steel sheets (experimental work) 5.) high frequency welding on high strength steel sheets, investigation of the quality of the joints (experimental work)	No
Clausthal	Welding and Machining	CUT/08/04	1.) modelling and simulation of fluid dynamics / magnetohydrodynamics in welding torches (computational work) 2.) modelling and simulation of fluid dynamics in low temperature fuel cells (PEM) (computational work) 3.) design of components for test rigs of high temperature fuel cells (SOFC) (CAD work) 4.) soldering tests on high strength steel sheets (experimental work) 5.) high frequency welding on high strength steel sheets, investigation of the quality of the joints (experimental work)	No
Clausthal	Welding and Machining	CUT/08/05	1.) modelling and simulation of fluid dynamics / magnetohydrodynamics in welding torches (computational work) 2.) modelling and simulation of fluid dynamics in low temperature fuel cells (PEM) (computational work) 3.) design of components for test rigs of high temperature fuel cells (SOFC) (CAD work) 4.) soldering tests on high strength steel sheets (experimental work) 5.) high frequency welding on high strength steel sheets, investigation of the quality of the joints (experimental work)	No
Clausthal	Energy Process Engineering and Fuel Technology	CUT/08/06	Fuel characterization (experimental work): investigations on primary and secondary fuels concerning grindability, chemical analysis, ignition, gasification, burnout, slagging, emissions etc.	No
Clausthal	Energy Process Engineering and Fuel Technology	CUT/08/07	Mathematical Modeling (computational work): Modeling and Computational Fluid Dynamics concerning burner and furnace design, combustion of primary and secondary fuels etc.	No

Location	Institute/Department	Placement No.	Placement available in one/several of the following areas /on one/several of the following topics:	Knowledge of German Required
Clausthal	Metallurgy	CUT/08/08	<p>Production processes of non ferrous metal bars, their analysis and subsequent processing for semifinished sheet applications: Different casting and deformation techniques, depending upon requirements will be exercised:</p> <ul style="list-style-type: none"> <li>- sand mould</li> <li>- permanent mould</li> <li>- lost foam</li> <li>- hot and cold rolling</li> <li>- deep drawing. Some tasks will be performed in actual industrial and</li> </ul>	No
Clausthal	Metallurgy	CUT/08/09	<p>Production processes of non ferrous metal bars, their analysis and subsequent processing for semifinished sheet applications: The parts will be thoroughly investigated for their metallurgical and mechanical properties and an assessment for different applications e.g. deep drawing will be conducted.</p> <ul style="list-style-type: none"> <li>- corrosion</li> <li>- coating</li> <li>- spectrometric analysis</li> <li>- scanning electron and common microscope investigations</li> <li>- dilatometric analysis</li> <li>- tensile test etc.</li> </ul> <p>Some tasks will be performed in actual industrial and fundamental research</p>	No
Clausthal	Environmental and Energy Engineering	CUT/08/10	<ul style="list-style-type: none"> <li>- sewage sludge treatment</li> <li>- air purification processes</li> <li>- biological processes</li> <li>- thermal waste treatment</li> <li>- chemical / biological laboratories</li> <li>- energy processes</li> </ul>	No
Clausthal	Environmental and Energy Engineering	CUT/08/11	<ul style="list-style-type: none"> <li>- sewage sludge treatment</li> <li>- air purification processes</li> <li>- biological processes</li> <li>- thermal waste treatment</li> <li>- chemical / biological laboratories</li> <li>- energy processes</li> </ul>	No

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Clausthal	Polymer Materials and Plastics Engineering	CUT/08/12	<p>Fibre-reinforced plastics:  Aspects of compression in textiles used in RTM technology;  Theoretical/ practical investigation of air bubble formation during LCM processes; Feasibility study of a new design concept for fibre reinforced plastics;  Programmed Speed of the Flow front in a vacuum assisted process (VIP);  Reproducibility of vacuum infusion process (VIP); Processing Parameters in RTM-Technique; Enhancing Flow in Vacuum Infusion Processes; Construction of a novel desalination apparatus; Heat conductivity in fibre reinforced plastics;  Shrinkage of filament winding of thick structures; Non-destructive testing with defined failure structure</p>	No
Clausthal	Polymer Materials and Plastics Engineering	CUT/08/13	<p>Flow processes:  The effects of processing parameter on mechanical properties of weld line in micro injection molding for PP, HDPE and PMMA; Investigation on material morphology in weld line area of micro injection molding; Effects of the section shape of micro channels on weld line strength in micro injection molding;  Visualization study on fluid behavior during the weld line forming process in micro scale; Effects of coating layer of micro parts on the weld line strength in micro injection molding; Investigation of Magnetic and Electrical Properties of</p>	No
Clausthal	Polymer Materials and Plastics Engineering	CUT/08/14	<p>Natural resources/Polymer Materials:  Thiophene-based polymers in cellulose-matrix composites -Natural fiber reinforced polymer materials as processing auxiliaries;  Chemical Modification of Natural Fibres to improve the Fibre-Matrix-Adhesion in Polymer Composites;  Optimization of Plastics Processing with Natural Fibres;  Flame Retardation for Natural Fibre-Polymer-Composites;  Design Guidelines for Injection Molding of Natural Fiber Reinforced Plastics;  Investigation of the dissolving- and separation-behaviour of thermoplastics and epoxy resin;  New high-performance polymers on base of natural raw materials;  Synthesis of artificial shell for natural fibres via chemical modification;  Chemical modification of epoxy resins focussed on reaction kinetics and mechanical properties;  Effect of functionalized nanoparticles in epoxy resins (mechanical/thermal</p>	No

Location	Institute/Department	Placement No.	Placement available in one/several of the following areas /on one/several of the following topics:	Knowledge of German Required
Clausthal	Electrical Power Engineering	CUT/08/15	Decentralized (Regenerative) Electrical Power Generation: Optimization of schedule plans; Forecasts of regenerative generation and loads; Electrical grid simulation and state estimation. Storage Systems and Grid Stabilisation: Virtual synchronous machine (enhancing power quality); comparison of different storage systems (battery, capacitor, rotating mass, (hot)compressed air etc.) ; Methods of enhancing life times of battery systems; Mechatronics; Control Systems for Electrical Drives: Increase of performance, availability and lifetime of drive systems by active oscillation damping; steering by wire (test stand).	No
Clausthal	Electrical Power Engineering	CUT/08/16	Decentralized (Regenerative) Electrical Power Generation: Optimization of schedule plans; Forecasts of regenerative generation and loads; Electrical grid simulation and state estimation. Storage Systems and Grid Stabilisation: Virtual synchronous machine (enhancing power quality); comparison of different storage systems (battery, capacitor, rotating mass, (hot)compressed air etc.) ; Methods of enhancing life times of battery systems; Mechatronics; Control Systems for Electrical Drives: Increase of performance, availability and lifetime of drive systems by active oscillation damping; steering by wire (test stand).	No
Clausthal	Material Science and Engineering	CUT/08/17	Internal Friction, anelasticity and magnetic properties of engineering materials and other techniques for material characterization.	No
Hannover	Institute of Multiphase Processes	LUHH/08/11	study of shear-stress on endothelial cells in a perfusion-shear-reactor	No
Hannover	Institute of Multiphase Processes	LUHH/08/12	Cryoconservation of cells	No
Hannover	Institute of Multiphase Processes	LUHH/08/13	studies on freezing induced cell damage	No
Hannover	Institute of Multiphase Processes	LUHH/08/14	studies on freezing of cells	No
Hannover	Institute of Multiphase Processes	LUHH/08/15	hemoreological studies of bloodcells under extreme conditions	No
Hannover	Institute of Multiphase Processes	LUHH/08/16	electrospinning of different polymers	No
Hannover	Institute of Multiphase Processes	LUHH/08/17	tissue engineering using electrospinning techniques	No

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Hannover	Institute of Multiphase Processes	LUHH/08/18	materials properties of polymeric materials for tissue engineering	No
Hannover	Institute of Multiphase Processes	LUHH/08/19	Bone scaffold generation using freeze drying techniques	No
Hannover	Institute of Multiphase Processes	LUHH/08/20	Study of calcification on artificial heart valves	No
Hannover	Institute of Multiphase Processes	LUHH/08/21	practical work on a newly developed bioreactor to generate bone tissue	No