**INTERNSHIP POSITION**

|  |  |
| --- | --- |
| **Topic**  | **Improving the performance properties of geopolymer composite materials** |
| **Specification/****Programme**(min. 100 words) | The course focuses on working with geopolymer composites, from sample preparation to testing a comprehensive range of properties. The composition of the geopolymer composite (proportion of matrix and reinforcement) depends on the technical use. The type and shape, the amount, the orientation of the reinforcement (natural or synthetic fibers, textiles), and the appropriate filler can influence the resulting properties. During the internship, students will prepare composite material samples. Depending on the type of geopolymer composite, they can test the mechanical properties (flexural, pressure, impact), thermal properties, abrasion or corrosion resistance, and they can observe the morphology and structure using image analysis methods.The research is focused on developing building materials that increase fire prevention, protection, and safety while limiting the spread of fire. By using effective surface treatment technology for metal and wooden structures and geopolymer-based materials, it is possible to extend people's evacuation time in the event of a fire. |
| **Time period** |  |
| **Length of the traineeship - number of months** | 2 x 1 month |
| **Supervisor´s name and contact**  | Ing. Martina Ryvolová, Ph.D.(Doctoral students: Ing. Magdalena Mrózek)Technical University of LiberecFaculty of Mechanical Engineering, Department of Material ScienceStudentská 1402/2, 46117 Liberecmartina.ryvolova@tul.cz |
| **Administrative Contact** | Marcela Valkova, marcela.valkova@tul.cz  |
| **Documents required** | CV, Letter of motivation, Transcript of Records |