Tampere University

PIRKANMAA
COUNCIL OF TAMPERE REGION

Services in Health Tech

Tampere Universities R&D collaboration possibilities for companies in the health technology sector

Pirkanmaan hyvinvointialue

Tampere University of Applied Sciences

Updated on
Nov 6th, 2024

Resource catalog

Tampere Universities offer a variety of services for companies and communities also in the area of research. This resource catalog is aimed especially for health technology companies for an easy and fast way to find forms of cooperation that suit their own needs. The catalog compiles the services offered by Tampere University (TAU), Tampere University of Applied Sciences (TAMK) and the Wellbeing Services County of Pirkanmaa (Pirha) related to the topic of health technology.

In the topic of research, the resource catalog presents researchers and their special areas of expertise, as well as research groups who offer services to companies in the health technology sector.

Table of contents

1. Forms of collaboration

There are several ways to collaborate with Tampere Universities, whether in large scale research projects or detailed testing needs.

1.1 Services by MET core infrastructures

- Specialized services are usually small and simple standardized services that companies can buy.
- MET core facilities and services offer specialized services for health technology companies which are divided into 7 categories:
  - Imaging, Genomics and Biomedical Informatics, Cells and Tissues, Measurements, Model Organisms, Biomaterials and Micro and Nano Devices and Protein Services
  - These categories include different kinds of services and facilities.
  - The services include for example expensive devices for measurements and the company pays typically for the equipment time.
- Applications range from cells, tissues and model organisms to virus production, gene and protein technology, biological measurements, bioinformatics and modelling, nano- and microfabrication, biosensors and probes, biomaterials processing and finally bioimaging and materials analysis.
- We offer these research facilities as test beds or as facilities for contract research and collaboration as well as for preclinical and clinical tests.

1.2 Commissioned research

- Commissioned research projects are tailor-made to serve the specific needs of a customer company. Frequently, the service is bought from a research group, which the company can contact directly. Commissioned projects are funded by the customer company, but the company may seek financial support, for example, from Business Finland, ELY-center or the EU.
- **Who's it for?**
- Companies and organizations interested in tailor-made research projects.

How does it all happen?

- Get to know the research groups and contact the one that suits your specific needs. If you can't find what you are looking for, email or call our contact persons.
- The customer company defines the goals of the project.
- The results and intellectual property arising from the project are transferred to the customer company.
- The project may be conducted in the facilities of the customer company or university.

Contacts:
Pasi Vakaslahti
Head of Collaboration Services
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+358405116128
Hervanta campus

Kai Hämäläinen
Partnership Manager
Tampere University
kai.hamalainen@tuni.fi
+358503187697
Center campus

1.3 Testing and co-creation

- Test beds are test environments simulating real-life treatment situations. They offer companies the opportunity to develop, test, validate and conduct usability studies for their solutions in a real environment. Equipments and instruments for research and testing are available in test beds.
- Business Tampere coordinates HealthHubs in Tampere area. They also offer funding clinics and growth sparring to companies operating in Tampere region. New Test beds, regardless of organisation, are warmly welcomed!
- It is possible to get funding for Test bed services from EDIH HealthHub Finland
- There are several test beds aimed at companies in the health technology sector in Tampere region:
  - HeAt-laboratory, SoTe Virtual Lab, Tampere Biobank, HealthHUB, Visaxion, Civit, Regea Tissue Center and Varala Sports Institute

1.4 Collaboration with students

- Collaboration with students can mean:
  - Thesis
  - Traineeship
  - Thesis job
  - Participating in the course in form of a guest lecture or project work, or proposing topics for student projects.
- The company can advertise their traineeship and thesis job places at JobTeaser, which is a recruitment service used by several universities in Finland.

1.5 Public funded collaborative research

- Large volume research projects are continuously applied and executed by the research groups
- These projects offer great opportunity for companies to collaborate and obtain funding also for their own R&D
- Major sources of funding include Business Finland and European Union
- Contact, discuss, and express your interest to join future applications to the groups relevant for your business.

2. Contacts for Tampere University and TAMK

- **Research and development collaboration**
  - Contact us when you search research or development partners or services. Or if you seek opportunities to cooperate in general.
  - Email: industry@tuni.fi
  - Phone number: +358 29 452 4500.
- **Professional development and education services**
  - Contact us when you look for information about professional development services or supplementary education for you or your organization. We help you to find the most suitable solutions or we tailor them according to your wishes.
  - Email: kehityosaajana@tuni.fi.
- **Student collaboration and career services**
  - The students at our university community are active motors of development. The student cooperation is an excellent way to find the best new experts to your company or your organization. Contact us when you seek additional information about the possibilities of the student cooperation.
  - TAMK: careerservices.tamk@tuni.fi.
  - Tampere University at careerservices.tau@tuni.fi.

3 Research Services in Wellbeing Services County of Pirkanmaa

3.1 Pirha Research Services

We offer pharmaceutical and medical device companies a smooth trial start as well as management and Institution's administrative services during the trial. Our services include:

- Clinical trial agreement and budget negotiations
- The necessary subcontracting agreements for trials carried out within the Wellbeing services county of Pirkanmaa. The trial internal permit process for the study is handled by the trial coordinators, when the trial agreement is ready
- The management of the trial project (financial administration and surveillance of the invoicing process)
- Co-operation with the Sponsor, investigator, study nurses and other trial staff in matters related to the planning, conducting and implementation of the trial
- If necessary, chargeable archiving services in the Wellbeing Services County of Pirkanmaa Archive
- Real-word data (RWD) and related data services

Further information:
clinicaltrials@pirha.fi
Email contact preferred

3.2 Academic pharmaceutical and multicenter trials

- Academic Research Services (and CRO services) are primarily intended for international pharmaceutical and multicenter trials.
- In this instance, an academic or investigator-initiated trial refers to a trial which is commissioned (sponsored) by a well-being services county, non-profit organization, university or the investigator themselves. The services are agreed upon on a trial-specific basis with the person responsible for the trial and/or the sponsor.
- The service is also available to international academic research groups, universities and disease-specific sectoral organizations whose trials are carried out in Finland, in university hospitals and in some central hospitals.

Further information:
clinicaltrials@pirha.fi
Email contact preferred

3.3 Project management and Monitoring

Project management

- The services cover the planning related to the practical implementation of the trial, preparation of official documentation and communication with authorities, contracting, planning and conducting of monitoring as well as overall project coordination once the trial has started.

Monitoring

- Clinical trial monitoring is provided as a core part of academic CRO services. Monitoring is defined as the act of overseeing the progress of a clinical trial, and of ensuring that it is conducted, recorded, and reported in accordance with the protocol, good clinical practice (GCP) and existing legislation and guidance derived therefrom.

Further information:
clinicaltrials@pirha.fi
Email contact preferred

4. MET core facilities and services

We offer these research facilities as test beds or as facilities for contract research and collaboration as well as for preclinical and clinical tests. Our Faculty is one of the biocenters that make up Biocenter Finland, which is a national research infrastructure in life sciences. The faculty's research infrastructure consists of state-of-the-art facilities and services in biomedicine, biomedical technology and engineering. Please check the practical rules for using the services.

4.1 Imaging

MET provides following imaging services

4.1.1 Tif-light microscopy core

4.1.2 Histology Facility

4.1.3 Optical 3D Imaging

4.1.4 X-ray Microtomography

4.1.1 Tif-light microscopy core

- The light microscopy facility (TIF) offers state-of-the-art equipment for mesoscopic and high resolution bioimaging of tissues, small model organisms, biomaterials, tissue engineering products and advanced cell cultures both in 2D and 3D thus offering services for both life scientists and biomedical engineers.
- TIF offers Microscopy and Image Analysis services for companies.
  - Users now have the option to outsource their microscopy tasks or image analysis to our imaging specialists.
  - Each project is tailored for the users' needs and goals.
  - Our objective is to offer a cost-effective solution for all imaging needs
- Further information about the resources can be found here.

Location: Tampere University, Kauppi campus, Arvo-building

Prices: Prices will be defined based on customer needs. Please inquire!

Contact:
Teemu Ihalainen
teemu.ihalainen@tuni.fi
Tel: +358 503187202

4.1.2 Histology Facility

- Histology facility (HF) welcomes researchers to do their tissue histology work using the modern histotechnology equipment and microscopes.
- Our technicians will help you with technical issues and can do the tissue processing, staining and analysis whenever possible.
- HF encourages to use digital microscope and whole slide scanning to generate material for your quantitative scientific analyses.
- Services and resources provided by Histology facility include for example:
  - tissue preparation, preparation of cultured cells, tissue staining, Immunohistochemistry, immunofluorecence, tissue microarrays, light microscopes, fluorescence microscope, laser capture microdissection and virtual microscopy
- More information about the services and resources can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, 3rd floor, E wing

Contact:
Sari Toivola, Specialist
sari.toivola@tuni.fi
Tel.+358401904071

4.1.3 Optical 3D Imaging

- The facility offers real 3D imaging of transparent materials and tissues in micrometer resolution.
- The systems are being designed and used for imaging transparent biomaterials such as hydrogels with or without cells, but usual applications include visualization of anatomy (phenotyping), gene expression (in situ hybridization), protein distribution (immunohistochemistry or GFP expression), transgenic visualization (LacZ).
- In addition to both bright-field and fluorescence microscopes, the facility has state-of-the-art data processing and analysis workstation available for visualization and 3D-image quantification.
- More information about the resources can be found here.

Location: BioMediTech, Arvo-building, Kauppi Campus

Prices: Prices will be defined based on customer needs. Please inquire!

Contact:
Professor Jari Hyttinen
jari.hyttinen@tuni.fi
+358 40 849 0020

4.1.4 X-ray Microtomography

- The facility offers 3D imaging and assessment of structures of practically any materials, composites or devices including tissues and bio-constructs up to sub-micrometer resolution.
- The imaging is based on X-ray tomography and the facility has state-of-the-art image data processing and analysis workstation available for 3D-visualization, quantification, and surface and volume modelling.
- **Resources:**
  - Zeiss Xradia microCT
  - Can be used to determine morphological parameters of materials, biomaterials and biological samples with resolution down to 1 micron. On the other hand, it can accommodate large samples in cm and dm scale at the expense of resolution.
- Further information about the services can be found here.

Location: Computational Biophysics and Imaging Group (CBIG), Arvo-building, Kauppi Campus

Prices: Prices will be defined based on customer needs. Please inquire!

Contact:
Professor Jari Hyttinen
jari.hyttinen@tuni.fi
+358 40 849 0020

4.2 Genomics and Biomedical Informatics

4.2.1 Tampere Genomics Facility

- The facility offers instruments for a variety of genomics studies.
- Further information about the instruments and services can be found here.

Location: Arvo building, Kauppi Campus

Prices: Prices will be defined based on customer needs. Please inquire!

Head of the facility:
Heini Kallio, Ph.D.
heini.kallio@tuni.fi

4.2.2 Bioinformatics facility

- Bioinformatics facility provides expert support for high through data analysis needs. Facility is run by the computational biology group.
- We have extensive experience from most common types of high throughput data analysis and in addition to human genomics have worked with a number of model organisms.
- We can provide technical support in experimental design (e.g. number of reads needed from sequencing experiment) as well as make recommendations of sequencing service providers. We can also provide support in statistical analysis of your data.
- Further information can be found here.

Prices: For a fixed price of 2000 EUR + VAT we will run standard data analysis pipeline for your data as a service, providing tables of results.
Support for more extensive analysis and data interpretation is also available, please inquire!

Location: Arvo-building, Kauppi Campus

Contact:
Core director:
Juha Kesseli
juha.kesseli@tuni.fi

4.2.3 Systems Physiology and Modelling

- We have strong expertise in modelling the biophysical and physiological functions at various scales, spanning from individual cells to entire organs and the comprehensive level of the human body.
- Our competence extends to capturing the dynamics of drug effects, phenotypic alterations in diseases, and the impact of external factors, such as temperature.
- The modelling techniques that we use encompass a broad spectrum, ranging from compartmental models to finite element models. This diversity allows enables different ways to account for the basic nature of spatio-temporal phenomena, geometries of the systems, and more.
- Further information can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Kauppi campus, Tampere University

Contact:
Professor Jari Hyttinen
jari.hyttinen@tuni.fi
+378408490020

4.3 Cells and Tissues

4.3.1 CellTech-laboratories

- CellTech Laboratories are specialized cell culture laboratories.
- There are two separate CellTech laboratories.
  - CellTech1 (E496) is preferably for pilot testing of biomaterials and technical devices intended for clinical or *in vitro* use.
  - Celltech 2 (E495) is for culturing freshly isolated tissues and cell lines with unknown sterility and mycoplasma status.
- Further information about the services and resources can be found here.

Location: Arvo building, Kauppi Campus

Prices: Prices will be defined based on customer needs. Please inquire!

Contact:
Medical laboratory technician:
Sari Kalliokoski
sari.kalliokoski@tuni.fi
Tel: +358503436259
Room: ARVO D471

4.3.2 iPS Cells

- The facility provides services related to iPS cell technology for academic and non-academic clients.
- We have optimized both integrative as well as non-integrative reprogramming methods at the iPS Cells facility.
- Further information can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, Kauppi Campus

Contact:
Katriina Aalto-Setälä, MD
katriina.aalto-setala@tuni.fi
Tel: +358 40 582 9567
Room: ARVO D437

4.3.3 Adult Stem Cell Organoids Facility

- Organoids have become a great tool for better understanding of tissue development, organogenesis, as well as stem cell behavior by mimicking with high precision their *in vivo* counterparts, a limitation faced by 2D cultures.
- We offer different services related to AdSC-derived epithelial organoid cultures in humans and mice to both academic and non-academic clients.
- The adult stem cell organoids facility has established intestinal and esophageal organoid cultures from mouse and human biopsies. Furthermore, we also provide murine organoid cultures for other epithelial tissues, such as cholangiocyte (epithelia of the bile duct). By combining the resources of a well-equipped laboratory with the organotypic culture expertise, we care for your organoids from the beginning until the end of your experiments.
- Further information about all the services can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, Kauppi Campus

Contact:
Keijo Viiri, Adj. Prof., PhD
keijo.viiri@tuni.fi
Tel: + 358 405 549 648
Room: D524

4.3.4 Virus Production Facility

- BioMediTech Virus Production facility is devoted to small and medium scale virus production.
- Facility users will benefit from a secure BSL2+ or BSL3 environment generate and propagate retroviruses, lentiviruses as well as Sendai Viruses and to maintain transduced cells.
- Our technicians and virus specialist will help you with the experimental design and practical training required for your experiments. They will also organize systematic control for the presence of virus in your culture media and deliver certificates of quality for your “virus free” clones and cell lines.
- More information about the faciities and equipments can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, Kauppi Campus

Contact:
Eric Dufour
eric.dufour@tuni.fi
Tel: +358 50 318 2655
Room: ARVO D328

Contact:
Laboratory Technician
Kati Rouhento
kati.rouhento@tuni.fi
Tel: +358 50 318 6866
Room: Arvo E236

4.3.5 Cleanroom Facility

- Cleanroom Facility has two production suites (GMP A/B classification) and two production suites (GMP A/C classification) with adjacent QC laboratories specifically designed for the processing and manufacture of tissue and cell-based products.
- Laminar cabinets are available in the cleanroom suites. A quality control / quality assurance program with cleanroom and equipment qualifications, an online facility monitoring system as well as cleaning and environmental monitoring procedures is in place. There is also a possibility for materials storage (quarantine / released).
- The cleanroom suites may be rented out to internal or external users. Contract manufacture and service activities are also available. Training will be provided to all cleanroom users.
- More detailed information about the resources can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, Kauppi Campus

Contact:
Cleanroom details and risk assessment:
Annika Hakamäki,
annika.hakamaki@tuni.fi
Tel: +358 40 190 1830

4.4 Measurements

MET provides following measurement services

4.4.1 Electrophysiological Measurements

- Facility includes patch clamp units, fast fluorescence imaging units and several microelectrode array (MEA) formats.
- In addition, facility includes transretinal electro-retinogram (ERG) system.
- All of the systems are located in rooms specifically designed for electrophysiological measurements.

- **Equipments:**
  - Fluoresence imaging
  - Patch clamp
  - MEA systems
  - Detailed information about the equipments can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, Kauppi Campus

Contact:
Juha Heikkilä
juha.heikkila@tuni.fi
Tel: +358 40 190 1798
Room: ARVO D436

4.4.2 Flow Cytometry

- Flow cytometry is a method to rapidly detect and measure physical and chemical properties of single cells or particles as they are suspended in liquid and passed across single or multiple laser beams.
- The Flow Cytometry Facility has four flow cytometers and one metabolic analyzer to serve the different requirements of researchers.
- All instruments are suitable for analysis and two are sorters: one sorter is located in the Virus Facility.
- The instruments have 1-4 lasers and can analyze up to 16 different fluorescence parameters simultaneously. They can be operated by the users themselves, or alternatively, researchers can purchase the service they need from the facility personnel.
- The facility offers a wide and flexible variety of research services, ranging from panel design to sample run assistance and post-acquisition data analysis. For details and inquiries, please contact the facility manager. More information here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, Kauppi Campus

Contact:
Laura Kummola
laura.kummola@tuni.fi
Tel: +358 50 437 7412
Room: Arvo F354

4.4.3 Cellular respiration and energetic metabolism

- Dedicated to support users in their studies of energy metabolism.
- Facility users will be able to study cellular metabolic characteristics such as oxygen consumption, fermentative capacity, substrate preferences and more. Our specialist will help you with the experimental design and practical training required for your experiments. They can also perform experiments for you on demand.
- **Equipments:**
  - The Hansateck Oxyterm^{+} system
  - The Seahorse XFe24 Analyzer
  - Biolog Phenotype MicroArrays
  - Resipher high-resolution optical oxygen sensor
  - More detailed infromation about the equipments can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, Kauppi Campus

Contact:
Eric Dufour
eric.dufour@tuni.fi
Tel: +358 400 316 504
Room: ARVO D328

4.4.4 Electrical Impedance Spectroscopy (EIS)

- We have two devices for impedance measurements and expertise on processing and analysis of impedance data.
- EIS measurements will generate a spectrum that is characteristic of the biological tissue. Changes in the impedance spectrum can therefore be directly related to changes in the tissue.
- Our devices can be used to measure biological objects such as humans or cell cultures, but also to measure materials, for example, their porosity.
- **Equipments:**
  - Solartron impedance measurement device
  - HF2IS Impedance Spectroscope (Zurich Instruments)
  - More detailed information about the equipments can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, Kauppi Campus

Contact:
Professor Jari Hyttinen
jari.hyttinen@tuni.fi
Tel: +358 40 849 0020

4.4.5 HeAT – Health and Assistive Technology

- HeAT Laboratory is an environment for the study and development of health and assistive technology and services. HeAT provides a wide set of research-quality equipment especially for measuring human physiological signals and 3D motion. Equipment can also be utilized outside the lab for mobile measurement setups.
- We welcome companies to use the lab or collaborate with our experts on health technology ranging from physiological measurements, signal analysis, computational modelling, and with health care professionals. Companies can use HeAT for developing new product ideas, testing and validating of new products and conducting usability studies.
- More detailed infromation about the **equipments** can be found here.
- Health and wellness technology companies can also utilize the laboratory for R&D purposes, either independently or in collaboration with university researchers.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Hervanta campus, Tampere University

Contacts:
Milla Juutinen
Tampere University
milla.juutinen@tuni.fi

Antti Vehkaoja
Tampere University
antti.vehkaoja@tuni.fi

4.4.6 Physiological Measurements, Processing and Analysis, Ambulatory ECG and heart rate measurement

- We have several devices for ambulatory ECG and heart rate measurements. The devices can be used for outdoor or laboratory measurements. We can organize a small pilot or even large cohort study from planning and an application of the ethical committee statement all the way to the reporting.
- Equipments:
  - Bittium Faros: ECG, acceleration (x, y, z), RR-interval
  - Vitalsignum Beat2Phone: ECG, acceleration (x, y, z), RR-interval, pulse, ortostatic test
  - Firstbeat Bodyguard 2: RR-interval, acceleration (x, y, z)
  - emWave2: Heart rate and RR interval (from finger or ear), breathing
  - Polar H10 heart rate strap
  - Garmin Premium heart rate monitor

Prices: Prices will be defined based on customer needs. Please inquire!
Location: Arvo-building, Kauppi Campus

Contacts:
Antti Vehkaoja, Assistant Professor
Jari Viik, University Lecturer
Milla Juutinen, University Instructor
(firstname.lastname@tuni.fi)

4.5 Model organisms

4.5.1 Drosophila Facility

- Tampere Drosophila facility promotes the use of the model organism *Drosophila melanogaster*, or the common fruit fly, in life sciences.
- **Services:**
  - Guidance in planning and obtaining transgenic and mutant flies
  - Consultation and guidance on the experimental setting
  - Maintenance of fly lines
  - More detailed information about the services can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, Kauppi Campus

Contact:
Susanna Valanne
susanna.valanne@tuni.fi

4.5.2 Zebrafish Facility

- Our facility serves all scientists using zebrafish as a research model system. The facility is capable of housing up to 50 000 adult zebrafish.
- It is composed of a laboratory room, a microscope room for fluorescence microscopy and imaging, two large fish rooms with separate systems, and two quarantine rooms with stand-alone units for infection experiments.
- More detailed information about the equipment can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Arvo-building, Kauppi Campus

4.6 Biomaterials and Micro and Nano Devices

4.6.1 Microfabrication Facility

- The facility is primarily intended for fabrication of microsensor prototypes and microfluidic structures, as well as for various characterizations in micro- and nanoscale.
- However, many devices can be used in manufacturing, modifying or characterizing also samples and substrates used in biomedical applications.
- More detailed information about the equipments can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Hervanta Campus, S-building

Contact:
Marika Janka
Laboratory Engineer
Laboratory Services
marika.janka@tuni.fi
Tel. +358 40 849 0089

4.6.2 Biomaterials and their applications laboratories

- The laboratories are primarily intended for fabrication, manufacturing, modification, synthesis and characterization of biomaterials for medical applications
- The laboratories are shared by three research groups:
  - Bioceramics, Bioglasses and Biocomposites (Massera)
  - Biomaterials and Tissue Engineering (Kellomäki)
  - Biomaterials for Cell and Tissue Engineering (Oommen)
- The laboratories are equipped for synthesis, modification, processing, fabrication and manufacturing, and also versatile characterization of medical biomaterials.
- Our strength is close collaboration with Tampere University's research groups. We are experienced to collaborate with academia, clinicians and companies.
- More information about infrastructure and research groups can be found here.

Prices: We provide resources and expertise based on your needs.
Please contact us for detailed planning and pricing.
Location: Sähkötalo building, Hervanta campus, Tampere University

Contacts:
Minna Kellomäki
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+358407066312

Jonathan Massera
Professor
Jonathan.massera@tuni.fi
+358503011428

Oommen P. Oommen
Professor
Oommen.oommen@tuni.fi
+358504478904

4.6.3 Biomedical Microsystems and Measurements Facility

- The facilities include eight laboratories:
  - Biosensors Lab
  - Biosignaling Lab
  - Microfluidics and MEA Characterization Lab
  - Polymer Microfabrication Lab, Micro Robotics Lab
  - Soft Robotics Lab
  - Ultrasound Lab
  - 3D Printing Lab
- Facility also has more than 70 equipment
- Full list of equipment and more information on the facility can be found here.

Prices: Prices will be defined based on customer needs. Please inquire!
Location: Hervanta campus, Tamperen University

Contact:
Pasi Kallio
Professor
pasi.kallio@tuni.fi
+358 500 525546

4.7 Protein Services

- The facility offers protein expression, purification and characterization. Proteins are expressed in bacterial, insect and mammalian cells, which supply the expression and modification requirements for a comprehensive variety of proteins for wide variety of biological assays.
- Protein Service (PS) offers recombinant protein expression, protein purification and biophysical characterization for drug discovery and life science research. The proteins may be used in structural biology, protein-ligand and protein-protein interaction studies, and in development of diagnostics.
- The facility offers hands-on counselling concerning protein expression methods and expression vectors, but customer is typically responsible for the preparation of the expression vector.
- More detailed information about the equipments here.

Prices: Prices will be defined based on customer needs. Please inquire!
Location: Arvo-building, Kauppi Campus

Contact:
Coordinator:
Juha Määttä, Ph.D.
juha.maatta@tuni.fi
Tel: +358 50 318 5814
Room: ARVO F303

5. Test beds

The main health tech related Test beds in Tampere area are listed here

5.1 HeAT-laboratory

5.2 Sote Virtual Lab

5.3 Tampere Biobank

5.4 HealthHUB

5.5 Visaxion

5.6 Civit

5.7 Regea Tissue Center

5.8 Varala Sports Institute

5.1 HeAT – Health and Assistive Technology

- HeAT Laboratory is an environment for the study and development of health and assistive technology and services. HeAT provides a wide set of research-quality equipment especially for measuring human physiological signals and 3D motion. Equipment can also be utilized outside the lab for mobile measurement setups.
- We welcome companies to use the lab or collaborate with our experts on health technology ranging from physiological measurements, signal analysis, computational modelling, and with health care professionals. Companies can use HeAT for developing new product ideas, testing and validating of new products and conducting usability studies.
- More detailed infromation about the **equipments** can be found here.
- Health and wellness technology companies can also utilize the laboratory for R&D purposes, either independently or in collaboration with university researchers.

Prices: Prices will be defined based on customer needs. Please inquire!

Location: Hervanta campus, Tampere University

Contacts:
Milla Juutinen
Tampere University
milla.juutinen@tuni.fi

Antti Vehkaoja
Tampere University
antti.vehkaoja@tuni.fi

5.2 Sote Virtual Lab

- The virtual lab specifically focuses on researching and developing remote digital services.
- Our aim is to develop user-driven and human-driven technology solutions and services for social and health care and to strengthen related knowledge.
- More detailed information about the facilities, equipments and services can be found here.

Services for companies:

- Pretesting at standardized Lab environment
- Testing and product development in authentic environments, Living Labs
- References and pilot study cases
- Pop-up space, showroom for technologies

Location: TAMK's main campus in Kuntokatu 3, building F, 2nd floor

Prices: Prices will be defined based on customer needs. Please inquire!

Contacts:
Kirsi Mansikkamäki
kirsi.mansikkamaki@tuni.fi
+358 50 597 0184

Jukka-Pekka Pirhonen
svl.tamk@tuni.fi
+358 50 313 0372

5.3 Tampere Biobank

- A biobank collects samples and data from individuals who have given biobank consent for biomedical research and product development. It is a research infrastructure that enables efficient utilization of high-quality collected materials.
- Services and research opportunities:
  - Samples: Blood (whole blood, serum, plasma), isolated DNA, FFPE tissue/pathology specimens, cancer fresh tissue, ctDNA, and cerebrospinal fluid (CSF) samples
  - Opportunity for tailored, targeted collections
  - Data associated with samples: Clinical data - information related to the sample and donor, patient registry data (including diagnoses, treatment episodes, medications administered in the hospital, procedures, laboratory results, information extractable from reports)
  - National register data
  - Data recovered from previous biobank studies, e.g., FinnGen genomic data
  - Subjects
  - Opportunity to invite individuals who have given consent to be contacted to participate in studies (so-called Recall studies)
  - Expertise, other research collaboration projects, and development initiatives
- More information on starting your Biobank research: [Fingenious.fi]

Finnish Clinical Biobank Tampere

Contacts:
biopankki@pirha.fi
Finnish website
English website

5.4 HealthHUB

- HealthHUB is an inspiring meeting place and community for participants who have a common goal, to improve human health and wellbeing.
- The HealthHUB brings together health, wellbeing, health technology and research-oriented companies and talents, and provides an environment for the co-development of new ideas and innovations.
- As a member of the HUB you have free access to the HealthHUB hot desk workstations and group workspace, found at Biokatu 12. You will also can be linked to other members of the community, initiate projects, organize events and propose news items.

Services for companies:

- Membership is free, but requires active participation, enthusiasm and a positive attitude – as well as a desire to cooperate with others to create something new and better.
- The HUB premises are situated on Tampere's Kauppi campus, in the immediate vicinity of the university hospital. You will find six hot-desk workstations and a versatile group workspace, well equipped with presentation technology.

Prices: Prices will be defined based on customer needs. Please inquire!

Contacts:
Aino Salmi
aino.salmi@businesstampere.com

5.5 Visaxion

- Visaxion is a novel research and development simulation environment that enables bringing functional vision testing in safe and controlled manner close to people and in connection with daily tasks.
- For functional traffic vision testing, Visaxion offers a configurable driving simulator and a 180-degree display solution that covers the entire human field of vision. Simulation environment enables measurements related to the driver's field of vision, reaction time and situational awareness, as well as studying the effect of optical aids and lens solutions on traffic vision.
- The occupational vision testing environment consists of controlled lighting conditions and various functional vision tests. Together with the eye and head movement tracking, the simulation environment can be applied to measure functional vision, gaze paths and gaze speed from children to adults within diverse tasks.
- Visaxion is well suited for companies, researchers, healthcare, and educational institutions interested in human functional vision. In addition, various usability studies of eye medications and optical aids can be conducted in both environments.

Location: Arvo Ylpön katu 34, 3350 Tampere. Kauppi Campus.

Prices: Prices will be defined based on customer needs. Please inquire!

Contact:
hanna.samposalo@tuni.fi

5.6 Civit

- Civit provides research facilities and expertise in the sectors of visual content creation and representation of visual data, advanced displays, and immersive user experience.
- Equipment includes various high-end cameras, advanced displays, range sensors and LIDARs, VR/AR and other immersive gear. CIVIT premises in Sähkötalo, Hervanta Campus, include capture and display studios, plenoptics lab and a UX room.
- More information in Equipment Catalog or Full list of equipment.
- Civit offers different services for companies from tailor-made exclusive research projects to short-term, easy access POC-projects. Equipment rental and standardised 3D reference data is possible for testing and development needs.

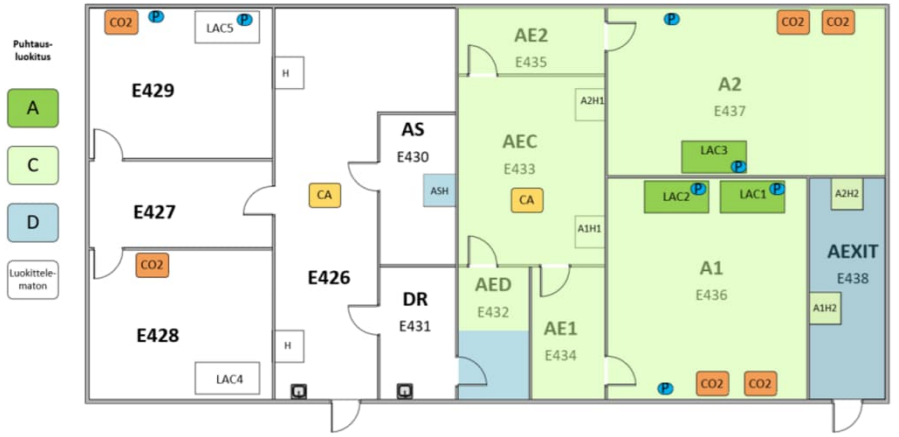
Location: Sähkötalo, Hervanta Campus.

Prices: Companies can rent our equipment or get access to our facilities through research projects. You can also collaborate with us in smaller projects, such as Proof of Concept-projects.

Contact:
civit@tuni.fi
Subscribe to newsletter

Tampere University

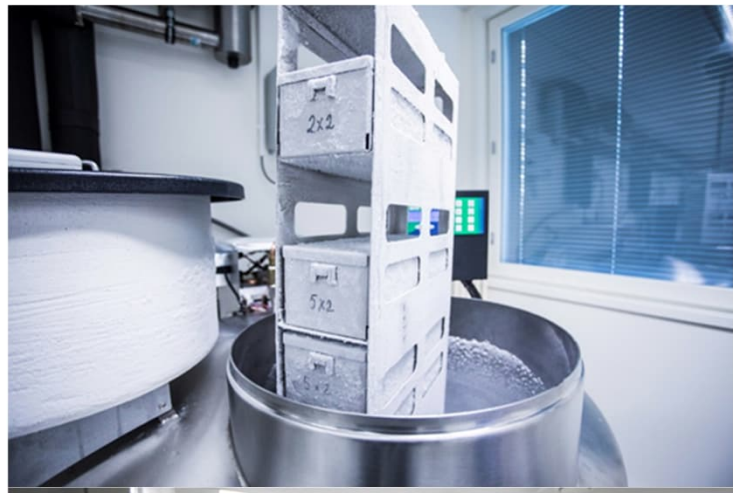
5.7 Regea Tissue Center

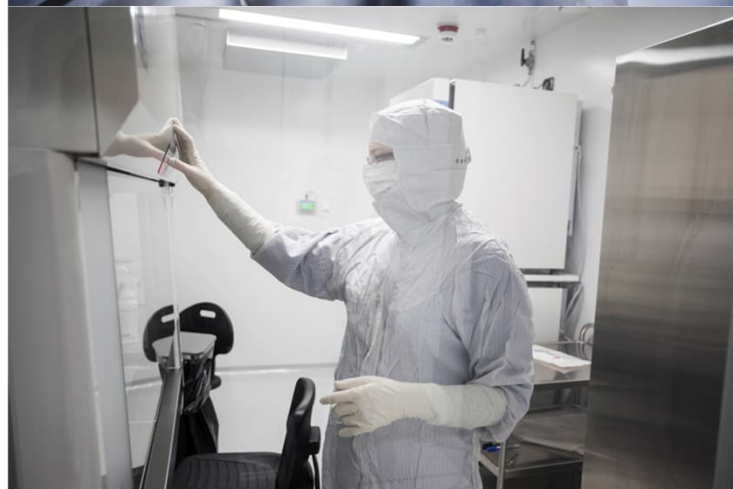


Regea Tissue Center is a clinical tissue bank and a GXP manufacturing unit for tissue and cell-based products. Regea is part of Tampere University Faculty of Medicine and Health Technology.

Regea procures and distributes tissue transplants (musculoskeletal tissues, amniotic membrane and cornea) for clinical use. Regea also imports tissue transplants (pericardium, sclera, amniotic membrane, demineralized bone) to Finland. Donated tissues are used for treating a wide range of serious illnesses and injuries.

Regea was among the first in the world to start the manufacture of tissue engineered products for clinical applications. Close to 30 patients suffering from bone tissue defects have been treated with stem cell based medicinal products. The treatments have been made in collaboration with Finnish hospitals.





Infrastructure

Quality system based on the principles of Good Manufacturing Practice (GMP)

Cleanrooms classified according to EU GMP A/B, A/C, A/D (~ISO 14644 classes 5-8)

Quality control laboratories and equipment for the testing of tissue and cell-based products

Services

Manufacturing of tissue and cell-based products

Cleanroom rental including training, accessories and services

Assistance in setting up a quality system, equipment qualifications

Contact information: Group leader, Quality manager Tiia Tallinen tiia.tallinen@tuni.fi +358505680428

Location: Arvo Ylpön katu 34, 33520 Tampere

5.8 Varala Sports Institute

- Varala Sports Institute offers RDI services for companies in various stages of product development through collaborative planning. Customer needs are taken into account as part of the overall research and development process.

Services for companies

- Validation
- Verification
- End-user acceptability testing
- Certification

Location: Varalankatu 36, 33240 Tampere

Prices: Prices will be defined based on customer needs. Please inquire!

Contacts:
info@varala.fi
+3583 2631 111

Test Manager
Marko Haverinen
marko.haverinen@varala.fi
+358 44 345 9957

6. Research groups in MET

There are more than 2,800 researchers at Tampere University in total. Our research groups carry out multidisciplinary research with national and international partners.

6.1 Decision Support for Health

- We develop data analysis methods to help healthcare professionals, patients or those interested in their health understand often complex health-related information. This way they can make informed decisions that lead to actions (e.g. diagnosis, treatment plan, lifestyle changes).
- We specialize in data-driven methods. These are usually based on medical signal processing, explanatory artificial intelligence and machine learning combined with statistical analysis. The methods are designed to work with 'real life' data, which may be of low quality, contain artifacts and missing bits. The guiding theme for us is that our methods should be accepted by end users and should have a real measurable impact and work in practical life.

Services provided by the research group:

- Development of decision support algorithms and software
- Planning and implementation of validation studies
- Help in preparing (international) funding applications
- Scientific reporting, e.g. on validation studies
- Consulting regarding healthcare decision support, standards and healthcare information technology processes.

Prices: Prices will be defined based on customer needs. Please inquire!

Contact:
Mark van Gils
Professor
mark.vangils@tuni.fi
+358504066610

6.2 Micro- and Nanosystems

•The group researches and develops solutions based on micro- and nano-technologies for cell and tissue technology and micromechanical testing of fibrous materials.

Areas of expertise:

- Microfluidics, Microrobotics, Microsensors and Micro manufacturing

Services provided by the research group:

- •Cleanroom micromanufacturing
- •Modelling
- •Design and manufacturing of microfluidic tissue chips
- •Cell culture hypoxia solutions

Location: Hervanta campus
Prices: Prices will be defined based on customer needs. Please inquire!

Contact:
Pasi Kallio
Professor
pasi.kallio@tuni.fi
+358 500 525546

6.3 Bioinspired Materials and Robotics

The group researches and develops methods to manufacture and assemble devices based on micro- and nano-technologies that contain liquids, soft materials and/or natural materials. Applications of the devices are in robotics and microfluidics.

Areas of expertise:

- Microfluidistics, Micro and soft robotics, Microfabrication, Ultrasound technology

Services provided by the research group:

- Cleanroom micromanufacturing
- Polymer manufacturing: 3D printing, silicone castings
- Characterization of soft materials: tensile and compression tests
- Electronics measurements

Location: Hervanta campus

Prices: Prices will be defined based on customer needs. Please inquire!

Contact:
Veikko Sariola
Tenure track –professor
veikko.sariola@tuni.fi
+358504646138

6.4 Sensor technology and biomeasurements

The group researches and develops measurement and analysis methods and devices mainly for measuring human physiological functions, especially the cardiovascular system. In addition, we develop methods for analyzing volatile compounds, i.e. so-called artificial intelligence technology for medical applications.

Services provided by the research group:

- We conduct high-quality and multidisciplinary research in cooperation with researchers in medicine and other disciplines
- We support the operations of companies by offering our versatile expertise to solve their needs.

Location: Hervanta campus

Prices: Prices will be defined based on customer needs. Please inquire!

Contact:
Antti Vehkaoja
Assistant professor (tenure track)
antti.vehkaoja@tuni.fi
+358 40 739 3181

6.5 ULTRASOUND Group

The primary goals of the group are the manipulation of microscopic materials with ultrasound. These include:

- Blood cells,
- Tattoo ink,
- Antibubbles, and
- Ultrasound contrast agent microbubbles.

- The group has a high-speed photography and microscopy setup.
- The research outcomes typically have diagnostic or therapeutic applications.

Location: Sähkötalo, Hervanta Campus.

Pricing: Upon request.

Contact:
Craig S. Carlson
craig.carlson@tuni.fi
Room SD109

6.6 Health Data Science

- Health Data Science is a research profiling area at the University of Tampere. Our research network consists of experts in data science, bioinformatics, and medicine at the University of Tampere and Pirha.
- The research aims to develop data analytics for leveraging biological, clinical, and health data. We develop and validate data-driven computational methods for promoting well-being at individual and population levels.
- We discuss research collaboration as needed to utilize our expertise and methodology in research and product development in the health and well-being technology field.
- For more information about the profiling area, visit research.tuni.fi/health-data-science/.

Terveyden datatiede

Contacts:
Prof. Matti Nykter
Matti.nykter@tuni.fi

Kaisa Aho, FT
Senior specialist
Kaisa.aho@tuni.fi
+358-50-4062 482

7. Collaboration with students

Our students are active engines of development already during their studies and desired workforce after graduation. Reach our students and find the best talent for your business or organization!

7.1 Thesis

- By cooperating with students, companies get access to fresh new ideas and creative solutions to their topical problems. Cooperation also promotes students' learning and improves their working life skills.

- By having a student do a thesis, you get access to the latest information, additional resources for unfinished work, or possibly a new talent for your organization.

- For more information or to suggest a thesis or project subject by contacting
  Career Services at Tampere University: careerservices.tau@tuni.fi
  Career services at Tampere University of Applied Sciences: careerservices.tamk@tuni.fi

7.2 JobTeaser

- Service for employers at the University of Tampere.
- As an employer, you can offer work, internship and thesis jobs to Tampere University students and recent graduates. You can report open positions free of charge in the JobTeaser service.
- For companies and organizations that want to recruit new talent and gain visibility among Tampere University students and recent graduates.
- More information and instructions here.

Contact:
Tampere University
sari.pohjankyro@tuni.fi
+358408490343
Hervanta campus

7.3 Industry Ambassadors

- Industry Ambassadors are students who visit local companies to introduce them to all the opportunities and services that Tampere University offers for industry and business.
- For SMEs interested in collaborating with Tampere University.
- Service is especially designed to support industrial R&D, the development of expertise and the recruitment of new talent.
- Invite the Industry Ambassadors to visit your company by sending your contact details by email. Industry Ambassadors will contact you to schedule a meeting and agree on the agenda. Remote meeting is also possible.
- Contact by sending email or fill the contact form.

Contact:
yrityslahettilaat@tuni.fi

7.4 Kampusklubi

- Kampusklubi is a collaboration platform for companies, students and academics. The aim is to create cooperation between companies and the university. The focus is on making concrete things happen, creating new projects, networking and finding experts.
- Kampusklubi offers its members selected services to support collaboration and networking, facilities around the campuses, and access to an international scientific community and talent pool. For companies, membership provides an opportunity to build brand visibility and strengthen their employer image at Tampere Universities community.
- Find us on Facebook, LinkedIn, X, Instagram

Location: Kampusklubi Clubroom, Korkeakoulunkatu 7, 33720 Tampere
(Hervanta campus, Tampere University)
Prices: SME's subscription fee is 6000 € per year. For large companies the fee is 10 000 € per year. Startups and University spin-offs, contact us! Become a member here.

Contact:
info@kampusklubi.fi
+358405503767

8 Social media and Partners in collaboration newsletter

Follow us and grab the best tips!

Tampere University on Facebook, LinkedIn, X, Instagram, Youtube

Tampere University of Applied Sciences on Facebook, LinkedIn, X, Instagram, TikTok, Youtube

Collaboration, partnerships and continuous learning on LinkedIn, X

The Wellbeing Services County of Pirkanmaa on Facebook, LinkedIn, X, Instagram

For those looking for collaboration and networking opportunities, and to keep up to Tampere University's current news and events: Partners in collaboration –newsletter. It is targeted especially for local community and collaborators. You'll find previous issues here. Subscribe to the newsletter here.

This resource catalog was made as a part of Growth from Health and Wellbeing –project funded by Pirkanmaa Council of Tampere region. If any information presented in this catalog needs updating, please contact aino.salmi@businesstampere.com.

Project group in Tampere University MET faculty: Antti Vehkaoja, Roni Ahola, Siiri Niemelä, Anna Parviainen, Markus Parviainen