CRC | MALMÖ

A MODERN CLINICAL RESEARCH CENTRE

LUND UNIVERSITY
REGION SKÅNE
WELCOME TO THE CRC!

Through the establishment of the Clinical Research Centre, CRC, in Malmö and the expansion of the Biomedical Centre in Lund, the Faculty of Medicine at Lund University now holds the position of Northern Europe’s most modern faculty of medicine.

The CRC brings together research, teaching and health care under one roof. We want our students and researchers in medicine in Malmö to have the best possible opportunities for their work. The CRC provides well-designed premises, with the latest equipment, that serve their purpose well.

The CRC is at the heart of an exciting and innovative region. With highly specialised health care, the biomedical engineering industry and dynamic science parks in its vicinity, the University enjoys the best possible conditions to support, develop, apply and commercialise its researchers’ knowledge and ideas.

PROFESSOR GÖRAN BEXELL
VICE-CHANCELLOR OF LUND UNIVERSITY

The CRC offers the Malmö University Hospital, UMAS, an exciting future. Good medical training and research are an absolute necessity if we are to improve people’s health throughout the world. UMAS has a long tradition of advanced research and training in close collaboration with Lund University. The CRC provides us with better opportunities for more extensive collaboration between research, teaching and health care.

Within the CRC our medical staff will be able to continue their professional development, and will have somewhere to train their communicative and collaborative skills in acute situations. Patients will be able to meet doctors who are international authorities in their areas. It is in the meeting with patients and their needs, that researchers get new ideas. Their research then results in better diagnostics and treatment of the patient. Thanks to close cooperation with research, we can offer health care that is among the best in the world.

MAT S WELFF, REGIONAL DIRECTOR
SKÅNE REGIONAL HEALTH AUTHORITY
CRC – FACTS

- Total area 26,000 m²
- 40 research groups
- 420 researchers, postgraduate students and technical & administrative personnel
- 400 undergraduate students
- Modern research facilities:
  - laboratories with high-technology equipment
  - consulting rooms for patients taking part in clinical research projects
  - access to extensive biobanks and population registers
- Modern teaching facilities:
  - teaching facilities geared to modern pedagogics
  - a medical library with rooms for group activities, study carrels, access to electronic journals and databases, as well as IT support
  - a medical training centre where skills can be practised on dummies and through the use of simulation equipment
- Bold, new architecture with many meeting places, designed by Nyréns Arkitektkontor AB
- Colourful, contrasting art and interior design, including works of Truls Melin

“CRC is the biggest venture UMAS and the Faculty of Medicine have invested in to stimulate advanced medical research and teaching that contribute to improving the health of the population and developing health care. It is here that tomorrow’s researchers and health care professionals are being educated and trained.”

Carl-David Agardh, senior consultant and professor in clinical diabetes research
MEDICINE IN Malmö

Lund University – the largest in Scandinavia – lies in one of the most dynamic regions of Europe. The broad competence at the University creates the necessary conditions for interdisciplinary research and teaching. There are many successful teaching and research projects at the meeting point between medicine, engineering, the natural sciences and social sciences at Lund University.

The Medical Faculty at Lund University offers a creative academic environment with dedicated students and researchers from all parts of the world. One of the strengths of the Medical Faculty is its ability to unite teaching, patient-related research, research into caring sciences and basic research.

UMAS, is a combined university and regional hospital providing care for the 270,000 inhabitants of the city of Malmö, as well as the 1.6 million living in the health care region of Skåne in southern Sweden. The hospital offers advanced care and performs world-leading research together with researchers at Lund University in areas such as vascular disease, coagulation, diabetes, hand surgery, cancer, social medicine and reproduction. Broadly speaking, all this research is contained in the concept of the CRC.

Lund University and the Skåne Regional Health Authority are intensifying their efforts in medical research and training through the CRC in Malmö. One of the results of previous collaboration between the University and the Skåne Regional Health Authority is the biomedical teaching and research centre, BMC, in Lund, which is directly connected to the Lund University Hospital. Here, basic medical research is integrated with the University Hospital’s clinical research.
“Basic medical research has made fantastic progress in recent years. The greatest challenge is now to apply this research in a way that leads to better diagnostics and more effective treatment. With the integration of research, teaching, clinical training and health care within the CRC, we have the unique opportunity to achieve this, and to be a leading centre for clinical research.”

Jan Nilsson, chairman of CRC’s board, and professor in experimental cardiovascular research

“The CRC is a modern research centre that brings together research groups from various areas in biomedicine and medicine. The actual building has a very interesting and open architectural style. The CRC not only facilitates cooperation between the research groups working here, but will also be an interesting meeting place for scientific seminars and conferences. The CRC provides a really modern working environment, which facilitates close contact with the students. Our research group is looking forward to using functional laboratories, and to meaningful exchange with other research groups, in both basic and clinical research.”

Pirkko Härkönen, professor in tumour biology
BRIDGES BETWEEN CARE, LEARNING AND RESEARCH

The new Clinical Research Centre offers an attractive research environment right in the centre of Malmö. By providing the best possible facilities, new medical discoveries can be made, diagnostic tools and treatment can be improved, and preventive medicine developed, all contributing to improved health worldwide.

THE MEETING PLACE
The CRC is a meeting place for teaching, research and health care. Students, researchers, teachers and medical staff can meet and interact. Teachers can take part in research projects and full-time researchers can meet everyday medicine. Students and medical staff can learn about the latest research findings, providing the opportunity for continuous professional development.

The dynamic architecture stimulates meetings and discussions through its open areas and meeting places, with lovely views over the surrounding park. The CRC is an attractive, light working environment with good facilities for all.

THE RESEARCH ENVIRONMENT
Clinical and preclinical researchers work together at the CRC on studies of common diseases such as hardening of the arteries, diabetes, obesity and cancer, as well as epidemiology.

Researchers have access to brand new, well-equipped laboratories and technical facilities that contribute to successful experimental research. The biobanks at UMAS provide invaluable data that attract researchers from all over the world.

Patient-related research at the CRC is facilitated by the proximity of the clinics at UMAS. Patients taking part in clinical studies can come to the CRC for examinations and to have samples taken. Here the patients meet specialists with knowledge of the latest research, while they themselves contribute to the development of new methods of diagnosis and treatment.

Apart from the three newly erected buildings housing laboratories and premises for teaching, the CRC includes another three buildings from
"The CRC feels new and airy. The teaching facilities are well-planned and we have easy access to computers, study carrels and rooms where we can work in groups. As a student, being in the middle of the hospital area gives us a natural connection with the clinic, even when we are engaged in more theoretical aspects of our training. I like the idea that students are in the same building where research is being carried out."

Anna-Karin Jacobsson, medical student

"The planning and the architecture at the CRC is well thought-out and adapted to how we researchers work, with well-designed laboratories, offices and public areas. Every day I meet other researchers than those in my own group, and that makes it easier to collaborate and help each other out. We can learn new methods and share responsibility for equipment, for example. There is already a great atmosphere here."

Marketa Sjögren, postgraduate student at the CRC in diabetes and endocrinology
the 1930s, where research in social medicine and epidemiology is pursued. This kind of research has been carried out for many years at UMAS, partly because the hospital has been responsible for the health care of the city’s inhabitants, and partly due to the Swedish system of patient registers and personal identity numbers, which makes it possible to follow a patient all over the country. These factors, together with the increasing knowledge on the genetic factors behind many diseases, make it possible to study present and possible future patterns of disease. Many comparative studies can be carried out thanks to the fact that 35% of the inhabitants of Malmö are of foreign origin.

Researchers at Lund University are responsible for many of the important medical discoveries that have led to improved methods of treatment, new pharmaceuticals and better diagnostics. Many of these discoveries have been conceived and developed in fruitful collaboration with local, national and international companies. The treatment of haemophilia and contrast agents for radiology are two examples. To facilitate the step from research to commercial product, CRC cooperates with the Medeon Science Park in Malmö, which is an important, expanding scientific centre for existing and recently established companies in the fields of medicine and health. Biomedical engineering companies will also be able to rent premises at the CRC.

**THE LEARNING ENVIRONMENT**

The CRC provides undergraduate and postgraduate students, and medical staff, with new, specially adapted teaching premises. Students will have access to a learning centre with rooms for group activities, study carrels, electronic journals and databases. At the medical library staff work with IT personnel, teachers and researchers.

At the Medical Training Centre, which is run jointly by UMAS and the Medical Faculty, medical staff and students will be able to improve their skills using dummies under simulated operations and other acute conditions. Students will also be trained in patient communication skills and team work.

As the teachers themselves are active in research, students will be able to learn about the latest findings. Basing teaching in a research environment contributes to increasing students’ interest in, and understanding of, research, and the terms under which it is carried out.
“The CRC includes two of our closest partners, Lund University and UMAS. The clinical research carried out at the CRC is of great interest to medical and health care companies in the Öresund Region. By bringing together teaching, research and business under one roof, the CRC provides a practical manifestation of our joint efforts to improve cooperation between business and academia.”

Charlotte Ahlgren, MD, Medeon Science Park in Malmö

“The CRC is a dream come true. The modern, open laboratories make it possible for us to carry out our diabetes research at the absolute forefront. I’m always meeting students and colleagues, not least those in clinical medicine, and this gives the possibility for discussions and the development of new ideas. The participants in our regional studies, DiPiS and TEDDY, come to the CRC to have samples taken just a few steps away from the laboratory. I have previously been involved in designing new research laboratories, both in the USA and in Sweden. At last I can work in a laboratory for advanced biomedical research, connected to the clinic in an environment that promotes and stimulates interdisciplinary research and education.”

Åke Lernmark, professor in experimental diabetes research
Students at the CRC learn for life. To ensure that they continue to develop their knowledge throughout their lives, students are taught the skills of independent learning during their basic studies. The technique of PBL, problem-based learning, employed during teaching is based on real situations that they will face in their future careers.

**COME TO THE CRC**
The Öresund Region is home to 14 universities, 26 hospitals, 7 science and technology parks and 41,000 employees in the area of life sciences. Medicon Valley is a well-known concept in biotechnology and medicine. The Öresund Region’s universities, hospitals, pharmaceutical companies and biomedical engineering industry work together within the framework of the Medicon Valley Academy to strengthen medical development.

During recent years, medicine in Malmö has been collected into a coherent geographical and organisational unit, with UMAS, Lund University, Malmö University and the Medeon Science Park being vital components. CRC’s next-door neighbour is the internationally recognised Wallenberg Laboratory, not to mention the newly constructed buildings for the UMAS Diagnostic Centre and the Faculty of Health and Society at Malmö University.

Skåne has Sweden’s best communications with the rest of Europe. The commuter train from Malmö’s southern station, over the Sound, to Copenhagen Airport in Denmark, takes no more than 15 minutes. All European flight destinations can be reached from here within 3 hours. There are also direct international flights to 122 destinations worldwide. Once the city tunnel in Malmö has been opened, it will take no more than 15 minutes to travel from Copenhagen Airport to central Malmö and the CRC, a short walk away.

Accommodation is also good in Skåne, be it in the city centre or out in the country. Schools and day-care centres maintain a high quality, and in Malmö and Lund, 25 km away, there are a number of international schools. Short distances and good communications mean that commuting times are short. Skåne offers a wide range of leisure and cultural activities, and its easily accessible countryside, beaches and historical monuments all contribute to a high quality of life.
“We agreed to take part in the TEDDY study as it is an important study. It’s nice to know that we can contribute to helping researchers understand why diabetes develops in children, and whether anything can be done about it. It also feels good to know that I will find out if my daughter is in the risk zone. I also want to teach her to contribute to society and other people’s health. The TEDDY staff have been great right from the start. They’re friendly, helpful and professional, and try hard so that the children aren’t scared, for example, about having blood samples taken.”

Karin Sjöholm and daughter Fredrika who is participating in the TEDDY study on type 1 diabetes in children.

“The CRC offers a great working environment, good infrastructure and plenty of opportunities for meeting people. Here I meet researchers from other groups and other scientific backgrounds and nationalities. This is valuable for me as a researcher and as a person. I can share others’ knowledge, experience and equipment. It provides new opportunities and challenges in my research.”

Isabel Goncalves, doctor and researcher at the CRC in cardiovascular research
RESEARCHERS AT THE CRC ARE WORKING...

... to develop a vaccine that reduces the risk of having a heart attack or a stroke. Researchers hope that the vaccine will be ready to test on humans within a couple of years.

... to understand the factors that cause the growth and metastasis of hormonal cancer. Their goal is to develop new methods of diagnosis and treatment in order to discover and prevent metastasising breast and prostate cancer.

... to develop new diagnostic tools and treatment for optimised, individually adapted tumour treatment in patients with localised, advanced prostate cancer.

... to identify children in Skåne who are gluten-intolerant, i.e. who have coeliac disease, before they are seriously affected by the disease, through the study Coeliac Disease Prediction in Skåne (CiPiS). The condition can be detected early with the aid of methods developed by researchers at the CRC, and disease can be prevented by a gluten-free diet.

... to understand why type 1 diabetes is increasing so rapidly in children. All newborn children in Skåne are taking part in the TEDDY study.

... to develop a genetic map regarding type 2 diabetes, which will help identify those at risk of developing the condition. The genetic map can also provide information on how the disease develops and this can be used to develop new pharmaceuticals.

... to understand how disorders in the secretion of insulin are inherited in type 2 diabetes. Researchers hope that his knowledge will eventually lead to new methods of treatment which can be adapted to each individual.

... to obtain knowledge on the growth and repair of the mucous membrane of the gastrointestinal tract. It is of great importance to be able to understand how inflammation and tumours develop, in the first place, in the large intestine. Researchers are developing new forms of treatment based on liquid probiotics, or “friendly” bacteria.

... to increase our understanding of the mechanisms that lead to socio-economic differences in health and the consumption of health care among the population, and the way in which social circumstances affect a person’s health during their lifetime. Researchers want to develop a scientific basis for the distribution of health care resources and preventive measures.

... to obtain more knowledge of the aging process, through the GÅS project (Gott Åldrande i Skåne). Researchers are studying normal aging, chronic diseases among the elderly and their effects on the individual’s ability to function and participate, their care needs, as well as risk factors for chronic disease and reduced cognitive ability.

... to increase knowledge concerning how people with functional disorders can participate in society on equal terms.