Open House

Program

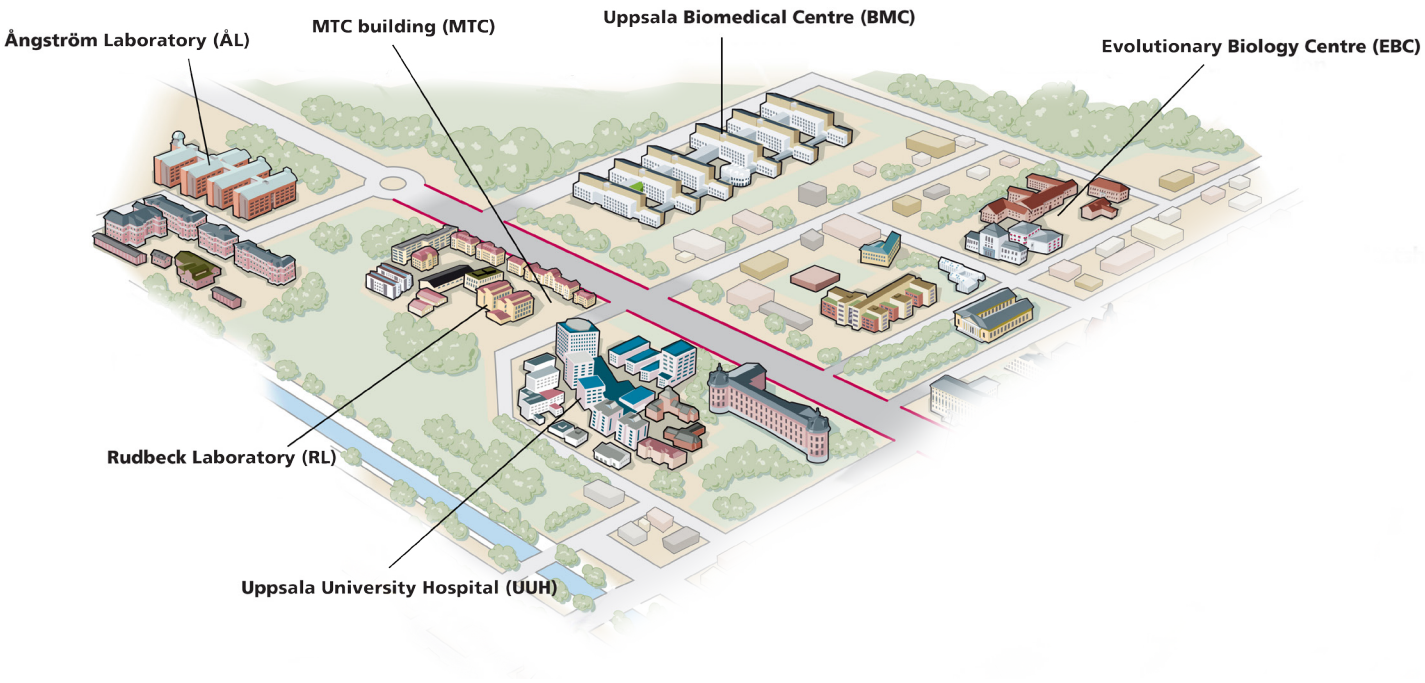
SciLifeLab Open House in Uppsala

May 27, 2015
Facility sessions 09:00 - 17:00
Mingle at Navet 17:00-19:00 (registration needed)
Contact: events@scilifelab.se

SciLifeLab
Karolinska Institutet
KTH Vetenskap och Konst
Stockholms universitet
Uppsala Universitet

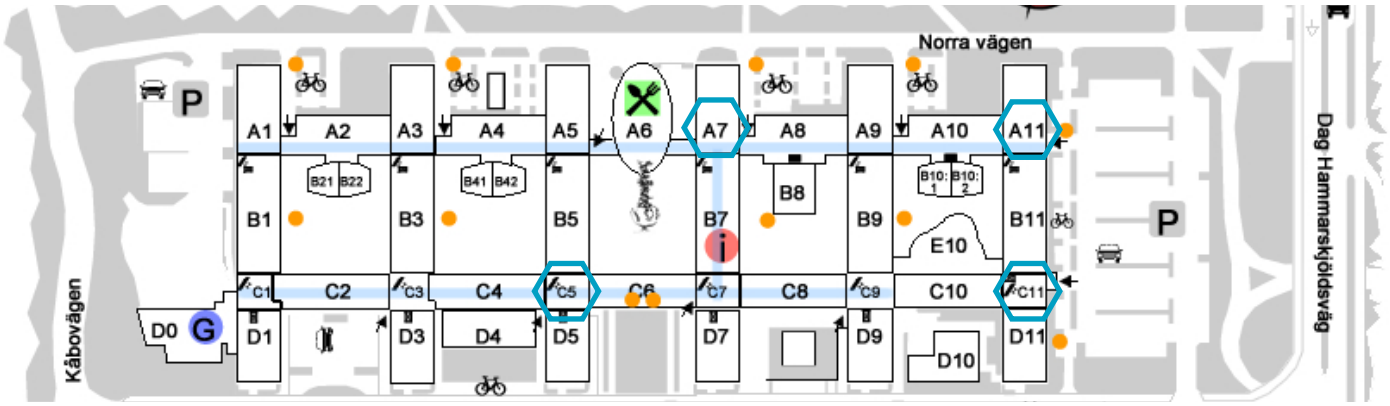
Program

	09:00-09:45	10:00-10:45	11:00-11:45	13:00-13:45	14:00-14:45	15:00-15:45	16:00-16:45	Venue
Navet - the SciLifeLab hub in Uppsala	x				x			BMC
Affinity Proteomics platform								
PLA Proteomics			x		x		x	BMC
Tissue profiling		x			x		x	RL
Bioinformatics platform								
Bioinformatics Compute and Storage (UPPNEX) Bioinformatics Long-term Support (WABI) Bioinformatics Short-term Support and Infrastructure (BILS)	x			x		x		BMC
Clinical Diagnostics platform								
Clinical Biomarkers			x	x		x		BMC
Clinical Sequencing	x			x		x		BMC
Chemical Biology Consortium Sweden platform + Drug Discovery and Development platform								
ADME of Therapeutics Uppsala Drug Optimization and Pharmaceutical Profiling (UDOPP)		x			x		x	BMC
Biophysical Screening and Characterization		x		x		x		BMC
In Vitro and Systems Pharmacology	x			x		x		UUH
Medicinal Chemistry - Lead Identifaction	x				x		x	BMC
Functional Genomics								
Microbial Single Cell Genomics		x			x		x	BMC
Single Cell Proteomics		x			x		x	BMC
National Genomics Infrastructure platform								
NGI Uppsala (SNP&SEQ Technology Platform)	x				x		x	BMC
NGI Uppsala (Uppsala Genome Center)			x		x		x	BMC
Regional facilities of national interest								
Array and Analysis Facility	x			x		x		BMC
Biological visualization (BioVis)		x		x		x		MTC
Zebrafish				x				EBC
BioMaterial Interactions (BioMat)			x	x		x		ÅL
Mass Spectrometry-based Proteomics, Uppsala	x			x		x		BMC

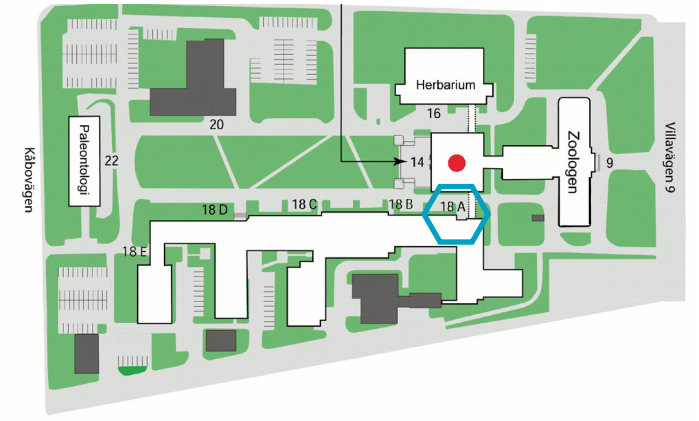


Entrances

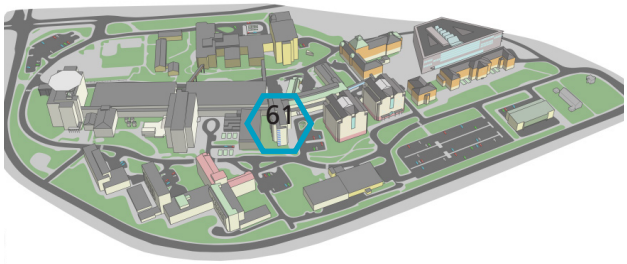
Uppsala Biomedical Centre



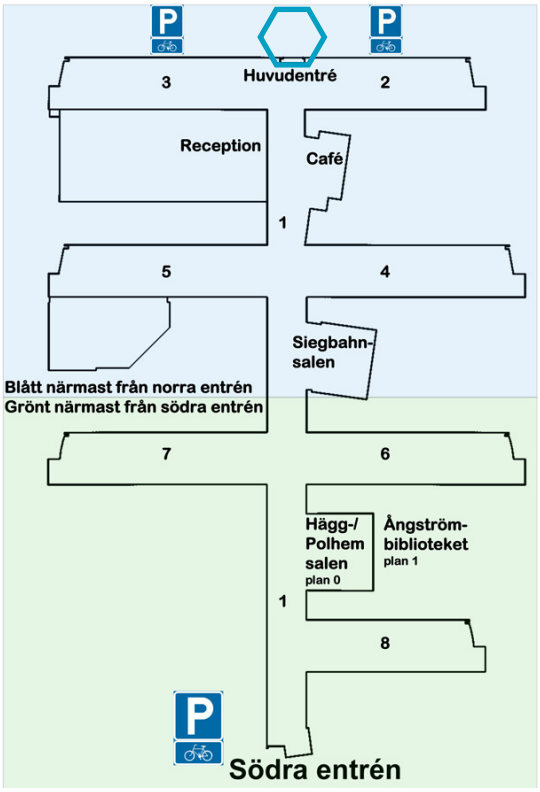
Evolutionary Biology Centre



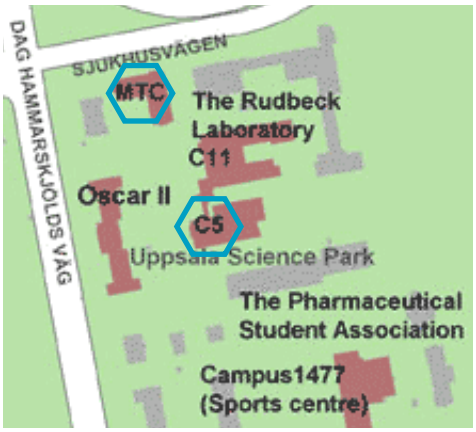
Uppsala University Hospital



Ångström Laboratory



MTC and the Rudbeck Laboratory



Navet - the SciLifeLab hub in Uppsala

Session times: 09:00 & 14:00
Venue: BMC - entrance C11, Navet E10:1309
Contact: Erika Erkstam, erika.erkstam@scilifelab.uu.se

Navet is the national SciLifeLab hub in Uppsala, a place to meet for scientists, facility staff and visitors from within and outside of the academic environment. The innovative architecture is designed to facilitate interdisciplinary meetings and serves as an inspiring atmosphere to promote creativity. Navet is dedicated to research and collaboration.

We offer guest rooms to be used by researchers/scientists for short periods and 10 meeting rooms bookable through TimeEdit. The triple room at ground floor host small meetings as well as conferences for 90p. The Meeting square enables social activities and open lectures.

Do you want to have your next meeting or conference in Navet? We will give you a short introduction to SciLifeLab and tell you about the possibilities with Navet as a meeting place. Includes a guided tour in Navet.

Affinity Proteomics platform

PLA Proteomics
Session times: 11:00, 14:00 & 16:00
Venue: BMC – entrance C11
Contact: Masood Kamali-Moghaddam, masood.kamali@igp.uu.se

We will be pleased for the opportunity to have you visit our facility to demonstrate our technologies and guide you through our daily routines.

The PLA Proteomics Facility at SciLifeLab provides a set of unique molecular tools for proteome analysis in solution as well as in situ. Using a set of affinity probes the target proteins, their interactions and modifications are measured and imaged in cells and tissue sections. The technologies also allow analyses of single or panels of up to 92 proteins in a single reaction with high specificity and sensitivity in minute amounts of samples.

Examples of technologies that will be illustrated during this Open House will include a demonstration of in situ PLA and the subsequent inspection by microscopy, solid-phase PLA with real-time PCR readout for specific and sensitive protein measurements in body fluids, and finally a short description of the novel WB-PLA in which the combination of these two technologies provide a powerful assay for protein detection.

During these sessions we will also try to address any technical- or service related questions that you may have. Looking forward to seeing you at our facility!

Tissue Profiling
Session times: 10:00, 14:00 & 16:00
Venue: Rudbeck laboratory – entrance C5 Klinisk patologi, meeting point: by the elevators
Contact: Per-Henrik Edqvist, per-henrik.edqvist@igp.uu.se

The Tissue Profiling Facility provides the tools and know-how necessary for preforming analyses of protein expression in complex tissues by employing high-throughput histological techniques. Our flagship services include tissue microarray production, immunohistochemistry and slide scanning, but we are also equipped to handle other aspects of tissue processing such as embedding of tissues in paraffin, slide sectioning and counterstaining.

The facility also has access to the antibody resource generated within The Human Protein Atlas project, with more than 17.000 IHC validated antibodies. We will demonstrate how to construct cost-effective and information-dense tissue microarrays and how sections from such arrays can be stained using automated immunohistochemistry and slide processing in a high throughput manner to yield hundreds of data points in a single experiment. We will also show how stained tissue slides are scanned into high-resolution digital images that can be saved, shared, annotated or used for image analyses.

Bioinformatics platform

Bioinformatics Compute and Storage (UPPNEX)
Session times: 09:00, 13:00 & 15:00
Venue: BMC - entrance C11, Navet, E10:3309
Contact: Ola Spjuth, ola.spjuth@farmbio.uu.se

SciLifeLab Bioinformatics Compute and Storage facility (also known as UPPNEX) provides high-performance computing and storage resources, maintain relevant bioinformatics software and data (e.g. reference genomes), and offer associated user support. The facility is hosted at Uppsala Multidisciplinary Center for Advanced Computational Science (SNIC-UPPMAX), which is Uppsala University's resource for high-performance computing and related know-how. The services are available free of charge for Swedish scientists.

Bioinformatics Long-Term Support (WABI)
Session times: 09:00, 13:00 & 15:00
Venue: BMC - entrance C11, Navet, E10:3309
Contact: Björn Nystedt, bjorn.nystedt@icm.uu.se

SciLifeLab Bioinformatics Long-term Support facility (also known as WABI), provides advanced custom-tailored bioinformatics support to scientifically ranked projects. The facility holds 13 experts (now hiring another 10) and has state-of the art competence in large-scale sequence data analysis, including genomic variant detection, transcriptomics, single-cell analyses and population genomics, but also supports integrative projects including e.g. proteomics and metabolomics.

Applications for support are open three times a year, and the most scientifically outstanding projects are selected by a national evaluation committee, and provided 500 hours of support, which is typically extended over a period of about 12 months. As knowledge transfer is a key aspect of the support model, hands-on involvement from the applicant research group is required. Special efforts in BigData and Human WGS analyses have also been recently initiated by the facility.

Bioinformatics Short-term Support and Infrastructure (BILS)
Session times: 09:00, 13:00 & 15:00
Venue: BMC - entrance C11, Navet, E10:3309
Contact: Henrik Lantz, henrik.lantz@bils.se

Bioinformatics Short-term Support and Infrastructure (also known as BILS) is funded by the Swedish Research Council (VR), SciLifeLab, and several Swedish universities to facilitate Life Science research in Sweden by providing support in the field of bioinformatics. We are around 50 experts distributed over 6 Swedish university cities. Focus is on short-term support, typically 80 hours of free support is given per PI and year, but these hours can be spread out over as many weeks as is needed. We offer support in many areas, including Next Generation Sequencing, proteomics, statistics, metabolomics, systems biology, phylogenetics, and more. We also have a strong development team focused on setting up infrastructure of use for the Swedish life science community in general. Apart from hands-on help with analyses, we also offer support with project planning and sanity-checks of existing projects, and welcome all bioinformatics projects at any stage of completion to get in touch with us.

Chemical Biology Consortium Sweden platform

Uppsala Drug Optimization and Pharmaceutical Profiling (UDOPP)
Session times: 10:00, 14:00 & 16:00
Venue: BMC – entrance A11, floor 3, corridor B3, 305a
Contact: Maria Backlund, maria.backlund@farmaci.uu.se

UDOPP is a national platform that provides unique expertise and a state-of-the art laboratory for absorption, distribution, metabolism, excretion (ADME) investigations and pharmaceutical profiling of molecular probes and lead candidates.

UDOPP is associated with the Drug Delivery & Disposition group at Department of Pharmacy, BMC, Uppsala University. UDOPP is also affiliated to the SciLifeLab Drug Discovery and Development Platform.

At UDOPP (ADMEoT) facility you can learn about the ADME processes, importance of pharmaceutical profiling and in vivo pharmacokinetics (PK) studies for selection of successful molecular probe/lead molecule. Practical use of liquid handling robotic system and mass spectrometry technique in ADME and PK studies will also be demonstrated.

Clinical Diagnostics platform

Clinical Biomarkers
Session times: 11:00, 13:00 & 15:00
Venue: BMC – entrance C11
Contact: Agneta Siegbahn, agneta.siegbahn@medsci.uu.se

It is our pleasure to have you visit our facility, and to have the opportunity to demonstrate our technologies and guide you through our daily routines.

Since 2013 the Clinical Biomarkers Facility at SciLifeLab provides unique services for high throughput and multiplex protein analyses. Using multiplex proximity extension assay we offer analysis of 92 proteins and 4 controls in 90 samples in each run with high specificity and sensitivity in minute amounts of samples. To date more than three millions analytes in more than 35,000 samples have been analyzed. Currently, the facility has access to three protein panels – with relevance for oncology, cardiovascular diseases and inflammation –, and several other protein panels are expected in near future. In addition, the facility is initiating services for large-scale single-plex protein, and multiplex and high throughput micoRNA analysis.

During this Open House we will present and describe the technologies, and demonstrate hands-on for multiplex Proseek protein detection using microfluidic integrated real-time PCR readout. Large amount data produced by high throughput and multiplex protein analyses requires special data handling, which also will partially be covered.

We look forward to seeing you at our facility, and we will try that during these sessions address any technical- or service related questions that you may have.

Clinical Sequencing
Session times: 09:00, 13:00 & 15:00
Venue: BMC - entrance C11, Navet, E10:2309
Contact: Johan Rung, johan.rung@scilifelab.uu.se

The Clinical Sequencing Facility provides genetic sequencing services for clinical research projects and routine diagnostics. In our four work packages for solid tumors, hematological malignancies, inherited diseases and clinical immunology, we develop Next Generation Sequencing based testing directly in clinical labs at Uppsala University Hospital. By this unique collaboration between university and hospital, we can provide the whole workflow from accepting blood or solid tissue samples at the clinic all the way to bioinformatic genetic analysis and diagnostic reports by hospital geneticists. At SciLifeLab Open House, you will have the opportunity to meet our team of medical doctors, geneticists and bioinformaticians, and hear about our development and services at the forefront of translational medicine.

ADME (Absorption Distribution Metabolism Excretion) of Therapeutics (UDOPP)
Session times: 10:00, 14:00 & 16:00
Venue: BMC – entrance A11, floor 3, corridor B3, 305a
Contact: Aljona Saleh, aljona.saleh@farmaci.uu.se

ADME of Therapeutics (ADMEoT) team is the SciLifeLab Drug Discovery and Development platform facility for absorption, distribution, metabolism, excretion (ADME) and pharmaceutical profiling. ADME team provides unique expertise and state-of the-art laboratory facilities to strengthen the lead selection and compound portfolio of Swedish academic groups.

The ADMEoT facility is based at the Drug Delivery & Disposition group at Department of Pharmacy, BMC, Uppsala University and also affiliated to Chemical Biology Consortium Sweden (CBCS).

At ADMEoT (UDOPP) facility you can learn about the ADME processes, importance of pharmaceutical profiling and in vivo pharmacokinetics (PK) studies for selection of successful lead molecule. Practical use of liquid handling robotic system and mass spectrometry technique in ADME and PK studies will also be demonstrated.

Biophysical Screening and Characterization
Session times: 10:00, 13:00 & 15:00
Venue: BMC – entrance A7, B7:113a (10:00) & B7:101a (13:00 & 15:00)
Contact: Annette Roos, annette.roos@icm.uu.se

The facility provides kinetic and structural information on interactions between biomolecules. Primarily we aid hit-to-lead development projects in the Drug Discovery and Development (DDD) Platform, but can also provide services to academic and external researchers.

The methods we use are SPR-biosensor technology, thermophoresis and X-ray crystallography. During the facility viewing we will have a short presentation describing how these techniques can aid a drug discovery project and briefly explain how the DDD platform operates. We will show our state-of-the-art equipment for producing protein crystals, the Biacore T200 and microscale thermophoresis instrument. We will also have computers set up where visitors can get help to interpret SPR sensorgrams and electron density maps. For those who would like to there will be the opportunity to fish up a protein crystal using a 0.1 mm nylon loop.

In Vitro and Systems Pharmacology
Session times: 09:00, 13:00 & 15:00
Venue: Uppsala University Hospital - entrance 61, 4 floors, Department of Clinical Pharmacology
Contact: Vendela Parrow, vendela.parrow@scilifelab.uu.se

"Providing key insights of in vitro efficacy, mechanism of action, molecular target and systemic side effects of any investigational molecule of interest using a combined experimental-computational approach".

- IVSP is a biochemical- and cellular-assay facility, fully integrated in the Department of Clinical Chemistry and Pharmacology, Uppsala University.
- Our aim is to predict and/or confirm mechanism of action and cellular toxicity (on-target/off-target) in vitro.
- We have access to cell-based assays using a HTS analysis platform, acoustic dispenser, high content imaging and time-lapse microscopy, multimode plate readers and mass spectrometry.
- We perform computational analysis of drug induced systemic gene expression profiles (generated in collaboration with the Array and Analysis Facility) and verify predicted effects experimentally.
- For more information contact vendela.parrow@scilifelab.uu.se

Medicinal Chemistry – Lead Identification
Session times: 09:00, 14:00 & 16:00
Venue: BMC – entrance C5, floor 5, corridor B5
Contact: Johan Wannberg, johan.wannberg@scilifelab.uu.se

As part of the Drug Discovery and Development platform, the dedicated scientists of the Medicinal Chemistry - Lead Identification facility in Uppsala aims to identify and optimize promising early small molecule hits in close collaboration with academic project owners.

At the facility we are two medicinal chemists and one computational chemist. Initial chemical hits can be obtained from high-throughput screening (HTS), through fragment-based drug discovery (FBDD) technologies, as well as through rational drug design. Synthetic and computational chemistry is at the core of the so-called Design-Make-Test-Analyze cycle that characterizes small molecule drug discovery programs.

The mission is to deliver small drug-like molecules with potency, selectivity, physicochemical and ADMET properties of sufficient quality to allow proof-of-concept animal studies.

At the SciLifeLab Open House there will be a short introduction to the facility, followed by a tour of the labs and a question/discussion part.

Functional Genomics platform

Microbial Single Cell Genomics
Session times: 10:00, 14:00 & 16:00
Venue: BMC – entrance A11, corridor B9:2, floor 2, meeting point entrance to B9:2
Contact: Thijs Ettema, thijs.ettema@icm.uu.se

The Microbial Single Cell Genomics facility started in 2012 and aims at providing single cell genomics services to the scientific community. Single cell genomics is an emerging technology that allows for the exploration of the genome content of individual cells without the need for prior cultivation in the lab. The facility offers streamlined single-cell sorting and lysis, whole-genome amplification and screening of individual cells by targeting 16S/18S or customer-specified marker genes, as well as whole genome and targeted gene sequencing services to the scientific community in Sweden and beyond.

During the SciLifeLab Open House, we will give a brief presentation of the facility, providing an overview of the technology and the type of services we offer. In addition, we will show some of the results of projects that have recently been completed. After the presentation, there will be an opportunity to visit the facility premises, and you will be able to witness single cell sorting activities. In addition, you will be able to interact with the staff, and discuss potential single cell genomics projects.

Single Cell Proteomics
Session times: 10:00, 14:00 & 16:00
Venue: BMC - entrance C11, Navet, E10:2102
Contact: Caroline Gallant, caroline.gallant@igp.uu.se

The newly established Single Cell Proteomics Facility aims to provide access to novel methods to detect proteins in single cells. During the SciLifeLab Open House, we will hold a drop-in session where participants can learn about our approaches and soon-to-be-offered services. We will have information about the application of proximity extension assays (PEA) to probe proteins, or protein in combination with RNA detection, in single cells. You will also have the opportunity to discover some of the equipment we will employ, including the Fluidigm C1 Single Cell Auto-Prep system.

National Genomics Infrastructure platform

NGI Uppsala (SNP&SEQ Technology Platform)
Session times: 09:00, 14:00 & 16:00
Venue: BMC – entrance C11, meeting point in Navet, ground floor
Contact: Tomas Axelsson, tomas.axelsson@medsci.uu.se

As one of the three facilities constituting the National Genomics Infrastructure (NGI) the SNP&SEQ Technology Platform (www.genotyping.se; www.sequencing.se) assists genotyping projects on all scales using three different genotyping systems and provides services of all major applications for next generation sequencing (NGS) using one MiSeq, four HiSeq2500 and five HiSeqX instruments from Illumina.

The genotyping and sequencing processes are accredited by SWEDAC (ISO/IEN 17025:2005) and the platform is CsPro certified by Illumina for genotyping and sequencing. The genotyping and sequencing procedures are semi automated using multiple robotic workstations and a laboratory information management system. In 2014, 186 projects from all major Swedish universities were completed encompassing over 54,000 samples and include a wide range of organisms such as human, dog, horse, birds, plants, bacteria etc. The SNP&SEQ Platform has a staff of 37 employees and consists of facility heads, lab staff, bioinformaticians and IT systems developers. At the SciLifeLab Open House day, we will inform you of our services at our facility and show our instrumentation during guided tours in our laboratories.

NGI Uppsala (Uppsala Genome Center)
Session times: 11:00, 14:00 & 16:00
Venue: BMC – entrance C11, meeting point in Navet, ground floor
Contact: Inger Jonasson, inger.jonasson@igp.uu.se

We will have poster and PowerPoint presentations to show the different sequencing technologies we work with. We will focus on the single molecule, long read technology from Pacific Bioscience. We will also give examples of different applications on the Ion Technology, short reads technology with fast turn around time. It will be possible to discuss project ideas with staff from the facility. We will also organize guided tour in the lab facility.

Regional facilities of national interest

Array and Analysis Facility
Session times: 09:00, 13:00 & 15:00
Venue: BMC – entrance C11
Contact: Anders Isaksson, anders.isaksson@medsci.uu.se

The Array and analysis facility is a regional technology platform of national interest. We provide microarray-based anlysis of RNA and DNA for researchers in Uppsala, but also from other institutions. In addition we analyze DNA from children, fetuses and tumors for clinical diagnostic purposes in collaboration with Clinical genetics at the Uppsala University Hospital. We also provide bioinformatic analyses of array data and other types of data.

During SciLifeLab Open House We will inform participants about the services we provide. We will also show our equipment and demonstrate how the analyses are performed in the lab.

Biological visualization (BioVis)
Session times: 10:00, 13:00 & 15:00
Venue: The MTC building – entrance Dag Hammarskjölds väg 14B, floor 3
Contact: Dirk Pacholsky, dirk.pacholsky@scilifelab.uu.se

Bioimaging provides the means to place genomic and proteomic information in a cellular or tissue context. The BioVis facility provides a unique combination of technology and know-how for multimodal biological visualization at the tissue, cell, and sub-cellular levels, including supporting analytical and preparative technologies.

We provide access to analytical techniques covering light and electron microscopy, as well as flow cytometry. We offer advice regarding methods and visualization-related problems as well as free-based access to state-of-the art instruments.

We aim to help researchers coming from academic and non-academic areas to cover various perspectives and scales of visualization that have to be addressed during research projects. The Light microscopy and Electron microscopy node covers Imaging in the scale of cm to pm to let you visualize samples in 2, 3 or even 4 dimension (x,y,z and time). Image Analysis Software for 3D reconstruction is available. The Flow Cytometry & Cell Sorting node combines imaging and flow cytometry data and allows even to isolate and purify your cells of interest.

Zebrafish
Session time: 13:00
Venue: EBC - Norbyvägen. 18A, Ground floor
Contact: Katarina Holmborn Garpenstrand, katarina.garpenstrand@scilifelab.uu.se

Do you want to know more about zebrafish as a model system? Can zebrafish be of interest for you in your research? We offer standardized housing and husbandry of zebrafish, automated in situ hybridization, KASP SNP genotyping, techniques for forward and reverse genetic experiments, imaging of zebrafish larvae etc. We now also offer high-throughput targeted mutation service using CRISPR/Cas9 technology. Does this sound interesting? Welcome to EBC to learn about this fascinating animal model.

BioMaterial Interactions (BioMat)
Session times: 11:00, 13:00 & 15:00
Venue: The Ångström Laboratory – Main entrance
Contact: Marjam Ott, marjam.ott@angstrom.uu.se

The use of biomaterials has become an integral part of modern health care, e.g. joint replacements, dental implants, cochlear implants and various tools for restoration of function in a tissue or organ after disease or trauma.

The BioMat facility offers access and technical support to state-of the art instruments as well as scientific support from experienced staff regarding methods and experimental design to decode cell and tissue response in relation to biomaterial properties.

- Equipment
- Cell laboratory
- Scanning Electron Microscope (SEM)
- UV-VIS Spectrometer
- Dynamic Light Scattering (DLS)
- Thermo gravimetric Analyzer (TGA)
- Differential Scanning Calorimetry (DSC)
- He Pycnometry
- Rheometer

Mass Spectrometry-based Proteomics, Uppsala
Session times: 09:00, 13:00 & 15:00
Venue: BMC – Entrance C5, Floor 4, Corridor D5, D5:401c
Contact: sara.lind@kemi.uu.se

The main services at the facility are to provide MS-based protein identification, comparative/quantitative proteomics, targeted proteomics, characterization of posttranslational modifications and as well as bioinformatic handling of data. All species are welcome and samples can be provided as purified proteins as well as full proteome samples. Program for open house (45 min):

- 10-15 min: Introduction to the facility – how can we guide research on MS-based proteomics?
- 20 min: Lab tour in MS lab to show our high resolving Orbitrap instruments (In D5:3-D5:4)
- 10 min: Questions and discussions with personnel. Experimental design, suggestions for analysis and/or data interpretation. Questions can be e-mailed in advance.