



LUNDS
UNIVERSITET

LUCC
CANCERCENTRUM

LUCC Strategic Plan 2020-2024

Summary

Lund University Cancer Centre (LUCC) strengthens and integrates cancer research at Lund University (LU) in a national and international context by enabling a quality-enhancing coalition of stakeholders. LUCC is hosted by the Faculty of Medicine but serves to integrate and strategically plan cancer research and education from all faculties at LU as well as activities within Region Skåne. To serve this purpose, a clear mandate from the LU vice chancellor and the faculty deans is essential. This mandate should point to LUCC as the primary reference organization for strategic issues regarding cancer, such as recruitment of excellent scientists, major infrastructure investments, channeling of funds and donations, and guidance for course leaders at all educational levels. The purpose of LUCC is also served by being the main LU cancer research contact point for outside stakeholders such as the industry and the media. To serve as this standard point of reference, LUCC requires direct administrative support and well-working communication channels with central LU institutions. A regular dialogue between the different levels of the line organization (university, faculty, department) and LUCC should be established to ensure that its leaders receive the information required to fulfill their mission.

VISION

Lund University Cancer Centre is a leading actor in **understanding** malignant diseases, **explaining** their implications, and **improving** knowledge-based cancer prevention and care.

MISSIONS

- 1) LUCC creates excellent conditions for conducting state-of-the-art **cancer research and education**.
- 2) LUCC promotes rapid **implementation** of novel research findings in close collaboration with health care providers, patients, the private sector, and society at large.

Today and into the future

Today in Sweden, 60 000 patients are diagnosed with cancer each year and 300 000 people are estimated to live with the disease. Survival figures are in general among the highest in the world for most malignant diseases. However, there are also obvious challenges in the strive for improved cancer care: Basic research is faced with shifting dogma in the new era of big data, necessitating large investments in new technology and associated expertise. Clinical research is suffering from suboptimal organization leading to insufficient time and resources for physician scientists. Implementation of new

knowledge in cancer care is inefficient, expensive, and unevenly distributed within the country, hampering both the innovation process and clinical trials.

In order to leverage the advances in basic cancer research, and to be able to translate new concepts in treatment and diagnosis into improved cancer care, there is **an increasing need for excellent research, both basic and applied, that is interconnected with the healthcare system and other stakeholders**. Currently, we are witnessing several paradigm shifts in cancer research and treatment, requiring a dedicated coordination of resources in order to prepare for the challenges ahead.

Main challenges in the field

- High precision genetic and cellular engineering of model systems and therapeutic modalities to understand the mechanistic basis for tumor development and progression
- Systems oncology: Introduction of large-scale and integrated genomic, transcriptomic and proteomic characterization of tumors
- Interdisciplinary studies increasing the need for accessibility of advanced infrastructure with dedicated technical personnel
- Processing of “Big Data” in basic science and translational studies (genetic and proteomic data, image analysis, patient quality registries) through machine learning and artificial intelligence
- Rapidly changing landscape of unmet clinical needs: From access to conventional therapy to targeted therapy for each individual patient
- Legal and ethical guidelines for handling of sensitive patient and research data

Jointly, the challenges listed above require: Research resources that are distributed efficiently and through open processes to enable excellent research and recruitment; platforms that allow an increased level of integration and interdisciplinarity in research; Expedited transitions from basic and clinical science to implementation in cancer care; Improved distribution of state-of-the-art knowledge in cancer research at all levels; Effective means to interact with society to develop ethical guidelines for new technological advancements and infrastructures and to allow patient empowerment.

Strategies to master challenges and accomplish the vision

The following strategies have been defined to fulfill the missions of LUCC:

- Openness: *Promoting inclusion and transparent decision-making for the benefit of all*

LUCC is an organization open for any employee of LU or Region Skåne with an interest in cancer research. The management of LUCC is based on collegial principles, ensuring transparent decision-making at all levels with the sole aim of maximizing the output of any given resource.

LUCC promotes an inclusive approach of equality and diversity at all levels and manifestations of the organization in representation of positions, promotions, awards, grants, donations, invited researchers, research projects and clinical trials.

In summary, LUCC acts to:

- Increase transparency in decision bodies in order to ensure unbiased and equal decision-making
- Raise awareness of ethical issues in all phases of education, research and the implementation process

- Facilitation: *Stimulating cutting-edge cancer research*

LUCC strives to support excellent cutting-edge cancer research by creating optimal conditions to perform world-leading basic, translational and clinical studies. LUCC furthermore strives to include researchers from related research areas, to enhance interdisciplinary collaborations and viewpoints.

Firstly, LUCC will be a driving force in the development, maintenance and accessibility of state-of-the-art infrastructure for cancer research.

Secondly, recruitment is a crucial means to achieve scientific rejuvenation and serves the purpose of diversifying the academic environment in terms of scientific expertise, age, gender and background. LUCC provides support to departments and faculties in timely and efficient recruitments of excellent faculty members (associate senior lecturers, senior lecturers, professors) with internationally competitive and strategically relevant track records.

Thirdly, LUCC strives to stimulate interactions between scientists at all levels with the aim to facilitate the research process. Locally, LUCC specifically acts to bridge the gap between basic and clinical science, between diverse disciplines, as well as between the different LU faculties. At an organizational level, LUCC interacts with the other Strategic Research Areas (SRA; as defined by the Vice Chancellor) through the SRA Collegium (SFO-kollegium). At the level of research activities, LUCC works together with SRAs that have common aims. The SRAs from the Faculty of Medicine are natural partners for collaboration, but other SRAs, such as NanoLund, are identified as important affiliates in realizing the potential of interdisciplinary fields. At the national level, LUCC intends to continue to act jointly with Sahlgrenska Akademien and Sahlgrenska Cancer Centre in the collaboration with other SRAs within cancer research (U-CAN and Cancer Research KI). Importantly, these interactions play a crucial role in promoting national cooperation, in increasing the competitiveness of Swedish cancer research internationally, as well as in benchmarking efforts to implement research findings in the Swedish health care system.

In summary, LUCC acts to

- Facilitate world-leading basic, translational and clinical studies
- Drive technological transformation by supporting the accessibility of state-of-the-art core facilities
- Support the recruitment and retention of top-level scientists
- Promote interactions between cancer researchers to exploit the full potential of the research environment.
- Be a platform for interdisciplinary access to different methodologies, instruments, techniques and analyses, including technical and intellectual support, for all involved researchers.

- Implementation: *Efficiently translating research findings into patient and societal benefit*

A crucial aim for LUCC is to enable a more efficient implementation of research findings into clinical practice and in generating innovations for sustainable growth. Importantly, LUCC provides support to facilitate the transition of basic research findings into clinical trials and clinical practice, as well as to raise the quality of basic and clinical research in close collaboration with Region Skåne. Critical measures that will be effected are: 1) Inclusion of LUCC as the research partner for Skåne University hospital in the efforts to be recognized as an Comprehensive Cancer Centre in the Organisation of European Cancer Institutes (OECI); 2) Provision of infrastructures necessary to facilitate planning and execution of clinical trials in collaboration with the Swedish Research Council outpost Forum Söder; 3) Supporting collaborative interactions and partnerships between clinical, translational and basic cancer researchers.

In addition, implementation of innovative business models is crucial to create impact beyond academia and into society. LUCC serves as a pathway to impact by acting as a common platform for both internal interaction and as a contact point for external commercial partners. LUCC works closely with LU Innovation to make cancer research available to society and thus to contribute to sustainable growth. Together with LU Innovation, LUCC helps cancer researchers and students convert ideas and research findings into successful new products, services or methods on the market, and facilitates the development of collaborative projects.

In summary, LUCC acts to:

- Be an integral part of Skåne University hospital Comprehensive Cancer Centre
- Reinforce activities to improve the frequency, efficiency and quality of investigator-initiated clinical trials
- Actively promote and monitor new ideas for innovations within cancer research at LU
- Develop guidelines and provide support for collaborations between LUCC researchers and external partners

- Nurture: *Training both current and the next generation of cancer researchers*

LUCC actively contributes to an effective and coherent education in current curricula with relevance for cancer with a clear progression between all levels from basic education to postgraduate education and clinical specialist training. In addition, continued training and education for personnel affiliated to LUCC will also be made available through joint courses and seminars. LUCC will also, in collaboration with industry and the healthcare sector, promote research schools and programs tailored to meet the particular needs for PhD students, postdoctoral fellows and clinicians. The expertise represented within the LUCC reference groups ensures that state-of-the-art knowledge within all aspects of cancer research is available to students at all levels of education.

In summary, LUCC acts to

- Promote interaction between relevant educational programs at all faculties
- Promote interaction between academia and the healthcare sector by joint seminars, workshops and lectures
- Organize educational events for early career scientists involved in cancer research
- Arrange courses to counteract strategic gaps between basic and clinical education

- Engagement: *Improving visibility among patients and society*

LUCC actively promotes local and international communication, as well as patient involvement and public engagement in cancer research, from basic to clinical science. To ensure an increased local research communication, LUCC provides activities for a life-long learning, promoting contact between cancer researchers, alumni cancer researchers, local organizations and industry. LUCC also promotes public outreach activities and prepares scientists on how to communicate science, with the aim to improve public visibility.

In summary, LUCC acts to:

- Take a lead position in promoting outreach to society by communicating about the impact of cancer research
- Share knowledge concerning societal challenges within the cancer field
- Promote an active outreach to national, regional and local organizations, as well as industry within the cancer field
- Actively engage in public debates and discussions from a professional scientific perspective

Summary statement

LUCC will act at the front-line to implement cutting-edge knowledge from basic and clinical research by addressing unmet clinical needs in close collaboration with the health care sector, industry and society-at-large.