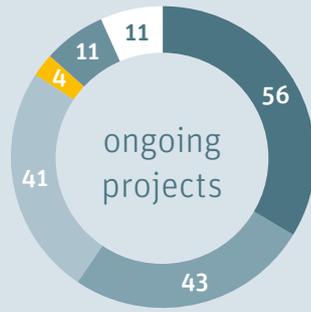




Research and Development in Partnership with Industry

166

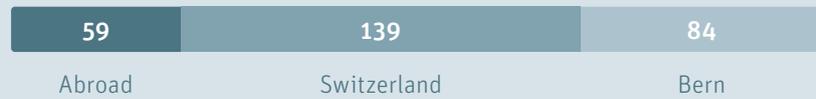


- Innosuisse
- R+D mandates industry
- R+D mandates federal agencies
- BFH
- EU
- SNF

45

newly acquired projects

282

 industry partners

13,4 million

CHF generated by third-party revenues

15

presentations at international conferences

51

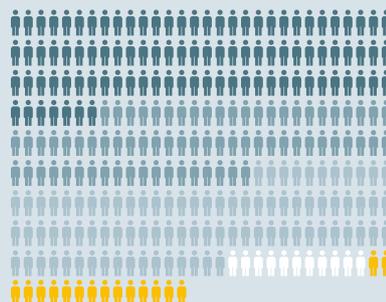
publications
Peer-reviewed papers, journals, book publications

2

 patents

284

staff



- Lecturers
- Research associates
- Assistants
- Technical and administrative staff
- PhD students

Research creates knowledge

As a university of applied sciences, we provide science-based, neutral support to companies on the path from an idea to an innovative product or process. The innovations developed benefit not only our industry partners, but also society. We want to find relevant, effective and useful answers to the questions and challenges currently facing society.

Fourfold mandate: in addition to teaching, our mandate also includes continuing education, research and development and the provision of services. In the School of Engineering and Computer Science, we pursue this mandate in a networked, practical manner through eight bachelor's and three master's degree programmes, various continuing education programmes and at nine research institutes. The lively transfer of knowledge and technology with industry is crucial in this respect.

Our activities focus on digital transformation with a view to people at the centre of change, coupled with development towards a more sustainable future. In our endeavours, we pay special attention to a society based on solidarity and health. In the School of Engineering and Computer Science, we focus on the following main topics:

- Health technologies
- Energy supply
- Smart industry
- IT security
- Data engineering and data science

Possible forms of collaboration

We provide research services for companies, organisations and public institutions. The options for collaboration are manifold. Some companies and organisations, for example, work with BFH to develop solutions and methods for various issues they face. This gives the companies access to an excellent research infrastructure that ensures the development of key technologies for the future, combined with sound expertise in the subject matter and strong research capabilities. The use of highly diversified research and business networks benefits everyone involved.

Direct and uncomplicated technology transfer

We organise events and activities specifically to promote the exchange between industry and the university. Initial contacts can take place in different ways. There are many different platforms on which partnerships can be established quickly and without difficulty, such as at interesting discussion events, seminars, practical workshops or trade fairs, or at physical, hybrid or digital conferences or meetings.

For current events, please visit bfh.ch/ti/events.

“Contact us or meet our experts in person at any number of events. Your company is sure to benefit from a collaboration.”

Peter Brunner, Head of Research and Development, BFH, Engineering and Computer Science

Applied research and development in practice

- 4 Equipped with the latest knowledge and practical experience, we are able to offer you application-oriented solutions. The following are eight sample projects.



Second life for car batteries

Electric vehicles are key to making mobility more environmentally friendly. The lithium-ion battery offers great potential for further improvement of the ecological balance over the entire life cycle. The CircuBAT research project aims to close the loop between the production, use and recycling of batteries. Seven research institutions and 24 companies are therefore jointly searching for optimisation opportunities for more sustainability across all stages of the battery's life.

Energy Storage Research Centre,
funded by the Innosuisse Flagship Initiative.
circubat.ch



Smart medical devices

Outpatient readings and minimally invasive procedures have become the standard of care in the treatment of a wide range of illnesses. Increasing use is being made of smart instruments, catheters and implants that offer multiple functions simultaneously. For ophthalmology, research is being conducted on selective retinal therapy and an OCT-based real-time laser dosage is being developed. The goal is individually improved therapy while at the same time allowing for cost-efficient production.

Institute for Human Centered Engineering HuCE,
in collaboration with Meridian Ltd, funded by Innosuisse.
bfh.ch/srt



Hardware Protected Confirmation

Financial institutions and others are striving to leverage the rich capabilities of smart phones for their services. The project investigates the use of the "Trusted Execution Environment" for safety-critical mobile applications. It is intended to pave the way for the provision of a market-ready, generally available interface that will allow "Hardware Protected Confirmation" to be used on a large scale, preferably as a generally available API (Application Programming Interface).

Institute for Cybersecurity and Engineering ICE, in collaboration with UBS Business Solutions AG, AdNovum Informatik AG, Google LLC and Swiss Association for SWIFT & Financial Standards (SASFS), sponsored by Innosuisse and UBS Next.
bfh.ch/hardware-protected-confirmation



Talking images

In the health sector, comprehensible communication is central to safe, high-quality and equal health care for all patients – regardless of their origin. As part of this project, researchers from three BFH schools developed an image-based digital communication tool to ensure language-independent communication between foreign-language patients and nursing staff in emergency anamnesis.

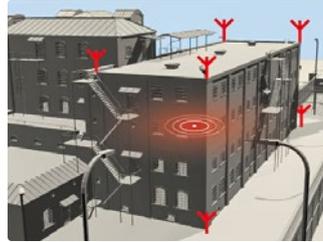
Institute for Medical Informatics I4MI, in collaboration with Bern Academy of the Arts and the School of Health Professions, funded by the Bangarter-Rhyner Foundation.
bfh.ch/sprechende-bilder



ACROBA: cognitive robotic platforms for agile manufacturing

The EU Horizon 2020 research project, coordinated by BFH, aims to develop and demonstrate a novel modular concept for cognitive robotic platforms that can be effortlessly adapted to virtually any industrial scenario in the field of agile manufacturing.

Institute for Intelligent Industrial Systems I3S, in collaboration with a consortium of 17 partners from nine EU countries, funded by the European Union. bfh.ch/acroba



Mobile phone localisation in prisons

Mobile phones are a major security issue in prisons. Their illegal use in such environments has not yet been stopped satisfactorily. The system that researchers developed allows an entire building to be monitored around the clock and is able to locate mobile devices down to the level of an individual cell.

Institute for Optimisation and Data Analysis IODA, in collaboration with JVA Thorberg, Tyco and Comlab AG, funded by Innosuisse and the Inventus Bern Foundation. bfh.ch/handyortung



Long-term performance of PV connectors

Commissioned by Stäubli Electrical Connectors Inc., the global brand leader in PV connectors, researchers from the Laboratory for Photovoltaic Systems are investigating the performance of PV connectors over time as they age. Stäubli Electrical Connectors Inc. hopes that the results will provide further input for improving its product quality. In addition, the PV industry is expected to gain a better understanding of the ageing of a critical component of PV systems.

Institute for Energy and Mobility Research IEM, in collaboration with Stäubli Electrical Connectors Inc. bfh.ch/pvstecker



Psychological safety in teams

Sharing ideas and new insights, tracking down and exposing mistakes, and asking uncomfortable questions – these are all team behaviours that are useful for learning something new and generating innovation. Teams in which this is possible have a high degree of psychological safety. Researchers have developed a training programme that promotes and develops psychological safety. Over 40 teams participated in the study, including teams from SBB and Swisscom.

Institute for Data Applications and Security IDAS, in collaboration with ZHAW, Institute for Innovation and Entrepreneurship, funded by Innosuisse. bfh.ch/psychologische-sicherheit-in-teams

Startup Campus BFH-TI

- 6 A key objective of our educational and research mandate is to get people thinking and acting like entrepreneurs. We motivate and empower students, alumni and staff to translate technical innovations into competitive business models.

Startup Desk Entrepreneurship: Yacine Bouazdia, phone +41 32 321 61 76, yacine.bouazdia@bfh.ch
bfh.ch/ti/entrepreneurship



Threatray

Threatray's malware intelligence platform provides corporate and government security teams with deep insight into attempted and ongoing malware attacks to effectively defend against and respond appropriately to cyberattacks. The platform is data driven and allows users to easily collect threat data from their infrastructure and to analyse it in combination with advanced analytics.

Contact: Endre Bangerter, endre@threatray.com
threatray.com



Auto-Mate Robotics

Auto-Mate Robotics aims to develop an adaptable and collaborative robotic system. This system is to be used in companies that manufacture products in small quantities and in many different versions. A robotic system that is easy to program has the potential to reduce production costs while simultaneously expanding employees' skills and areas of responsibility. Auto-Mate Robotics is funded by the Gebert Rűf Foundation as part of the "First Ventures" programme.

Funded by Gebert-Rűf
Contact: Lucas Renfer, info@auto-mate-robotics.ch
auto-mate-robotics.ch



PRIOT

PRIOT provides integrated solutions for the Internet of Things (IoT). These solutions range from the provision of sensors and the selection and operation of appropriate transmission technology through to the evaluation and visualisation of data. The portfolio includes filter monitor, a solution for smart management of air filters; roof monitor, a solution for monitoring the leak tightness of flat roofs; and energy monitor, a solution for the remote reading of energy meters.

Contact: Thomas Baumgartner, info@priot.ch
priot.ch



E-Climber

The E-Climber is an e-bike for climbing. It is a device that actively protects and assists the climber. An intelligent algorithm controls the built-in motor so that the support provided lies always in the optimal range. This makes the rider's own body feel lighter, and less strength and stamina are needed for climbing. The E-Climber can be used in a variety of ways, whether for therapeutic climbing, technique training or climbing with a handicap.

Funded by Gebert-Rűf and Be-Advanced
Contact: Michael Haldimann, info@e-climber.ch
e-climber.ch

Possible forms of collaboration

We offer innovative solutions, fast results and diverse applications to meet the challenges currently faced by society and the economy.



You can submit a topic for a project here.

Student projects

Student projects have proved successful in implementing the model of a flexible collaboration with industry and business. We supervise students carrying out project and thesis work, and master's students are also frequently involved in research projects as assistants or can work on problems in your company through an industry fellowship (bfh.ch/ti/industry-fellowship).



Semester project, bachelor's thesis, master's thesis



Weeks to months



Client contributes to costs

Contract research and consulting services

We carry out contract research and offer a wide range of services, such as planning, expert opinions and consulting or the use of our infrastructure and research network.



Planning, coaching, tests, expert opinions, analyses performed by experts



Weeks to months



Market prices

R&D collaborations

For medium and larger projects, we carry out joint collaborations with the help of subsidies. We support you in applying for research grants from national and international funding organisations.



Subsidised collaborations: medium and larger projects with Innosuisse, SNF or the EU



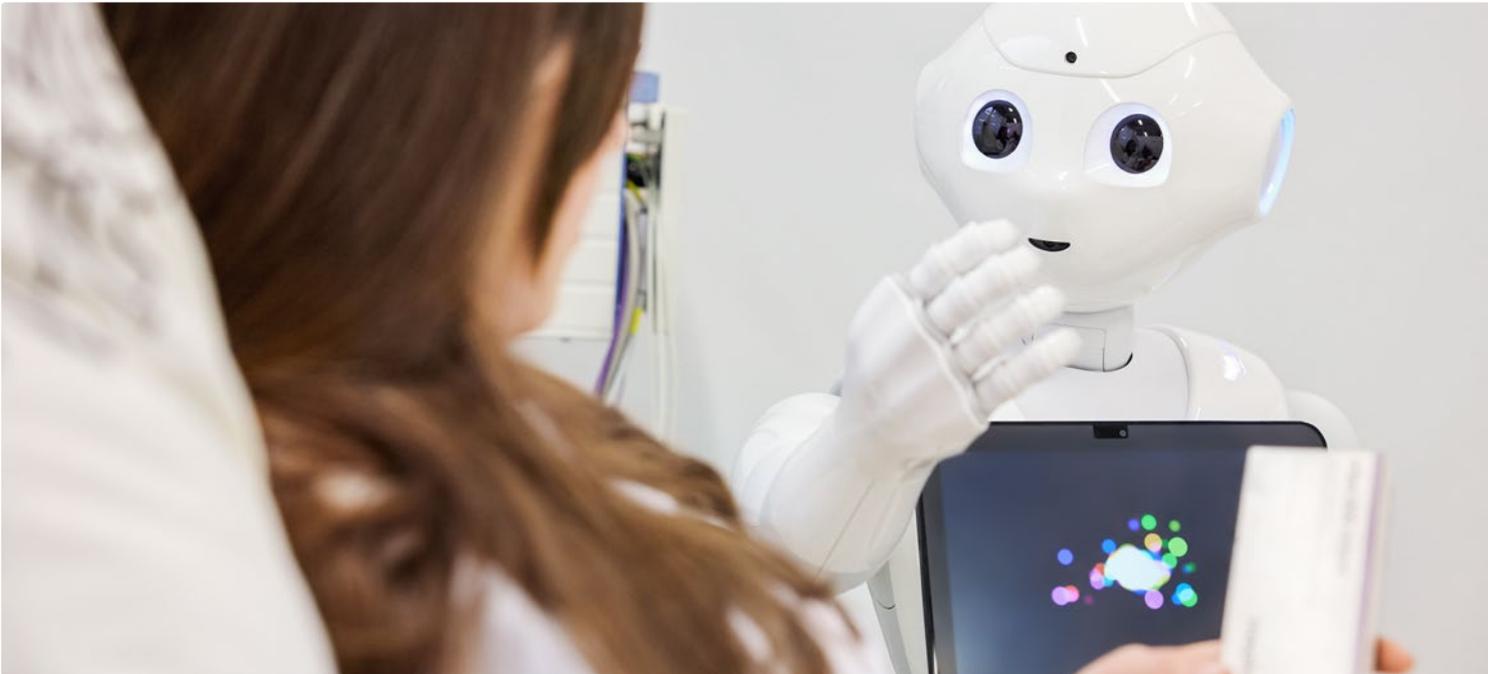
Months to years



Partially financed by public subsidies

Contact

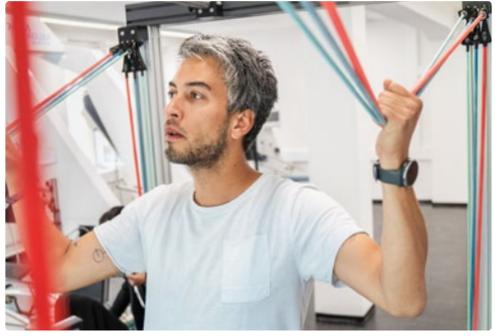
Peter Brunner, Head of Research and Development
Phone +41 32 321 62 94, peter.brunner@bfh.ch





Institutes

Applied research takes place in institutes offering a broad range of expertise.



Institute for Human Centered Engineering HuCE

- 10 The Institute for Human Centered Engineering HuCE comprises seven laboratories for applied research and development, with a wide range of technical expertise focusing on the areas of smart medical devices and industrial automation.

bfh.ch/huce

Main areas of expertise

Our goal is to develop research-based technologies and drive their implementation into marketable products and services in close cooperation with industrial companies and clinics within the framework of our ISO 13485-certified quality management system. We offer high-quality infrastructure and equipment, such as a clean room (ISO class 7) for small-batch production.

- Laboratory for Rehabilitation Engineering
- Laboratory for Robotics
- Laboratory for Sensor Technology and Applied Mathematics

Contact:

Prof. Dr. Thomas Niederhauser

Head of the Institute for Human Centered Engineering HuCE

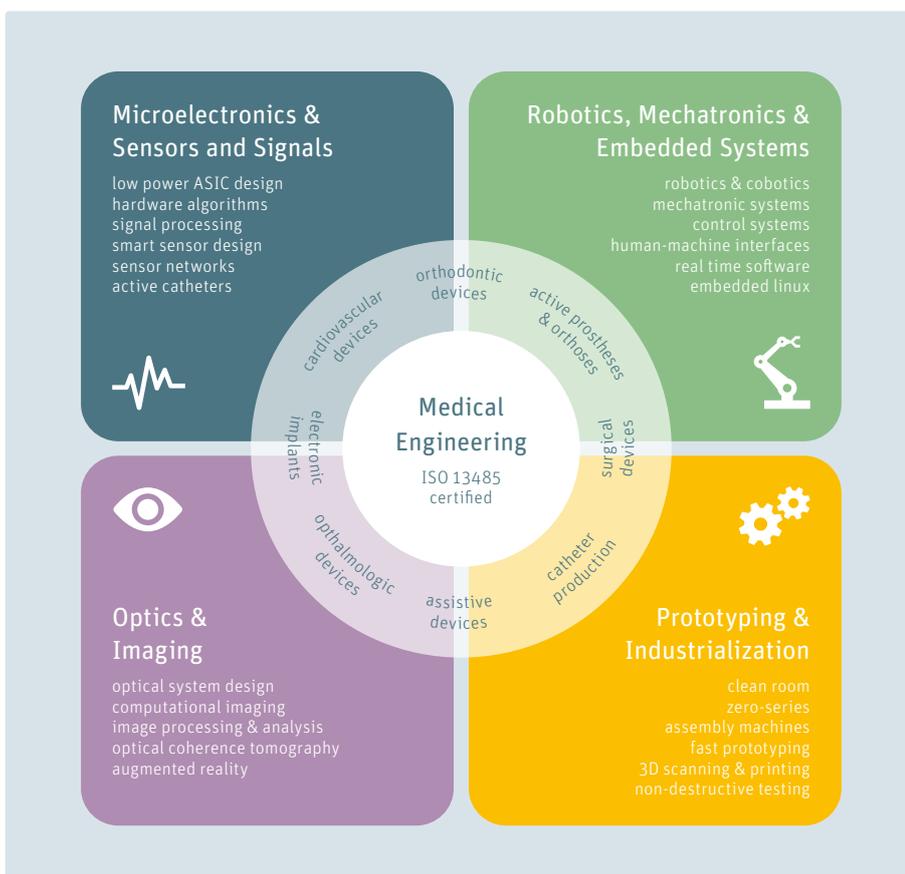
Phone +41 32 321 67 63, thomas.niederhauser@bfh.ch

Laboratories

- Laboratory for Cognitive Computing and Virtual Reality
- Biomedical Engineering Laboratory
- Laboratory for Microelectronics
- Laboratory for Optics

“The HuCE has provided critical support to our eye-surgery laser. The results have completely satisfied our high expectations.”

Frank Ziemer, President & CEO, Ziemer Ophthalmic Systems AG



HuCE projects

Institute for Medical Informatics

I4MI

At the I4MI, we build bridges at the interface between medicine and information technology. We make IT applications usable for the entire healthcare industry as well as for individuals.

bfh.ch/i4mi

Main areas of expertise

- ICT workflow analysis: target/performance comparison, workshop facilitation, requirements engineering
- Patient-focused design of intuitive user interfaces
- Modulation and prototypical development of new applications in mHealth
- Installation and testing of Ambient Assisted Living applications and software components in the medical informatics laboratory
- Information management, data analysis, Big Data in healthcare
- eHealth Switzerland: creation, design, implementation, evaluation
- IT solutions for research based on health and lifestyle data in compliance with the Data Protection and Human Research Act

Living Lab

Designed to be a place for research and education, the “Living Lab” in the I4MI is utterly unique in the German-speaking world. The realistic settings with a hospital (operating theatre, intensive care and general ward), doctor’s practice, physiotherapy, pharmacy, federal offices, insurers, logistics and the Brönnimann family that lives virtually within this world (including a two-room flat) impressively demonstrate the information flows in the healthcare system. eHealth, information systems (HIS, SIS, PIS, LIS, AIS), apps and sensors communicate the documentation relating to the Brönnimann family’s

treatment and lifestyle data. The laboratory facilitates the visualisation of the most important processes in health care and the analysis of supporting IT applications in terms of sensor technology, cloud solutions, Web 2.0 technologies and automation. The laboratory environment enables both use cases and medical information technology applications to be tested in a realistic environment and developed until they are ready for the market.

Contact:
Prof. Serge Bignens
Head of the Institute for Medical Informatics I4MI
Phone +41 32 321 67 01, serge.bignens@bfh.ch

“During the development of an app for pollen allergies, the collaboration with I4MI was valuable and stimulating in every respect. The technical skills, coupled with the high level of innovation, have created an exciting and very practically useable tool.”

Prof. Dr. med. Peter Schmid-Grendelmeier, Head of Allergy Unit, Dermatological Clinic, University Hospital Zurich



I4MI projects

Institute for Energy and Mobility Research

IEM

- 12 With a total of eleven laboratories, the Institute for Energy and Mobility Research IEM conducts research into the technical challenges of sustainable energy supply and mobility solutions for the future.

bfh.ch/iem

Main areas of expertise

- Design and characterisation of electrochemical energy storage systems and fuel cells
- Testing of photovoltaic systems and their individual components
- Modelling and measurement in electricity supply networks
- Design and optimisation of power electronics for energy converters
- Design and construction of electrical machines and drive systems
- Consulting and studies in design, optimisation and troubleshooting in the high-voltage and EMC range
- Federally recognised performance, energy and emissions testing of vehicles and mobile machinery, as well as analysis of the toxicity of emissions
- Accredited testing and characterisation of vehicles in the area of active and passive safety
- Electrification, networking and automation of niche vehicles
- Development of interfaces between persons with reduced mobility and vehicles

Labs

- Battery and Storage Systems Laboratory
- Laboratory for Photovoltaic Systems
- Power Grids Laboratory
- Electrical Machines and Drives Laboratory
- Laboratory for Vehicle Emissions and Powertrain
- Power Electronics Laboratory
- Automotive Engineering Laboratory
- High Voltage Systems and EMC Laboratory
- Hydrogen Systems Laboratory
- Automotive Electronics Laboratory
- SCI-Mobility Laboratory

Contact:

Prof. Raphael Murri
Head of the Institute for Energy and Mobility Research
Phone +41 32 321 66 51, raphael.murri@bfh.ch

“The electric car is a booster for renewable energy. It can store surplus energy and helps to stabilise smart grids. As such, it has a key function in solving the challenges of energy scarcity as well as the transition to zero-emission mobility.”

Prof. Raphael Murri, Head of the Institute for Energy and Mobility Research



IEM projects

Institute for Applied Laser, Photonics and Surface Technologies ALPS

At the ALPS Institute, we deploy our future-oriented key technologies for the development of modern, digitised processes for the manufacture, micro- and nano-level modification and analysis of materials and surfaces.

bfh.ch/alps

Main areas of expertise

- Materials micro-processing with ultra-short laser pulses
- Synchronisation of highly repetitive ultrashort pulse lasers with beam-guiding systems
- Development and production of special optical fibres for medicine and materials processing
- Development of optical fibres for high-temperature applications
- Development of fibre lasers for special applications
- Optimisation of the properties of metallic materials and edge layers using heat or laser treatment
- Functionalisation of the surface using optical and metallic thin films (ALD, PVD and CVD methods, dip, spin and spray-coating processes)
- Optimisation of plasma technologies for surface modification
- Materials and surface analysis
- Development of microsystems with lithographic and wet-chemical processes in the clean room
- Process development for Selective Laser Melting (SLM)
- Application of metallic layers using Laser Direct Metal Deposition (LDMD) in collaboration with the Switzerland Innovation Park Biel/Bienne SIPBB

Research Groups

Photonic Manufacturing

- **Applied Fiber Technology:** generation, amplification and transport of continuous and pulsed laser radiation
- **Laser Surface Engineering:** process optimisation and efficiency increase in micro-material processing

Surface and Materials Technology

- **Materials Technology and Heat Treatment:** optimisation of properties in the manufacture of components
- **Plasma Surface Engineering:** development and analysis of thin films and for modifying surfaces
- **Thin Films and Surfaces:** development of microsystems and microfluidic systems

Contact:

Prof. Dr. Beat Neuenschwander, Head of the Institute for Applied Laser, Photonics and Surface Technologies ALPS
Phone +41 34 426 42 20, beat.neuenschwander@bfh.ch

“In partnership with the ALPS, we are developing a key component for the defossilisation of mobility over the next two years: it combines CO₂-neutral methanol with functional materials in catalysis and high-temperature photonics.”

Dr. Albrecht Tribukait, Econimo-Drive AG



ALPS projects

Institute for Printing Technology IDT

- 14 IDT is your specialist research partner for digital printing and coating technologies. We work with our industrial partners to develop new production processes and measuring systems for functional and graphic surface coatings, such as in the application areas of biotechnology, coatings, food and textile.

bfh.ch/idt

Main areas of expertise

- Development of graphic and functional coating processes and systems using inkjet printing technologies
- Development of high-precision micro-dosing processes and equipment (bonding, sealing, insulating, conformal coatings, feeding in bioreactors, etc.)
- Simulation of fluidic/mechanical systems
- Measurement systems for process optimisation and automation (DropWatcher, vision systems)
- Customer-specific solutions for 2D, 2½D and 3D printing systems
- Measurement technology for measuring colour, flow, temperature, pressure, strength, adhesion, gloss
- Pre-treatment of surfaces with corona, plasma and primers
- Post-treatment of coatings with hot air or radiation (UV, VIS, IR, HF)
- Digital large-area printing

Areas of research

- **Applications in Life Science:** food, cell cultivation, medical technology
- **Applications in Production Engineering:** textiles, design, 3D printing, coatings

Contact:

Karl-Heinz Selbmann

Head of the Institute for Printing Technology IDT

Phone +41 34 426 43 29, karl-heinz.selbmann@bfh.ch

“The close collaboration with the IDT enabled Metroglas to include optical oxygen measurement in its sensor programme. This expansion of the programme has opened up new markets for us.”

Christian Boeck, CEO, Metroglas AG



IDT projects

Institute for Intelligent Industrial Systems

I3S

At the I3S, we connect industrial processes with the Industrial IoT and make them smart. With our expertise in machine dynamics and embedded systems, we ensure vibration-free and efficient process chains in interdisciplinary teams.

bfh.ch/i3s

Main areas of expertise

- Development of mobile embedded systems
- Development of hardware and software for control systems with exacting real-time requirements
- Optimisation of mechanical structures with FE and modal analysis
- Creation of control algorithms with state models and predictive optimisation
- Development of active damping with piezoelectric actuators
- Design and extension of industrial networks

Research Groups

- **Process Optimisation in Manufacturing:** process optimisation, vibration and its damping, robotics
- **Communications Systems:** industrial networks, Industrial Internet of Things (IIoT)
- **Embedded Systems:** sensor nodes, hard real-time, ultra-low energy, miniaturisation

Contact:

Prof. Dr. Norman Urs Baier
Head of the Institute for Intelligent Industrial Systems I3S
Phone +41 34 426 68 42, norman.baier@bfh.ch

“Thanks to the profound and interdisciplinary knowledge of I3S, coupled with the straightforward cooperation on this project, Meerstetter Engineering was able to improve control algorithms and gain a noticeable competitive advantage.”

Dr. Martin Ritterath, CEO, Meerstetter Engineering



I3S projects

Institute for Cybersecurity and Engineering ICE

- 16 At the ICE, we develop new technologies to protect society, the economy and infrastructures from cyber threats.

bfh.ch/ice

Main areas of expertise

- Design, implementation and security testing of cryptographic systems
- Malware analysis and reverse engineering
- Security and analysis related to the Internet and mobile applications
- Security and privacy protection, such as secure e-voting and e-ticketing
- FinTech and payment system security
- Digital forensics and cyber investigations
- Secure Internet of Things

Research Groups

- **Threat Intelligence Research Group:** development of new techniques and tools for improving and analysing the security of IT systems with regard to Internet security, malware analysis and reverse engineering
- **FinTech Security Research Group:** development of new techniques and tools for payment systems, investigating and analysing cyber fraud attacks and the security of payment systems
- **E-Voting Group:** design and development of verifiable e-voting systems, design of privacy protection in the areas of e-ticketing and smart metering

- **Security and Privacy Group:** development and promotion of privacy-enhancing technologies
- **Wireless Communications and Secure Internet of Things:** development and security of widely usable IoT platforms

Contacts:

- Prof. Dr. Endre Bangerter, Joint Head of the Institute for Cybersecurity and Engineering ICE
Phone +41 32 321 64 78, endre.bangerter@bfh.ch
- Prof. Dr. Bruce Nikkel, Joint Head of the Institute for Cybersecurity and Engineering ICE
Phone +41 32 321 63 77, bruce.nikkel@bfh.ch

“Trust and collaboration are necessary to conduct effective research and development for the purpose of protecting society from cyber threats.”

Bruce Nikkel, Joint Head of ICE



ICE projects

Institute for Data Applications and Security

IDAS

By developing state-of-the-art information technologies and management methods and applying them to specific challenges, we support commerce and society on the path to the digital future.

bfh.ch/idas

Main areas of expertise

- Provision, analysis and visualisation of structured and unstructured data (data science)
- Conception, implementation and evaluation of data-oriented desktop, web and mobile applications
- Combining classical business intelligence methods with geographic information systems (GIS)
- Development of ICT solutions for management of enterprises and administrations
- Establishment and expansion of e-business concepts and applications
- Implementation of knowledge in the area of Identity and Access Management (IAM) as well as of electronic identities and signatures
- Corporate management of export-oriented companies
- Development and application of management methods for the analysis of business models and corporate ecosystems
- Application, evaluation and coaching in agile and integral innovation methods, e.g. lean startup, design thinking
- Strategy development in the context of the digital transformation, change management

Research Groups

- **Applied Machine Intelligence (AMI):** machine learning in production, augmented intelligence, AI for social impact, fairness and digital ethics
- **Business Information Systems Engineering (BISE):** modelling and analysis of data structures, unstructured data, agile prototype development, geographic information systems (GIS), public management
- **Identity and Access Management (IAM):** electronic identities and signatures, IAM solutions for the eSociety of Switzerland
- **International Management:** corporate management of export-oriented companies
- **Management Science, Innovation, Sustainability and Entrepreneurship (MISE):** design thinking, prototyping, product and service design, business models, financing, pitching, product development, production analysis, maintenance, risk management, procurement, distribution

Contact:

Prof. Dr. Annett Laube-Rosenpflanzler
Head of the Institute for Data Applications and Security IDAS
Phone +41 32 321 63 32, annett.laube@bfh.ch

“Through our collaboration with BFH, we have achieved our goal of making complex data and algorithms available to a current or future property owner in a pragmatic and comprehensible way. Integrating the service into the advisory process generates additional added value for customers.”

Katrin De Chiara, Innovation & Development employee – Product Management Division, Raiffeisen Switzerland



IDAS projects

Institute for Optimisation and Data Analysis IODA

- 18 Analyse, model, predict, classify: the IODA supports you in the design of experiments, the statistical analysis of data, the creation of quantitative models and the optimisation of industrial processes.

bfh.ch/ioda

Main areas of expertise

- Support in trial design, data analysis and compliance with regulatory requirements
- Optimisation of production processes
- Models of risks and extremes in nature, industry and finance
- Prediction and classification of occurrences
- Detection and indoor localisation of smartphones in 2G, 3G and 4G standard
- High Performance Computing

Research Topics

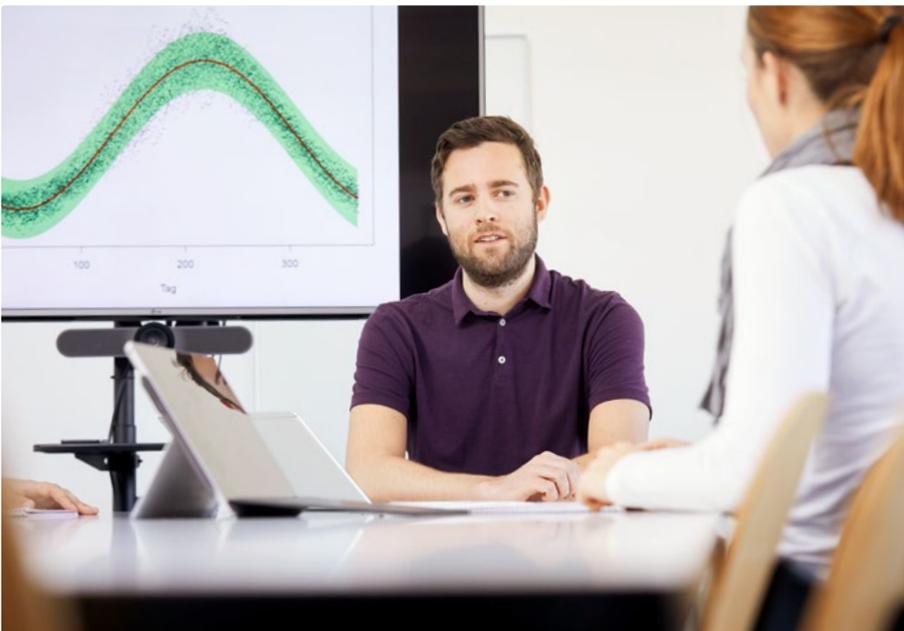
- Statistical data analysis and design of experiments
- Mathematical modeling and optimisation
- Scientific computing and algorithmics
- Flow simulations
- Signal processing

Contact:

Prof. Dr. Jasmin Wandel
Head of the Institute for Optimisation and Data Analysis IODA
Phone +41 34 426 68 49, jasmin.wandel@bfh.ch

“The IODA supported us in determining the number of test samples needed to verify our insulin pump, the ‘YpsoPump®’. We were able to draft our test plans, carry out the tests and have the number of test samples verified within a very short time on a clear and transparent basis.”

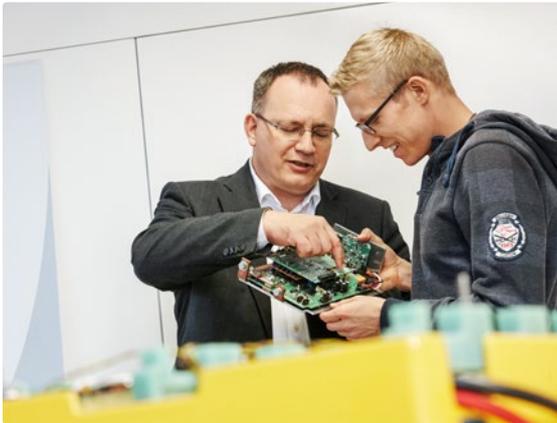
Jürg Steck, Senior Concept Development Manager, Ypsomed AG



IODA projects

Centres

We counter the increasing complexity and interconnectedness that we see in science, business, politics and society by forming centres with a clearly-defined profile. This allows us to consolidate and expand our leadership in the respective fields through innovative and interdisciplinary approaches.



Energy Storage

bfh.ch/en-energy

The Energy Storage Research Centre researches and develops solutions for the storage of electricity for energy supply and mobility. This makes it possible to integrate more renewable energies from decentralised electricity production into the Swiss utility network and to replace fossil fuels used in transport. The aim is to better harness the potential of sustainable energy sources such as photovoltaics and wind and to decarbonise mobility.

The following institutes are involved:

- Institute for Energy and Mobility Research IEM
- Research Group "Process Optimisation in Manufacturing" of the Institute for Intelligent Industrial Systems I3S
- Institute for Data Applications and Security IDAS

Contact:

Prof. Dr. Andrea Vezzini
Head of the Energy Storage Research Centre
Phone +41 32 321 63 72, andrea.vezzini@bfh.ch

Health Technologies

bfh.ch/en-healthtech

The Health Technologies Centre is an interdepartmental collaboration between the School of Engineering and Computer Science, the School of Health Professions and the Swiss Federal Institute of Sport Magglingen EHSM. Our research institutes jointly develop and evaluate technologies that promote the quality of life of patients, the general health of society and the performance of athletes. We pursue research and development along the entire process chain from the initial idea to an innovative product or service to the impact analysis – taking a user-centred approach and with the participation of stakeholders in healthcare and sport.

The following institutes are involved:

- Institute for Human-Centered Engineering HuCE
- Institute for Medical Informatics I4MI
- School of Health Professions
- Swiss Federal Institute of Sport Magglingen SFISM

Contacts:

- Prof. Dr. Kerstin Denecke
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Joint Head of the Centre for Health Technologies
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School of Engineering and Computer Science

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bfh.ch/ti/research

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5th Edition, 1/2023

