Collaborations
_ How we work with our partners

2–3

DIRECT INDUSTRY

COLLABORATIONS / YEAR

2–3

INNOSUISSE

PROJECTS / YEAR

10

PATENT FAMILIES

30-40

CONTRACTS

/ YEAR (NDAs, MTAs, RESEARCH, LICENSE, SERVICE)

FACILITIES:

THE UNIQUE EXPERIMENTAL INFRASTRUCTURE AT THE ADOLPHE MERKLE INSTITUTE, INCLUDING ELECTRON MICROSCOPY, LIGHT SCATTERING, OPTICAL MICROSCOPY, SPECTROSCOPY, AND OTHER TECHNIQUES CAN BE APPLIED IN THE FOLLOWING AREAS:

Dynamic and structural properties of nanomaterials / Thermal and mechanical characterization of soft materials / Nanoparticle synthesis and characterization / Surface and interface analysis / Interaction of nanoparticles with cells.

Contact us
_ Let's work together on your project

adolphe merkle institute
excellence in pure and applied nanoscience

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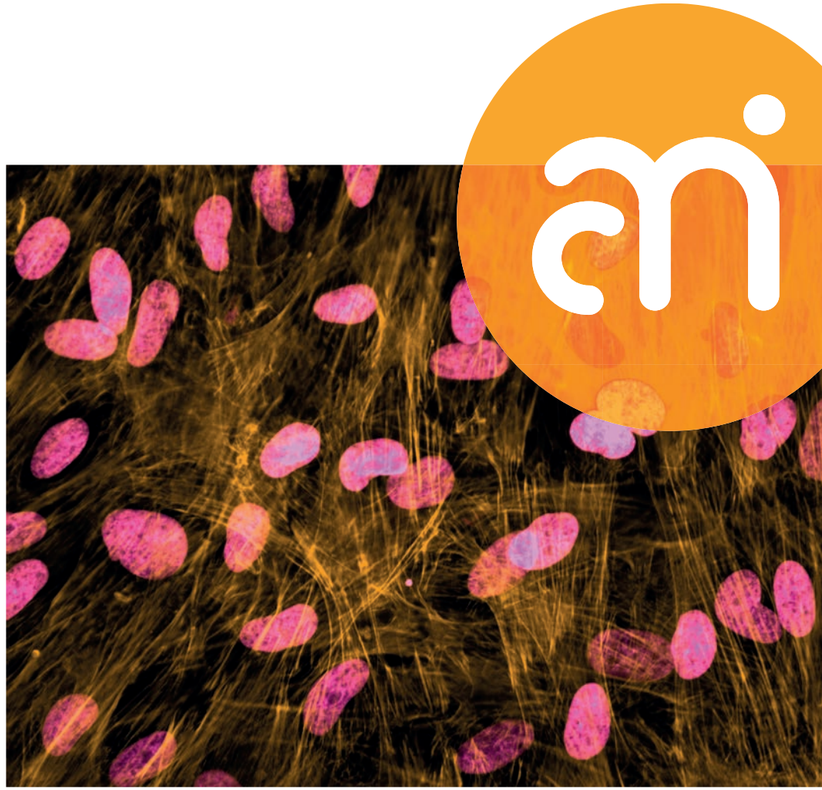
Innovation
_ Promoting new technologies



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Technology transfer

_ Converting research into new applications

Bridging the gap between fundamental and applied research is part of AMI's DNA.

The valorization of research results is one of the Adolphe Merkle Institute's key missions. We want to put our discoveries to practical use by actively promoting technology transfer and a culture of open innovation with our partners. AMI's research strategy is based on the philosophy of exploiting synergies that arise through the dual role of "early-stage research", which allows scientists to advance fundamental science and generate results that are of value to industrial partners.

AMI's four reasearch groups – **BioNanomaterials** (Fink/Rothen), **BioPhysics** (Mayer), **Polymer Chemistry & Materials** (Weder), and **Soft Matter Physics** – all contribute to the development of novel materials-based innovations by collaborating with implementation partners along the value chain. The professional support offered by AMI's technology transfer office guarantees a clear and efficient execution of collaboration schemes. The Institute is aligned with the best practices of professional technology transfer between academia and industry.

The application of AMI's research, or the sharing of its knowledge for application projects, takes multiple forms. Our industry partnerships include companies such as Covestro, Sonova, Pirelli, Oxford Nanopore, and and start-ups such as NanoCleanAir, and SimpliNext.

Potential applications of AMI research: Adhesives / Automotive parts / Biomedical implants / Dental materials / Drug development & testing / Magnetic resonance imaging / Flavor and fragrances / Mechanical stress sensors / Product security /Packaging materials / Rapid prototyping / Solar cells

Startup culture

_ Creating new business opportunities

The most visible marker of research applications at AMI is the creation of new business opportunities.

NanoLockin is AMI's first startup. Since its launch in 2018, it has further improved a device based on the concept of lock-in thermography and developed by the AMI BioNanomaterials group in collaboration with the Zurich University of Applied Sciences. NanoLockin's technology allows users to detect metallic nanoparticles, carbon-based materials, and selected metal-oxides.

Swiss NanoAnalytics (SNA) is a platform developed by the BioNanomaterials group of Professors Alke Fink and Barbara Rothen-Rutishauser. SNA offers high quality services for the analysis of nanomaterials. These include the characterization of the physicochemical properties of nanomaterials, isolation and analysis of the occurrence of nanomaterials in food products and cosmetics, testing the stability and size of nanomedicines in biological fluids, and testing material composites used in electronics or construction materials.

Another AMI project moving towards a practical application is the **nanofertilizer** project led by Dr. Fabienne Schwab (BioNanomaterials). This activity stems from the discovery that specific silica nanoparticles can act as a highly efficient treatment against some plant pathogens. This has led to a patented nanoparticle technology for the targeted delivery of active ingredients and to stimulate plant resistance. Field trials and upscaling of nanoparticle production are now underway.