



FibreNet ( [www.fibrenet.eu](http://www.fibrenet.eu) ) is a Marie Skłodowska-Curie European Training Network (ETN). It forms a project that combines the research in 8 institutions across Europe. FibreNet is hiring altogether 15 future professionals for a period of three years to work on different cellulose-fibre related topics. This is a unique opportunity to build an extensive professional network and to work with both, industry and academic world, while being trained as a researcher and PhD in bio-based fibres technology.

## PhD student (f/m)

at Graz University of Technology (Austria)

3 years, starting summer 2018

**Position description:** Molecular interaction forces like van der Waals forces or hydrogen bonding are creating the adhesion between cellulosic fibers e.g. in paper. These forces only develop if the distance between the fiber surfaces becomes smaller than 10 Angstrom. This contact area on molecular scale thus is a key factor for adhesion between cellulosic surfaces. In this research work we are developing a method to quantify the degree of molecular contact between cellulosic surfaces using FRET microscopy. Employing cellulose thin films as model surfaces we are investigating chemistry, swelling state and surface topography on the nano scale and the resulting effects on molecular contact area and adhesion.

**Required qualification:** We are looking for candidates with a Master's degree in physics, chemistry, materials science or chemical engineering. Knowledge in the field of cellulosic materials and their technology is an advantage.

**Application and terms of employment:** For details on salary, EU-prerequisites for the open position and documents required for application please see <http://fibrenet.eu/list-of-positions/irp13/> . Apply **until March 11<sup>th</sup> 2018** to [ulrich.hirn@tugraz.at](mailto:ulrich.hirn@tugraz.at) or [robert.schennach@tugraz.at](mailto:robert.schennach@tugraz.at) .



Graz University of Technology