Prof. Fink leads the BioNanomaterials group, is motivated by a fascination for how does the assembly of materials on the 10 nm to 1 μm length scale determine its function? This question motivates most of the primary research focus of the Polymer Chemistry and Materials group, led by Prof. Christoph Weder is the design, synthesis, and investigation of structureproperty relationships of novel functional polymers. Many projects are inspired by Nature’s materials, and/or utilize bio-based building blocks, such as cellulose nanocrystals. Interests and activities are interdisciplinary and range from the synthesis of new monomers and polymers, to advanced polymer processing, to the in-depth investigation and technological exploitation of materials with unusual but desirable properties.

For more information: http://ami.swiss/research/macromolecular-chemistry

Soft Matter Physics

How does the assembly of materials on the 10 nm to 1 μm length scale determine its function? This question motivates most of the projects of the soft-matter physics group. Currently the two main
topics encompass energy and optical materials. In the energy materials field, we investigate structure-function interplay in organic and perovskite based solar cells and in lithium-ion batteries. Optical materials include plasmonic metals that are structure with the help of polymer self-assembly and bioinspired photonic bandgap materials. The latter is part of the strong focus on bioinspiration focus of the soft matter physics group that also includes surface properties of (nano-) structured materials such as wetting and adhesion, and mechanical properties (e.g. nacre).

For more information: [http://ami.swiss/research/soft-matter-physics](http://ami.swiss/research/soft-matter-physics)

Interdisciplinary collaborations between our researchers are the basis for the successful and efficient execution of complex research projects that transcend the boundaries of traditional scientific disciplines.

Open PhD positions will be advertised on the AMI web-page. Unsolicited applications that are not targeting an advertised position will not necessarily receive a response.

**Organisation des études**

**Structure of studies**

No ECTS credits can be earned.

**Doctoral school**

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**Admission**

In order to be admitted to a doctorate the candidate must have been awarded an academic Bachelor's and Master's degree or an equivalent qualification by a university recognised by the University of Fribourg.

Before applying for a doctorate the candidate should contact a professor who would be willing to supervise the thesis work.

There is no general right to be admitted to a doctorate.

The respective conditions of admission for each doctoral study programme are reserved.

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