GENOLIER
INNOVATION
NETWORK

GENOLIER INNOVATION NETWORK

SCIENTIFIC REPORT 2019

Index

Foreword:
Personalized medicine towards total health

Despite the significant advances recently made in the field of life sciences, new factors are threatening our progresses when it comes to improving both, the population's health and the treatment results. Sedentary lifestyle, addictions, epidemics and resistances to therapeutic agents are among those challenges that now require strategies, which transcend the pure framework of clinical care.

Managing a patient's health – as experience showed - should be based on the patient's individual characteristics, which clearly leads to a paradigm-shift from "one-size-fits-all"-treatments to "personalized medicine". And that's where Genolier Innovation Network comes in.

Genolier Innovation Network, the bio-scientific unit of Swiss Medical Network, focuses on gaining knowledge on the main principles of the human body. This thorough and deep expertise, combined with the development of state-of-the-art diagnostic tools and tailor-made, customized new therapy-strategies for every single patient, lead to new ways of curing or treating disease.

All our current actions and future strategies are collectively based on the "Systems-Thinking/Systems-Doing" policy, comprising interconnected functioning parts that relate to specific domains (e.g. preclinical and clinical). Its objective is to provide the ground for value-based medicine by linking the analysis of complex health problems to the identification of potential solutions.

Identify and advocate less expensive diagnostic and therapeutic interventions: To guarantee efficiency, our efforts are to be optimally coordinated across the fundamental, translational, and clinical phases of research, with **patient-centric** and **value-based** strategies as their foundation.

At Genolier Innovation Network, the coordination between the "bench and bedside" teams is essential for identifying the research channels giving us access to truly innovative solutions.

That is, for instance, the kind of research we conduct by using next-generation DNA-sequencing techniques in our decision-making process in oncology. This specific type of collaborative research, performed within the framework of "Réseau romand d'oncologie", also emphasizes the critical role networks play as facilitators of value-based scientific programs – a model of collaboration, Genolier Innovation Network prioritizes in its research.

Jacques Bernier, MD
Chief Science Officer
Genolier Innovation Network

General considerations: Gaining knowledge to refine biomedical standards

Research is a key element of Swiss Medical Network's activities. The ultimate objective of its R&D units is to ensure the quality and safety of all clinical services provided to its patients. With this in mind, Genolier Innovation Network was founded in 2019.

The aim of all translational and clinical research programs conducted by Swiss Medical Network's hospitals and competence centers is to continuously improve the value of diagnostic and therapeutic procedures, thus consolidating the latter's role as a major player in the Swiss healthcare system.

In both, preclinical and clinical settings, the adoption and the development of state-of-the-art research programs are fundamental to ensuring adequate fundraising and an efficient implementation of innovative solutions within the patient care pathway.

Research and Innovation call for space: Genolier Innovation Hub, the multidisciplinary and cross-sectoral development platform of Swiss Medical Network, offers 10'000 m^2 of space, dedicated to support individuals and enterprises in bringing knowledge and research-advances into clinical practice. Thanks to the implementation of strict and specific quality assurance procedures, all research programs conducted within Swiss Medical Network are guaranteed to be carried out according to applicable national and international regulations and directives (quality assurance systems, audits, GCP, GMP, etc.).

Genolier Innovation Network can rely on a highly experienced multidisciplinary group of specialized physicians pursuing one same goal: Gaining knowledge to refine biomedical standards.

Genolier Innovation Hub

Genolier Innovation Hub, the multidisciplinary and cross-sectoral development platform of Swiss Medical Network, is a private entity with the aim to support individuals and enterprises in bringing new knowledge and research advances into clinical practice.

Tightly interconnected with Genolier Innovation Network, the Hub intends to shape the future of R&D at Swiss Medical Network, mainly through own developments. Genolier Innovation Hub pursues the vision of fostering interaction between researchers and clinicians by:

- optimizing the transfer of knowledge and cross-fertilization
- opening up the scope of educational and training models
- reducing the time "from bench to bedside" during the translational phase

To achieve these goals, Genolier Innovation Hub is focusing on research projects that have already reached a later phase of development. The Hub gives support to optimize the translational phase, to expand educational and training opportunities and to facilitate the transfer of expertise between researchers and clinicians. These efforts are reinforced by its proximity to Swiss Medical Network and the direct access to technical and clinical platforms of the entire Genolier Healthcare Campus.

Main axes of Genolier Innovation Hub's strategy:

- **Integration:** a scientific platform for healthcare companies, located at the heart of a major clinical site and innovation incubator
- **Knowledge transfer:** active, supported transfer of expertise between researchers and clinicians within Swiss Medical Network
- **Collaboration:** a dynamic, collaborative environment for implementing innovative concepts, also within the framework of clinical studies
- **Education and communication:** facilities and infrastructure for hosting congresses, conferences, meetings, and educational workshops.

The interconnection of the Hub's activities with those of Genolier Innovation Network will help to boost research within Swiss Medical Network.

Genolier Innovation Hub is currently under construction and scheduled to enter into operation by the end of 2021.

Research Organization & Structure

The Genolier Innovation Network Advisory Board, established in 2019, is a governing body with various advisory and supervisory functions, reporting directly to Swiss Medical Network's Board of Directors. Its role is to support and promote research at all sites.

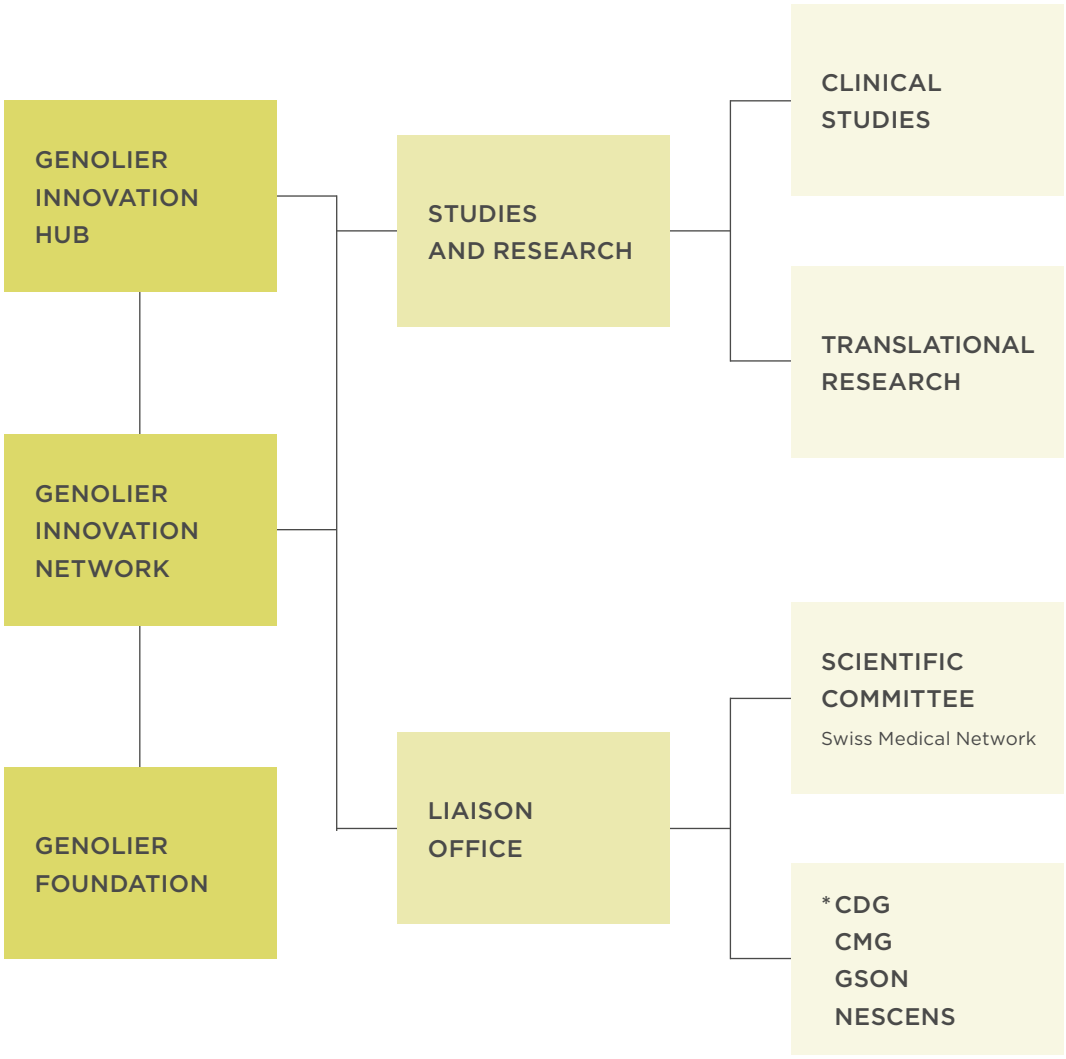
The liaison office between the Genolier Innovation Network Advisory Board and the Swiss Medical Network Scientific Committee (representing major scientific disciplines to ensure continued quality and scientific integrity), coordinates plans and policies between the two entities with a view to take concerted action, to foster cooperation and to align strategies regarding the development of research programs conducted within Swiss Medical Network and other related organizations. Its focus lies on:

- paving the way for high-quality research
- incentivizing the creation and development of research units in specific areas
- spotlighting interactions with internal and external research institutes
- actively supporting fundraising activities (Genolier Foundation)
- managing/allocating research budgets
- advising on financing measures for submitted scientific projects

Genolier Innovation Network Advisory Board's actions follow the recommendations of the Swiss Academy of Medical Sciences and bio-ethical cantonal authorities.

Structure, bodies and research axes

GENOLIER HEALTHCARE CAMPUS



* CDG: Clinique de Genolier
CMG: Centre Médical de Genolier
GSON: Genolier Swiss Oncology Network

Research Governance

Genolier Innovation Network Advisory Board
(in alphabetical order)

Jacques Bernier
Chief Science Officer
Genolier Innovation Network

Specialist in Radio-Oncology and Nuclear Medicine from the University of Liège in Belgium, Jacques Bernier is the Chief Science Officer of Genolier Innovation Network. From 2006 until 2019, he was Head of the Radiation Oncology Department at Clinique de Genolier and Medical Director of Centre d'Oncologie des Eaux-Vives in Geneva. He is the author/co-author of more than 140 scientific publications in peer-reviewed journals and more than 200 communications in national and international meetings.

Stanley Hautdidier
Manager
Genolier Innovation Hub

An engineer by training and holding a master's degree in management, Stanley Hautdidier began his career with the world leader in endoscopy and operative integration as sales manager for integrated operating rooms on behalf of the Belgian, Luxembourg and Swiss subsidiaries. Subsequently, Stanley was CEO of an orthopedic company in Switzerland, in parallel with a consultant activity in the health sector.

Antoine Hubert
Delegate of the
Board of Directors
Swiss Medical Network

Prior to acquiring a stake in Clinique de Genolier in 2002 and founding Swiss Medical Network in 2004, Antoine Hubert was mainly active in the property and real estate industry, has set up businesses and served as a director to several companies in various industries.

Patricia Muller-Hafner
Director Medical Marketing,
Vaud

Marketing-Specialist with a broad Product-Development background, strong focus on oncology and neurology.

Swiss Medical Network Scientific Committee
(in alphabetical order)

Dr Matti Aapro
Member of the Board of Directors
Genolier Cancer Center
Specialist in medical oncology
Clinique de Genolier, Genolier

Dr Christophe Cordier
European Board-certified
Genetic Counsellor
Synlab, Lausanne

Dr Barbara Ankli
Specialist in rheumatology
(Gout and crystal neuropathies)
Schmerzklinik Basel, Basel

Prof. Dr Guido Garavaglia
Specialist in orthopedic
surgery and traumatology
Clinica Ars Medica, Gravesano

Dr Jacques Bernier
Chief Science Officer
Genolier Innovation Network
Specialist in radio-oncology
Clinique de Genolier, Genolier

Dr Philippe Glasson
President Scientific Committee
Swiss Medical Network
Specialist in internal medicine
and nephrology
Clinique de Genolier, Genolier

Prof. Dr Peter Buchmann
Specialist for surgery
and intensive medicine
(Visceral and thoracic surgery)
Privatklinik Bethanien, Zurich

Prof. Dr Oscar Matzinger
President
Genolier Cancer Center
Specialist in radio-oncology
Clinique de Genolier, Genolier

Dr Daniel Christen
President Interdigest
Consultant surgeon specializing
in visceral surgery
Privatklinik Bethanien, Zurich

Research Strategy

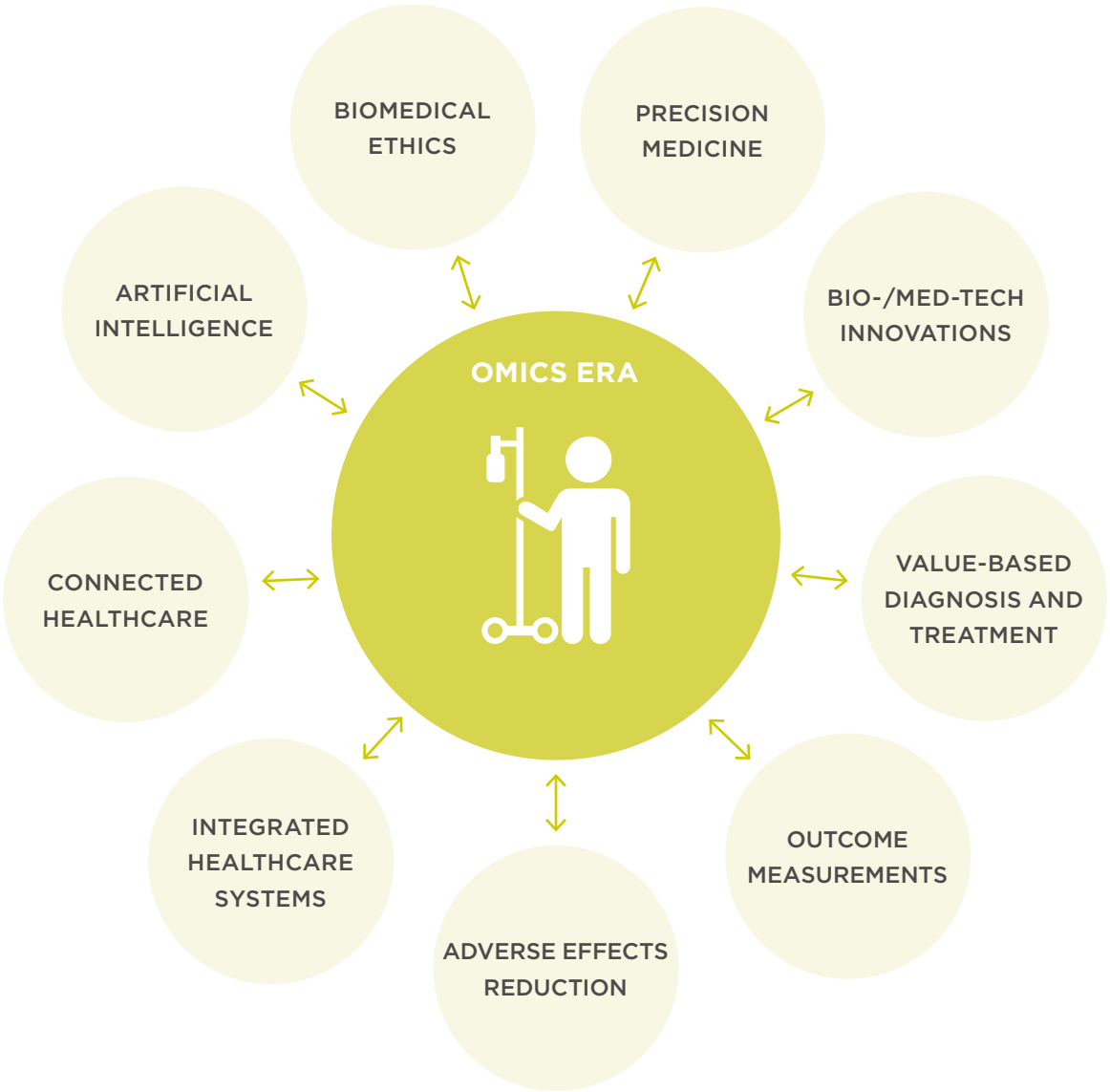
Genolier Innovation Network covers various diagnostic and therapeutic activities. As a branch of healthcare-science, **clinical research** determines – by collecting evidence – the safety and efficacy of diagnostic procedures and treatment regimens.

Another domain of major interest to Genolier Innovation Network is **personalized medicine**. As an adaptation of medical treatments to the patient's individual molecular and genetic profile, it not only improves the ability to diagnose and treat disease, but enables furthermore an early disease-detection.

Advances in "omics" technologies (genomics, transcriptomics, proteomics, metabolomics etc.) might enable personalized medicine at an extremely detailed molecular level. These technologies have – so far – contributed to medical advances that start now entering clinical practice. To note, however, that each of these technologies, taken individually, will not be able to capture the entire biological complexity of human diseases.

A more comprehensive view of biology and disease might be achieved through the integration of multiple technologies.

The Omics Era: Main Hallmarks in Healthcare Ecosystems
A 2020-2025 Outlook



Research Domains

ONCOLOGY

Oncology represents one of the major research-fields at Genolier Innovation Network. Here, the main strategies tend to identify innovative approaches with the potential to increase the therapeutic index of our treatments, either by enhancing their efficacy or by keeping their toxicity as low as possible. Swiss Medical Network's specialized hospitals (predominantly Clinique de Genolier, Clinique Générale-Beaulieu and Privatklinik Bethanien) primarily participate in clinical studies conducted either by national or international cooperative groups (SAKK, EORTC, others) or Swiss academic hospitals.

At Clinique de Genolier, the majority of prospective studies presently conducted focus on the clinical domain of breast cancer. Other oncological targets of prospective clinical trials include malignant tumors, such as pancreatic, prostate and rectal cancers. In all cases, the trials investigate the potential superiority of combined, innovative therapeutic approaches over the use of radiotherapy alone in terms of disease control.

The "Interdigest" team at Privatklinik Bethanien is active at a regional level. Its main objective is to take the latest scientific advances in digestive-tract malignancies and to implement them in real cases.

At Clinique Générale-Beaulieu, the multidisciplinary team of Swiss International Prostate Center is participating in international studies on the risk of biochemical recurrence based on the extent and location of positive surgical margins following a robot-assisted laparoscopic radical prostatectomy.

NEUROLOGY

Professor Julien Bogousslavsky has developed two main lines in neurological research: the first relates to the evolution of neurological and oncological advances from the 19th to the 20th century, whilst the second, conducted in collaboration with New York University, focuses on various forms of hemi-spatial neglect and the analysis of movement disorders in hysteria. Dr Antonia Carota is studying various neurological pathologies, such as hallucinations, delusions, and confabulations.

NEUROSURGERY

Dr John Michael Duff has reported on the results of two innovative neurosurgical techniques:

- Resection of a Ewing sarcoma of the sub-axial cervical spine with pedicle screw reconstruction
- Minimally invasive anterior foraminotomy for cervical radiculopathy

OPHTHALMOLOGY

Its main domain in clinical research is glaucoma (new treatment devices are developed and produced by Swiss Glaucoma Research Foundation in Lausanne). Research-axes:

- **Longitudinal study (over 10 years):** investigating the risk factors involved in the development and progression of glaucoma
- **OCT angiography:** the first technology to allow for a non-invasive study of the optic nerve and retinal blood perfusion (for understanding the causes of glaucoma)
- **"Clever" lens:** a device that continuously measures intraocular pressure
- **Modern electroretinography:** the first device in Switzerland to study connections between the optic nerve and the brain, allowing to detect glaucoma at an early stage
- **eyeWatch:** the first modulated surgical tool for glaucoma

ORTHOPEDICS

Professor Guido Garavaglia is focusing on the development of national registries for therapeutic practices following joint replacement surgery (hip and shoulder). Primary examples include:

- Radiological Registry (Geneva Hip Arthroplasty Registry)
- A multi-center study for a joint shoulder-replacement registry (submitted to the ethical committee for approval, Clinica Ars Medica, Gravesano and Hôpitaux Universitaires (HUG), Geneva)
- Introduction of PROMS - Patient Reported Outcome Measurements (Clinica Ars Medica, Gravesano)

RADIOLOGY

In interventional radiology, Dr Pierre Bize's research focuses on:

- Developing embolization micro-particles, loaded with anti-angiogenic agents, that target hyper-vascular tumors
- Examination of percutaneous cryoablation of benign bony tumors of the mandible
- Percutaneous, image-guided cryoablation of painful bone metastases

RHEUMATOLOGY

Dr Barbara Ankli's research in Schmerzklinik Basel concentrates on uric-acid levels in multimorbid patients with gout, with an analysis of the data collected from a longitudinal, Swiss, single-center cohort

Main research domains
(in alphabetical order)

1 INTERVENTIONAL RADIOLOGY
Clinique de Genolier

2 NEUROLOGY
Clinique de Genolier
Clinique Valmont

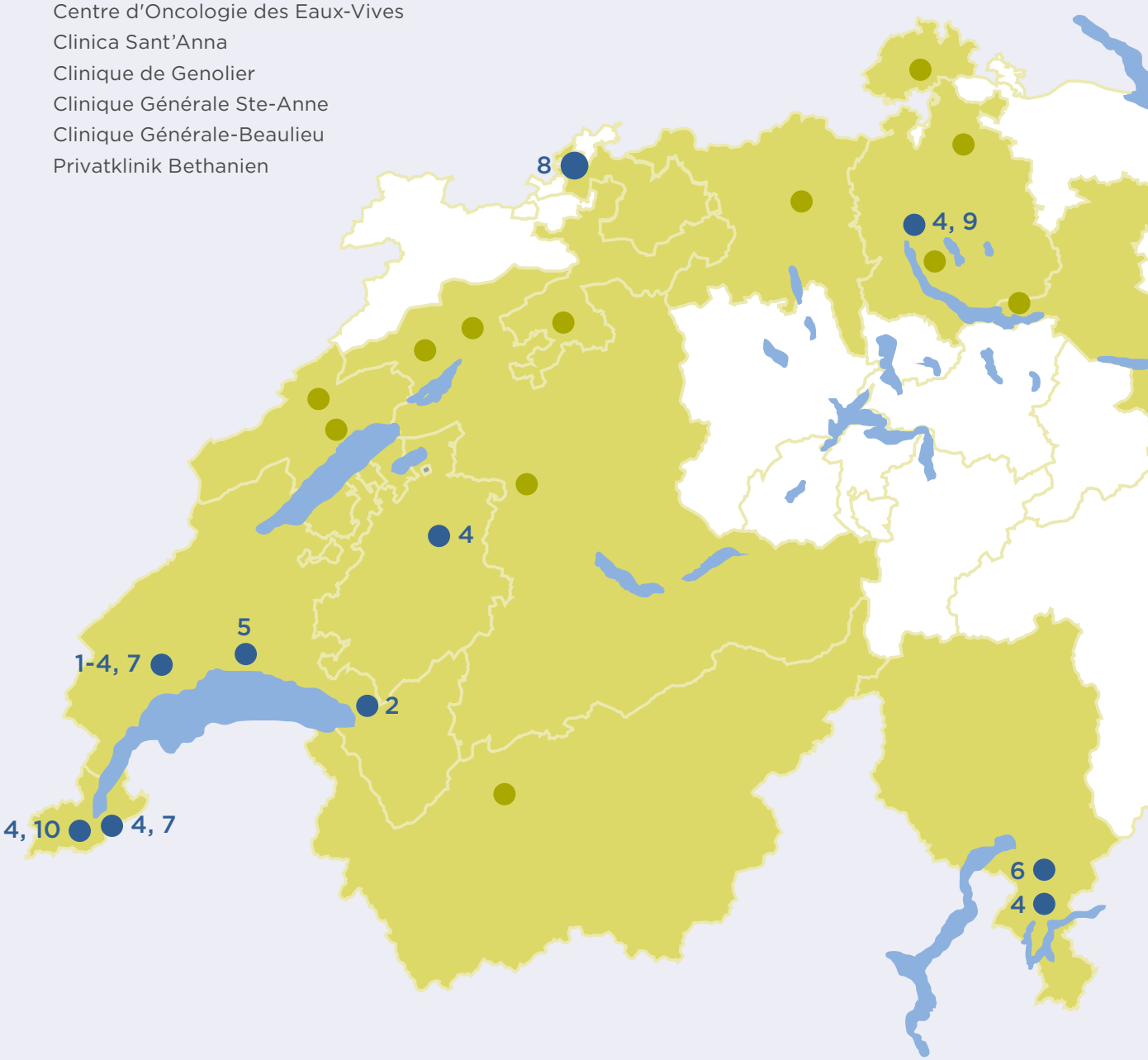
3 NEUROSURGERY
Clinique de Genolier

4 ONCOLOGY
Centre d'Oncologie des Eaux-Vives
Clinica Sant'Anna
Clinique de Genolier
Clinique Générale Ste-Anne
Clinique Générale-Beaulieu
Privatklinik Bethanien

5 OPHTHALMOLOGY
Clinique de Montchoisi

6 ORTHOPEDICS
Clinica Ars Medica

7 RADIO-ONCOLOGY
Centre d'Oncologie des Eaux-Vives
Clinique de Genolier



8 RHEUMATOLOGY
Schmerzklinik Basel

9 SURGERY
Privatklinik Bethanien

10 UROLOGY
Clinique Générale-Beaulieu

Swiss Medical Network: 21 hospitals, 13 cantons

AARGAU
Privatklinik Villa im Park, Rothrist

BASEL
Schmerzklinik Basel, Basel ●

BERN
Hôpital du Jura bernois, Moutier and Saint-Imier
Privatklinik Siloah, Gümligen

FRIBOURG
Clinique Générale Ste-Anne, Fribourg ●

GENEVA
Clinique Générale-Beaulieu, Geneva ●
Centres des Eaux-Vives, Geneva ●

NEUCHÂTEL
Clinique Montbrillant, La Chaux-de-Fonds
Hôpital de la Providence, Neuchâtel

SCHAFFHAUSEN
Klinik Belair, Schaffausen

SOLOTHURN
Privatklinik Obach, Solothurn

ST. GALLEN
Rosenklinik AG, Rapperswill

TICINO
Clinica Sant'Anna, Sorengo ●
Clinica Ars Medica, Gravesano ●

VALAIS
Clinique de Valère, Sion

VAUD
Clinique de Genolier, Genolier ●
Clinique de Montchoisi, Lausanne ●
Clinique Valmont, Glion sur Montreux ●

ZURICH
Privatklinik Bethanien, Zurich ●
Privatklinik Lindberg, Winterthur
Pyramide am See, Zurich

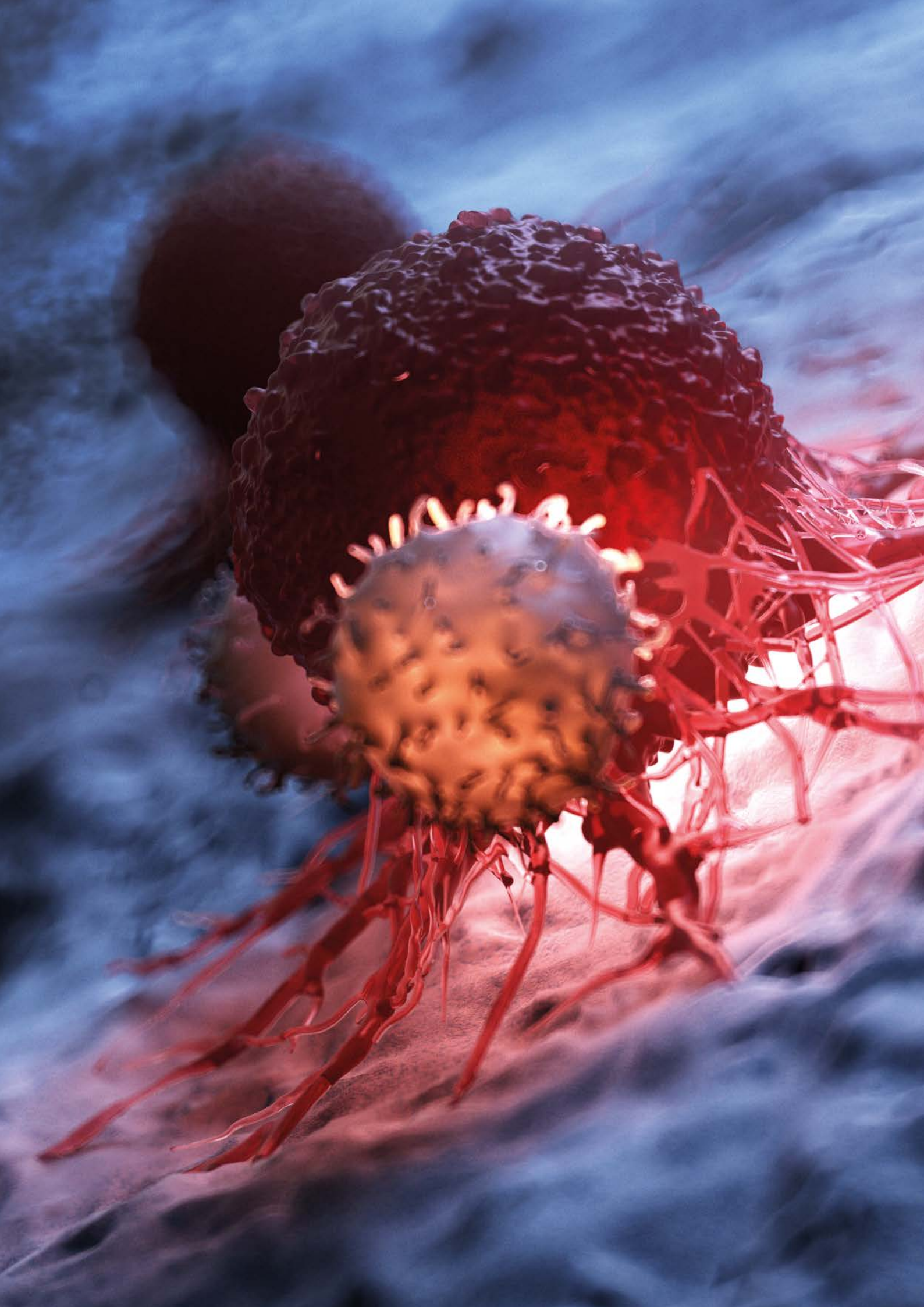
● Sites with ongoing research projects.

Research Protocols

Oncology (by organs)

STUDY NAME	CLINICAL TARGETS
BREAST INTRAOPERATIVE RADIOTHERAPY – IORT Etude sur les patientes bénéficiant d'une radiothérapie intra-opératoire (IORT) à la Clinique de Genolier + Hôpitaux Universitaires de Genève.	Breast
PREVENT Etude suisse, multicentrique, randomisée, placebo contrôlée, sur l'utilisation préventive de la prégabaline chez les patientes à haut risque de développer des douleurs persistantes après une chirurgie de cancer du sein.	Breast
RIB-ELLE A non-interventional study to assess the safety and efficacy of RIBociclib in combination with an aromatase inhibitor (letrozole, anastrozole, exemestane) in the Swiss advanced breast cancer population.	Breast
SAKK 23/16 – TAXIS Tailored AXIllary Surgery with or without axillary lymph node dissection followed by radiotherapy in patients with clinically node-positive breast cancer. A multicenter randomized phase III Trial.	Breast
SAKK 95/17 A 24 weeks activity program in patients with early breast cancer receiving aromatase inhibitor therapy. A multicenter randomized phase III Trial.	Breast
SAKK 96/12 – REDUSE Prevention of symptomatic skeletal events with Denosumab administered every 4 weeks versus every 12 weeks – A non-inferiority Phase III Trial.	Breast Prostate

STUDY NAME	CLINICAL TARGETS
SAKK 08/15 – PROMET Multicenter, randomized Phase II Trial of salvage radiotherapy +/- Metformin for patients with prostate cancer after prostatectomy.	Prostate
SAKK 41/13 – ASPIRINE / EORTC 1534 Traitement complémentaire à l'aspirine lors du cancer du côlon. Une étude randomisée en double aveugle et contrôlée par placebo de phase III.	Colon
OPERA Essai clinique européen phase III comparant en association avec une chimio-radiothérapie néoadjuvante une escalade de dose d'irradiation distribuée par 2 techniques: irradiation externe vs irradiation endocavitaire utilisant une RT de contact (Rx 50kV) chez des patients présentant un adénocarcinome rectal T2-T3a-b < 5cm de diamètre rectum inferieur ou moyen.	Rectum
BAZEDOXIFENE Bazedoxifene, a selective estrogen receptor modulator clinically available for the treatment of osteoporosis, has shown to be an effective GP130/STAT3 signaling inhibitor through in vitro and small animal studies.	Pancreatic and gastric tumors
NIVO-71 REGISTRY A registry for patients with progressing metastatic solid tumor infiltrated by CD8+ T cells and receiving Nivolumab Off-label in the Romand Network of Oncology (RRO).	All solid malignancies



Oncology protocols

Breast cancer

BREAST INTRAOPERATIVE RADIOTHERAPY – IORT: STUDY OVERVIEW

- Patients entered into this study are those presenting with favorable breast cancer.
- This clinical study investigates the role of a new irradiation approach, called intra-operative radiotherapy (IORT), a technique that allows the integration of a single session of radiotherapy at the time of surgery.
- The study aims at demonstrating that a single session of IORT delivered in a few minutes is as efficacious as conventional postoperative radiotherapy, which necessitates 3 to 6 weeks of treatment.
- Should this equivalence of efficacy be confirmed, the use of IORT would then be considered as a valid alternative of therapeutic management in a significant number of patients presenting with favorable breast cancer.

Patient population
Inclusion criteria for exclusive IORT are as follows : histologogically proven, invasive or intraductal (< 2 m); cT1 or size < or = 25 mm in diameter at imaging (MRI mandatory); no nodal infiltration; post-menopausal status; tumor(s) amenable to conservative breast surgery (BCS) including multifocal tumors with close vicinity, and bilateral carcinomas; no contra-indication to radiotherapy; nipple skin sparing mastectomy (eligible for IORT to the nipple-areolar complex only (NAC); unifocal, small local recurrence following BCS (ad-hoc evaluation).
Eligibility criteria for partial IORT include pre- or peri-menopausal status; presence of unfavourable risk factors such as perineural or lymphovascular infiltration; limited axillary nodal invasion (N1).

Background and Rationale
Breast cancer patients presenting with low- and intermediate risk disease might benefit from the application of the partial breast irradiation concept. As part of this strategy, intra-operative radiotherapy can significantly reduce the overall treatment time with respect to postoperative irradiation.

Objective(s)
The objective of this study was first to analyze the efficacy results in a cohort of breast cancer patients presenting with favorable risk factors and treated with breast conserving surgery and IORT. This analysis also included the assessment of the incidence and severity of both, acute and late effects.

Study Title
Breast cancer intraoperative radiotherapy: outcome analysis in patients with favourable and intermediate risk disease.

Clinical Phase
Retrospective analysis.

Sponsor
Breast Unit, Clinique de Genolier.

Coordinating investigators
J. Bernier, M. Kohlik, P-A Brioschi, J-C Horiot. Breast Unit Clinique de Genolier, CH-Genolier.

Breast cancer

PREVENT: STUDY OVERVIEW

- Patients entered into this study are those presenting with high-risk breast cancer and treated by surgery.
- Persistent postsurgical pain occurs in more than 30% of patients undergoing breast cancer surgery.
- This clinical study aims at determining whether pregabalin, a drug with analgesic and anxiolytic activities, may reduce the incidence of persistent postsurgical pain.
- Should a significant analgesic effect of pregabalin be demonstrated by this study, the administration of this drug would be strongly recommended in the future for breast cancer patients at risk of developing post-surgical, chronic pain syndrome.

Study Title
Swiss multi-center, randomized, placebo controlled trial of pregabalin for prevention of persistent pain in high risk patients undergoing breast cancer surgery.

Clinical Phase
Clinical phase III study.

Sponsor-Investigator
B. Rehberg-Klug, CH-Geneva.

Patient population
High-risk patients undergoing breast cancer surgery.

Background and Rationale
Persistent postsurgical pain occurs in more than 30% of patients undergoing breast cancer surgery. Evidence that gabapentinoids such as pregabalin may reduce the incidence of persistent post-surgical pain is ambiguous, potentially because in previous trials prophylactic treatment was administered to every patient undergoing surgery. The patients at low risk of long-term pain are exposed to side effects without much benefit to expect.

Objective(s)
The PREVENT study has two aims:

- Validating or refuting the utility of pregabalin to prevent long-term postoperative pain in patients at high risk of persistent pain after breast cancer surgery.
- Analyzing how side-effect information influences treatment tolerance.

In addition, genetic material will be collected for a later genetic association analysis on acute and chronic post-surgical pain.

Breast cancer

RIB-ELLE: STUDY OVERVIEW

- The patients entered into this study are post-menopausal female patients (≥ 18 years old), with a diagnosis of HR+/HER2-negative advanced breast cancer.
- Endocrine (hormonal) therapy has been the backbone of HR+/HER2- negative advanced breast cancer treatment, nevertheless its efficacy is limited.
- The primary objective is to analyze the potential advantages of the addition of ribociclib - a CDK4/6 inhibitor – to an aromatase inhibitor in these patients in comparison with the endocrine therapy alone.

Patient population
The study will enroll 200 adult post-menopausal female patients (≥ 18 years old), with a diagnosis of HR+/HER2-negative advanced breast cancer that will be treated with ribociclib and an aromatase inhibitor.

Background and Rationale
Endocrine (hormonal) therapy has been the backbone of HR+/HER2- negative advanced breast cancer treatment, nevertheless its efficacy is limited.
A recent clinical study showed that in postmenopausal women with HR+/HER2-negative advanced breast cancer who had received ribociclib, a CDK4/6 inhibitor, plus letrozole versus placebo plus letrozole, showed that a 44% relative risk reduction was evident in the hazard rate of progression /death in favor of ribociclib plus letrozole.

Objective(s)
The primary objective is to analyze time to treatment failure (TTF) for the initial endocrine based treatment with ribociclib plus an aromatase inhibitor in patients with HR+/HER2-negative advanced breast cancer in a real world patient population (Switzerland).

Study Title
RIB-ELLE: A non-interventional study to assess the safety and efficacy of RIBociclib in combination with an aromatase inhibitor (letrozole, anastrozole, exemestane) in the Swiss advanced breast cancer population.

Clinical Phase
Clinical non-interventional study.

Sponsor-Investigator
Dr. Nadine Pasche, Novartis Pharma Schweiz AG.

Breast cancer

SAKK 23/16 – TAXIS: TRIAL OVERVIEW

- Patients entered into this trial are those presenting with breast cancer, with positive axillary nodes.
- This clinical study investigates the role of a new surgical approach, called tailored axillary surgery (TAS), an innovative technique that aims at selectively removing the positive lymph nodes.
- The study compares this new surgical approach, which is likely to reduce the surgery side effects, to conventional axillary dissection.
- Should TAS be as efficacious as conventional surgery in terms of disease control, the use of this innovative approach would then improve the quality of life of a significant number of breast cancer patients with positive nodes in the axilla.

Trial Title
SAKK 23/16 /IBCSG 57-18/ABCSG-53. Tailored AXIllary Surgery with or without axillary lymph node dissection followed by radiotherapy in patients with clinically node-positive breast cancer (TAXIS).

Clinical Phase
Clinical trial phase III.

Sponsor
Swiss Group for Clinical Cancer Research (SAKK).

Coordinating investigator
W.P. Weber, CH-Basel.

Patient population
The TAXIS trial will evaluate the optimal treatment for breast cancer patients with confirmed nodal disease at first diagnosis in terms of surgery and radiotherapy.

Background and Rationale
The removal of all lymph nodes in the armpit through conventional axillary dissection has been standard care for all patients with breast cancer for almost a century. In the nineties, the sentinel lymph node (SLN) procedure, which involves the selective removal of the first few lymph nodes in the lymphatic drainage system, was introduced in clinical practice. Today, conventional axillary dissection is still performed on many women with breast cancer that has spread to the nodes. It is the cause for relevant morbidity in the form of lymphedema, impairment of shoulder mobility, sensation disorders and chronic pain in as much as one third of all women undergoing the procedure. The TAXIS trial will evaluate the optimal treatment for breast cancer patients with confirmed nodal disease at first diagnosis in terms of surgery and radiotherapy.

Objective(s)
TAXIS will investigate the value of tailored axillary surgery (TAS), a new technique that aims at selectively removing the positive lymph nodes. TAS is a promising procedure that may significantly decrease morbidity in breast cancer patients by avoiding surgical overtreatment.
The main objective of the trial is to show that tailored axillary surgery (TAS) and axillary radiotherapy (RT) is non-inferior to axillary lymph node dissection (ALND) in terms of disease-free survival of breast cancer patients with positive nodes.

Breast cancer

SAKK 95/17: TRIAL OVERVIEW

- The patients entered into this study are patients with early breast cancer receiving aromatase inhibitor (AI) therapy.
- Common side effects of AI therapy are, among others: joint pain, muscle pain, stiffness.
- The primary objective is to investigate if a simple outdoor walking intervention can prevent the occurrence of muscle or joint pain/stiffness in breast cancer patients treated with aromatase inhibitors.

Patient population
Patients with early breast cancer receiving aromatase inhibitor therapy.

Background and Rationale
After tumor removal, patients with hormone receptor positive breast cancer tumors often receive adjuvant endocrine treatment, with the use of an aromatase inhibitor (AI) being standard of care in the population of postmenopausal women. Common side effects of AI therapy are joint pain, muscle pain, stiffness, fatigue, hot flashes, and weight gain. Arthralgia and/or myalgia can result in lower physical activity and can negatively influence quality of life (QoL). In addition, muscle or joint pain/stiffness are among the main reasons for non-compliance and discontinuation of AI therapy. Since AI therapy is usually administered for 5 and sometimes even 10 years, this is a major clinical challenge.
For breast cancer patients undergoing AI therapy, physical activity can provide potential benefit by reducing muscle/joint pain and fatigue and can thus improve QoL. The preventive effect of physical activity on AI side effects, however, remains elusive. In addition, activity programs to reduce AI side effects have so far mostly been rather complex. The intervention planned in this study begins at the start of AI therapy, is simple and should therefore be executable under real life conditions, and has the potential to result in sustained alterations in life style. It consists of a simple, home-based intervention aiming at achieving “brisk recreational outdoor walking (moderate intensity) continuously for at least 30 minutes a day, with the aim to take at least 3000 steps, on 5 days per week”.

Objective(s)
The primary aim is to investigate if outdoor walking can prevent the occurrence of muscle/joint pain or stiffness.
Furthermore, this trial will assess the effect of physical activity on symptom burden in general and quality of life in patients receiving adjuvant AI therapy.
During the follow-up phase, the trial will assess whether this intervention leads to a sustained change in lifestyle regarding activity, less pain, and better treatment adherence in the intervention group.

Trial Title
A 24 weeks activity program in patients with early breast cancer receiving aromatase inhibitor therapy.

Clinical Phase
A multicenter randomized phase III trial.

Sponsor
Swiss Group for Clinical Cancer Research (SAKK).

Coordinating investigators
PD Dr. Dr. med. Friedemann Honecker, ZeTuP, St. Gallen; Nicolette Hoefnagels, MSc, ZeTuP, St. Gallen

Breast and Prostate cancer

SAKK 96/12 – REDUSE: TRIAL OVERVIEW

- Patients entered into this study are those presenting with bone metastases from castration resistant prostate cancer or from breast cancer.
- Denosumab, a monoclonal antibody, has a high activity in preventing skeletal related events. Although denosumab is generally well tolerated, severe toxicities as marked hypocalcemia can be observed after the administration of this drug.
- The main objective is to compare two modalities of Denosumab administration, namely every month vs every three months, in these two patient populations.
- Should a dose reduction of this drug show equivalent efficacies, patients could be treated with less toxicities, resulting in a better quality of life.

Trial title
SAKK 96/12. Prevention of symptomatic skeletal events with denosumab administered every 4 weeks versus every 12 weeks.

Clinical phase
A non-inferiority phase III trial.

Sponsor
Swiss Group for Clinical Cancer Research (SAKK).

Coordinating investigator
R. von Moos. Kantonsspital Graubünden, Switzerland.

Patient population
Patients with bone metastases from castration resistant prostate cancer or from breast cancer.

Background and Rationale
Based on their ability to inhibit osteoclast activity, biphosphonates have been used for more than a decade to delay the onset and to reduce the incidence of skeletal related events (SREs) in people with breast and prostate cancer. Traditionally, SREs were defined as a pathologic fracture, spinal cord compression, requirement for radiation therapy or surgery to bone or change in antineoplastic therapy to treat bone pain. Denosumab, a human monoclonal antibody against RANKL, entered the field and three phase III studies have shown a higher activity in preventing SREs as compared with zoledronic acid without impact on disease progression or death. Although generally well tolerated, severe hypocalcemia (corrected serum calcium <1.75 mmol/L) was reported to occur in 3.1% of patients treated with denosumab (versus 1.3% of patients treated with zoledronic acid), and even fatal and prolonged cases have been reported. The impact of dose reduction on SREs has therefore to be investigated.

Objective(s)
The main objective is to establish that denosumab 120 mg given every 12 weeks is non-inferior to denosumab 120 mg given every 4 weeks, in patients with bone metastases from castration resistant prostate cancer or from breast cancer.

Prostate cancer

SAKK 08/15 – PROMET: TRIAL OVERVIEW

- Patients entered into this study are those presenting with prostate cancer recurring after prostatectomy and treated with radiotherapy.
- A number of pre-clinical studies have emphasized a specific interaction between metformin, an anti-diabetic drug, and radiation therapy, to enhance tumor cell killing.
- The main objective of the trial is to explore the efficacy of the addition of metformin to radiotherapy.
- Should metformin improve disease control in this patient population, the addition of this drug to radiotherapy would be highly recommended in case of local failure after prostatectomy.

Patient population
Patients with prostate cancer after prostatectomy.

Background and Rationale
A substantial body of evidence based on laboratory and animal data supports that a specific interaction between metformin and radiation therapy exists through various mechanisms of action. Thus, metformin may represent an effective and inexpensive means to improve clinical outcomes with an optimal therapeutic ratio.
PROMET is a follow-up study of the SAKK 09/10. The latter is a randomized phase III trial addressing dose-escalation to the prostate fossa of patients with biochemical relapse after prostatectomy. PROMET maintains similar inclusion criteria and endpoint definitions of the SAKK 09/10, therefore outcome data can be properly compared between these two studies.

Objective(s)
The main objective of the trial is to explore the efficacy of SRT plus metformin compared to SRT in the endpoint of time to progression after prostatectomy failure.

Trial title
PROMET - Multicenter, randomized phase II trial of salvage radiotherapy +/- metformin for patients with prostate cancer after prostatectomy.

Clinical phase
Multicenter, randomized phase II trial.

Sponsor
Swiss Group for Clinical Cancer Research (SAKK).

Coordinating investigator
D.M. Aebersold. CH-Bern.

Colo-rectal cancer

SAKK 41/13-ASPIRIN: TRIAL OVERVIEW

- Patients entered into this study are those presenting with colon cancer, at an intermediate or advanced stage of disease, and in whom a gene mutation, namely PIK3CA, is identified.
- Many clinical studies have provided evidence for a protective effect of aspirin on colorectal cancer.
- The trial objective is to demonstrate that the daily administration of aspirin for a 3-year period can prolong the survival of these patients.
- Should the efficacy of aspirin be confirmed, the use of aspirin would be strongly recommended in colon cancer patients with PIK3CA gene mutation.

Trial title
SAKK 41/13-Aspirin. Adjuvant aspirin treatment in PIK3CA mutated colon cancer patients.

Clinical Phase
A randomized, double-blinded, placebo-controlled, phase III trial.

Sponsor
Swiss Group for Clinical Cancer Research (SAKK).

Coordinating investigator
U. Güller, CH-St.Gallen.

Patient population
PIK3CA mutated colon cancer patients.

Background and Rationale
Many observational and even randomized studies have provided evidence for a protective effect of aspirin on colorectal cancer. Patients with PIK3CA mutation taking regular low-dose aspirin were found to have a significantly lower risk of colorectal cancer recurrence compared to those not taking aspirin. It is hypothesized that the inhibition of cyclooxygenase-2 (COX-2) through aspirin down regulates the PIK3CA signaling activity resulting in an inhibition of tumor cell proliferation. COX-2 is an important mediator of prostaglandin E2 (PGE2) production, which has been demonstrated to enhance tumor cell survival, angiogenesis and proliferation and reduce apoptosis. These extremely interesting and intriguing findings need to be confirmed in a prospective trial to potentially change clinical practice.

Objective(s)
The trial objective is to demonstrate a statistically significant and clinically relevant disease-free survival benefit in stage II and III PIK3CA mutated colon cancer patients taking daily adjuvant aspirin for 3 years.

Colo-rectal cancer

OPERA: TRIAL OVERVIEW

- Patients entered into this study are those presenting with rectal cancer, located in the middle or lower rectum, and with an intermediate disease stage.
- This clinical study compares the efficacy of two techniques of radiotherapy, namely conventional, external (percutaneous) irradiation versus Contact X-Ray Brachytherapy, as local treatment of the disease.
- Its objective is to demonstrate that, after a first treatment with chemo- and radiotherapy, a complementary irradiation with Contact X-Ray Brachytherapy is superior to that with external radiotherapy, in terms of disease control and rectum (organ) preservation.
- Should this superiority be confirmed, the use of Contact X-Ray Brachytherapy could become standard treatment for patients with this type of rectal cancer and treated in centers equipped with such an irradiation device.

Patient population
Patients with rectal adenocarcinoma cT2-T3 a,b < 5cm in diameter in distal and middle rectum.

Background and Rationale
Rectal adenocarcinoma is rather radioresistant and the dose required to achieve 50% sterilization is close to 90Gy, which is a high dose causing toxicities when given with external beam radiation therapy (EBRT). Among the radiotherapy techniques able to achieve safely such a high dose, Contact X-Ray Brachytherapy 50 Kv (CXB) is an appealing method. There is a strong need to compare the two radiotherapy approaches in combination with neoadjuvant chemotherapy in patients with selected rectal cancers.

Objective(s)
To demonstrate that neoadjuvant chemoradiotherapy in combination with a boost given with Contact X-Ray Brachytherapy (Arm B) is superior to the same neoadjuvant therapy plus a boost with EBRT alone (Arm A) in terms of rectum (organ) preservation without non salvageable local disease at 3 years post treatment start, or permanent deviating stoma.

Study Title
European phase III study comparing, in association with neoadjuvant chemoradiotherapy, a radiation dose escalation using 2 different approaches: External Beam Radiation Therapy versus endocavitary Radiation Therapy with Contact X-Ray Brachytherapy 50 kV for patients with rectal adenocarcinoma cT2-T3 a,b < 5cm in diameter in distal and middle rectum.

Clinical Phase
Open-label, phase III, prospective, multi-centre, international, randomised 1:1, 2 arm study.

Sponsor
Centre Antoine Lacassagne (Cancer Research Center), F-Nice

Coordinating investigator
J-P Gérard, F-Nice.

Pancreatic and gastric tumors

BAZEDOXIFENE: STUDY OVERVIEW

- Patients entered into this study are those presenting with advanced pancreatic and gastric tumors.
- Bazedoxifene, a selective estrogen receptor modulator clinically available for the treatment of osteoporosis, has shown to be an effective GP130/STAT3 signaling inhibitor through in vitro and small animal studies.
- The aim of the study is to investigate the effect of bazedoxifene on tumor progression in patients with advanced pancreatic and gastric tumors.

Study Title
Bazedoxifene as a novel strategy for treatment of pancreatic and gastric adenocarcinoma.

Clinical Phase
Observational study.

Coordinating Investigator
Michel Forni, Centre d'Oncologie des Eaux-Vives, Geneva.

Patient population
The data of 7 patients (5 suffering from pancreatic and 2 from gastric adenocarcinoma), with locally advanced and/or metastatic disease, median age 73 years old (range 48 – 86 years) were analyzed. Bazedoxifene was given orally at a dose of 20 mg per day for a median duration of 9 months (range 5 – 14 months). Two patients received bazedoxifene as monotherapy, 5 patients were under concomitant chemotherapy.

Background and rationale
Experimental studies have shown that the IL6/GP130/STAT3 pathway is involved in pancreatic cancer tumorigenesis and progression as well as in the development of other tumors. Bazedoxifene, a selective estrogen receptor modulator clinically available for the treatment of osteoporosis, has shown to be an effective GP130/STAT3 signaling inhibitor through in vitro and small animal studies.

Objective(s)
The aim of the study is to investigate the effect of bazedoxifene on tumor progression in patients with advanced pancreatic and gastric tumors.

Outcome
Tumor marker reduction was found in 5 patients, stable disease on CT in 5 patients and metabolic regression on PET-CT in 3 patients. Weight was gained in 4 patients. 2 patients developed deep vein thrombosis and 1 pulmonary embolism, the treatment was otherwise well tolerated. An immuno-histochemical study of pSTAT3 was performed in 6 patients, out of which 3 were positive. Bazedoxifene is therefore a potential new therapeutic option for pancreatic and gastric cancer therapy, safe to use and at low cost. Based on these preliminary results, a prospective clinical study will be initiated.

All solid malignancies

NIVO-71: REGISTRY OVERVIEW

- Patients entered into this registry are those presenting with a metastatic solid tumor infiltrated by CD8+ T cells, which are cells of the immune system that contribute to the body's adaptive immune response.
- In this registry, patients are treated by immunotherapy, using nivolumab, an anti-PD-1 monoclonal antibody, working as a checkpoint inhibitor.
- The objective is to create a prospective registry of patients and define efficacy of nivolumab in patients with metastatic disease.

Patient population
Patients with progressing metastatic solid tumor infiltrated by CD8+ T cells and receiving nivolumab off-label in the Romand Network of Oncology (RRO)

Background and Rationale
Nivolumab is a fully humanized, monoclonal, immunoglobulin G4 (IgG4) antibody to PD-1. It is currently approved for locally advanced or metastatic non-small cell lung cancer (NSCLC), melanoma, clear cell carcinoma (CCR), squamous cell cancer of head and neck, and classical Hodgkin lymphoma.

Objective(s)
The primary objective is to create a prospective registry of patients with metastatic solid tumors infiltrated with CD8+ T cells for whom off-label nivolumab is prescribed.
The secondary objective is to define efficacy of off-label nivolumab and appropriateness of nivolumab indications.
The exploratory objectives are to perform translational studies on optional tumor biopsies and blood samples.

Project title
A registry for patients with progressing metastatic solid tumor infiltrated by CD8+ T cells and receiving nivolumab off-label in the Romand Network of Oncology (RRO).

Clinical phase
Prospective registry.

Sponsor
CHUV, CH-Lausanne.

Coordinating investigator
Olivier Michielin, Department of Oncology, CHUV, Lausanne, Switzerland.

Education

In 2019 a range of medical conferences and seminars was organized:

CLINIQUE DE GENOLIER, GENOLIER

Cancers d'origine professionnelle : quand faut-il se poser la question ?
Dre Peggy Krief — 17.01.2019

Doc, je n'arrive plus à travailler : prise en charge de la travailleuse enceinte dans les cadre de l'OProMa
Dre Peggy Krief — 14.02.2019

Cancer du rectum : faut-il tous les opérer ?
Dre Cristina Picardi, Pr Frédéric Ris, Dr Jean-Pierre Chevalley — 25.04.2019

Cancer et Sexualité
Dr Francesco Bianchi-Demicheli, HUG
La douleur en fin de vie destinée
Dre Denise Lemos-Schönnagel — 06.06.2019

Colloque Janssen:
"State of the art hematology: darzalex & imbruvica" — 21.11.2019

Vidéoconférence Symposium:
"Advances in CAR-T Cell Therapy for Lymphoma"
Prof. Stephen Schuster, University of Pennsylvania, USA
Dr. Roberta Di Blasi, Hôpital St-Louis, Paris — 18.12.2019

PRIVATKLINIK BETHANIEN, ZURICH

Sixth Symposium: "New therapies in digestive tract disease"
Daniel Christen, Philippe Glasson, Claudio Soravia,
Jean-Pierre Chevalley, Francesco Volonté — 02.05.2019

CLINICA SANT'ANNA, SORENGO

Innovazioni in radiologia: Update per medici di base
Gabriela Iussich, Emanuele Meroni, Paola Rodoni — 06.02.2019

8° Simposio Internazionale di Perinatologia
Pamela Agazzi, Paolo Gancia, Percy Balan, Angelo Selicorni, Martin Stocker, Markus Hodel, Alessandro Diana, Alberto Bondolfi, Thierry Girard, Petra Donati-Genet, Cari Platis R, Marco Somaschini, Jeffrey Pedrazzoli, Vincent Uerlings, Valdo Pezzoli, Luca Berti, Edy Salmina — 23.03.2019

CLINICA ARS MEDICA, GRAVESANO

Elettrolisi Percutanea Eco-Guidata: innovazione e nuovi orizzonti
Matthias Alloi, Alberto Benigna, Fabienne Bernet, Mirco Bianchi, Sebastian Bonaventura, Claudia Borinelli, Lorena Cabrera Romero, Marco Cantaluppi, Evi Coldesina, Nadia Cozzi, Fabio Crescimbeni, Aline De Bolla, Filippo Galli, Micaela Gaspari Menotti, Michele Ghielmetti, Daniele Gini, Serafino Iovine, Simone Massa, Michela Mischiari, Claudia Molteni, Matteo Mottin, Li Paietta-Yu, Marco Piazza, Kerstin Piccardi, Alfredo Poi, Nathalie Risi, Nicola Alessandro Sacco, Veronique Vidal, Silvana Zaccariotto Cavion — 16.05.2019

Formazione e aggiornamento in radioprotezione
Camponovo Claudio, Lafranchi Stefano, Dall'Acqua Gabriele, Del Ponte Tiziano, Basso Giorgio, Vannini Simone, Lucini Sonia, Märki Marzio, Gayer René, Salmoiraghi Roberto, Amadio Filippo, Baghy Andreas, Baghy Gabriella, Del Notaro Carlo, Ancona Nadia, Rezzonico Massimo, Christinat Alexandre, Lucini Mauro, Maggi Stefano, Pellanda Antonio, Donati Luca, Ruggieri Graziano, Lelais Frederic, Cauzza Elena, Belloni Gianmarco, Cresto Nicola, Meregalli Paolo, Fransioli Fabio, Dietler Vanessa, Bertoglio Simone, Camponovo Valerio, Ponti Maurizio, Tami Ivan, Garavaglia Guido — 11.09.2019

Simposio "Return to Sport"
M. Denti, D. Togninalli, H. Jones, R. Seil, L. Engebretsen, B. Mariani, F. Della Villa, C. Bait, J. Menetrey, G. L. Canata, G. Zanon, P. Randelli, G. Garavaglia, S. Lafranchi, L. Engebretsen, H. Jones, S. Grosjean, R. Tavana, A.Gokeler, P. Adravanti, M. Delcogliano, C. Mazzola, M. Berruto, D. Tornese, D. Tornese, L. Pederzini, M. Cattaneo, M. Marano, S. Nutarelli, O. Petrillo, I. Arena — 27-28.09.2019

Future plans

Genolier Innovation Network will focus on:

PROPER ALIGNMENT BETWEEN RESEARCH PRACTICE AND OVERALL GENOLIER INNOVATION NETWORK STRATEGIES

- Prompt a mutual, in-depth reflection on research practices, in order to make them patient-oriented.
- Meet all necessary requirements to facilitate exchanges between researchers and Genolier Innovation Network.
- Align the main Genolier Innovation Network strategies with current advances in biomedical research.

ADEQUATE CHANNELS TO ACCELERATE THE INNOVATION-TRANSFER TO THE CLINIC

- Development of a “bench to bedside” ecosystem, that increases the speed at which innovations are put into practice.
- A liaison office offers insight into what MDs need, and develops concerted actions with Swiss Medical Network competence centers.
- Guarantee access to clinical studies at Clinique de Genolier and Swiss Medical Network (during development phase, focus lies on defining shared objectives between stakeholders and medical working groups, in order to optimize the transfer process between the lab and clinical settings (rather than on quantitative data, which is nevertheless required to evaluate the number of patients to be enrolled in prospective studies (= feasibility test)).
- Introduction of cognitive processes in investigations.

DEVELOPMENT OF A SCIENTIFIC COMMUNITY OF PRACTICE

- Establishment of a liaison office between companies and Swiss Medical Network MDs.
- Access to a wealth of resources to assist researchers in reflecting on, implementing, communicating responsible research and innovation.
- Promotion of collaborative work and concerted action with federal and international bodies (e.g. HSCI Harvard, ETH Zurich, etc.).
- Consolidation of the Clinical Studies Center.

PROMOTION OF SCIENTIFIC EDUCATIONAL/TRAINING PROGRAMS

- Use internal workshops/journal clubs and external scientific/public conferences as Knowledge-Transfer tools.
- E-learning Webinars for scientists, engineers, MDs, and the lay community.

SUPPORT SCIENTIFIC GROWTH

- Forecasting and real-time monitoring of scientific requirements of researchers, thus enhancing the multiplication factor for growth.
- Support for socioeconomic studies in clinical settings.

Conclusion

At Swiss Medical Network, scientific research is a key pillar. This approach has two objectives:

- To establish an intrinsically high level of quality among research programs across the whole of Switzerland.
- To demonstrate that research at Swiss Medical Network is centered on strategies driven by value-based healthcare considerations.

In 2019, when Genolier Innovation Network was founded, Swiss Medical Network's hospitals and competence centers were lauded for their ability to produce research that meets high national and international standards.

Although Genolier Innovation Network – Swiss Medical Network's scientific platform – is still in its nascent stage and requires further work to build robust research structures, the remarkable quality-levels already achieved by its teams will serve as a strong foundation for the new Genolier Innovation Hub.

Thanks to the integrated and interconnected activities of Genolier Innovation Network and Genolier Innovation Hub, a new structural and functional type of research platform will emerge, facilitating cross-fertilization among all stakeholders and improving the chances of putting innovative solutions at the service of both, patients and physicians.

Scientific Publications in peer-reviewed journals
(biomedical domains listed in alphabetical order)

INTERVENTIONAL RADIOLOGY

- May L, Blatter J, Bize P, Tsoumakidou G, Denys A, Broome M. Percutaneous cryo-ablation of benign bony tumours of the mandible. Br J Oral Maxillofac Surg. 2020 Jan;58(1):75-78. doi: 10.1016/j.bjoms.2019.10.316. Epub 2019 Nov 15. PubMed PMID: 31735400. (IF: 1.16)
- Gallusser N, Goetti P, Becce F, Vauclair F, Rüdiger HA, Bize PE, Cherix S. Percutaneous image-guided cryoablation of painful bone metastases: A single institution experience. Orthop Traumatol Surg Res. 2019 Apr;105(2):369-374. doi: 10.1016/j.otsr.2019.01.001. Epub 2019 Mar 8. PubMed PMID: 30858041. (IF: 1.17)

NEUROLOGY

- Langer K.G., Piechowski-Jozwiak B., Bogousslavsky J. Hemineglect and Attentional Dysfunction. Front Neurol Neurosci. 2019;44:89-99. doi: 10.1159/000494956. Epub 2019 Apr 30. Review. PubMed PMID: 31220845. (IF: 3.55)
- Carota A, Bogousslavsky J. Neurology versus Psychiatry? Hallucinations, Delusions, and Confabulations. Front Neurol Neurosci. 2019;44:127-140. doi: 10.1159/000494960. Epub 2019 Apr 30. Review. PubMed PMID: 31220856. (IF: 3.55)
- Bogousslavsky J. Troubles hystériques du mouvement : histoire d'une énigme. Rev Med Suisse. 2019 Jan 30; 15(636):241-242. PubMed PMID: 30724492. (IF: 0.07)

NEUROSURGERY

- Zaldivar-Jolissaint JF, Bobinski L, Duff JM. Multilevel Pedicular Osteotomies for En Bloc Resection of a Primary Ewing Sarcoma of the Subaxial Cervical Spine with Pedicle Screw Reconstruction. World Neurosurg. 2019 Dec;132:303-308. doi: 10.1016/j.wneu.2019.07.208. Epub 2019 Aug 5. PubMed PMID: 31394361. (IF: 1.72)
- Maduri R, Bobinski L, Duff JM. Minimally invasive anterior foraminotomy for cervical radiculopathy: how I do it. Acta Neurochir (Wien). 2020 Jan 7;. doi: 10.1007/s00701-019-04201-y. [Epub ahead of print] PubMed PMID: 31912354. (IF: 1.83)

ONCOLOGY

- Aapro M, Gascón P, Patel K, Rodgers GM, Fung S, Arantes LH Jr, Wish J. Erythropoiesis-Stimulating Agents in the Management of Anemia in Chronic Kidney Disease or Cancer: A Historical Perspective. Front Pharmacol. 2018;9:1498. doi: 10.3389/fphar.2018.01498. eCollection 2018. Review. PubMed PMID: 30687083; PubMed Central PMCID: PMC6333861. (IF: 3.83).
- Alhifany AA, McBride A, Almutairi AR, Cheema E, Shahbar A, Alatawi Y, Alharbi AS, Babiker H, MacDonald K, Aapro M, Abraham I. Efficacy of olanzapine, neurokinin-1 receptor antagonists, and thalidomide in combination with palonosetron plus dexamethasone in preventing highly emetogenic chemotherapy-induced nausea and vomiting: a Bayesian network meta-analysis. Support Care Cancer. 2020 Mar;28(3):1031-1039. doi: 10.1007/s00520-019-05210-4. Epub 2019 Dec 10. Review. PubMed PMID: 31823054. (IF: 2.75)

- Gascon P, Krendyukov A, Mathieson N, Natek M, Aapro M. Extrapolation in Practice: Lessons from 10 Years with Biosimilar Filgrastim. BioDrugs. 2019 Dec;33(6):635-645. doi: 10.1007/s40259-019-00373-2. Review. PubMed PMID: 31440986; PubMed Central PMCID: PMC6875156. (IF: 4.90)
- Muscaritoli M, Arends J, Aapro M. From guidelines to clinical practice: a roadmap for oncologists for nutrition therapy for cancer patients. Ther Adv Med Oncol.2019;11:1758835919880084. doi: 10.1177/1758835919880084. eCollection 2019. Review. PubMed PMID: 31762796; PubMed Central PMCID: PMC6854759. (IF: 5.67)
- Schwartzberg L, Navari R, Clark-Snow R, Arkania E, Radyukova I, Patel K, Voisin D, Rizzi G, Wickham R, Gralla RJ, Aapro M, Roeland E. Phase IIIb Safety and Efficacy of Intravenous NEPA for Prevention of Chemotherapy-Induced Nausea and Vomiting (CINV) in Patients with Breast Cancer Receiving Initial and Repeat Cycles of Anthracycline and Cyclophosphamide (AC) Chemotherapy. Oncologist. 2019 Dec 4;. doi: 10.1634/theoncologist.2019-0527. [Epub ahead of print] PubMed PMID: 31801902. (IF: 5.25)
- Lawler M, Naredi P, Cufer T, Banks I, Lievens Y, Vassal G, Aapro M, Sotlar MJ, Philip T, Jassem J, Pelouchova J, Meunier F, Sullivan R. Moonshot or groundshot: addressing Europe's cancer challenge through a patient-focused, data-enabled lens. Lancet Oncol. 2019 Nov;20(11):1482-1485. doi: 10.1016/S1470-2045(19)30648-5. PubMed PMID: 31674308. (IF: 35.38)
- Chow R, Aapro M, Navari RM, Gralla R, Chiu N, Chiu L, Chan S, Popovic M, Lam H, Lock M, DeAngelis C. Do we still need to study palonosetron for chemotherapy-induced nausea and vomiting? A cumulative meta-analysis. Crit Rev Oncol Hematol. 2019 Oct;142:164-186. doi: 10.1016/j.critrevonc.2019.07.017. Epub 2019 Jul 29. PubMed PMID: 31419719. (IF: 5.01)
- Okada Y, Oba K, Furukawa N, Kosaka Y, Okita K, Yuki S, Komatsu Y, Celio L, Aapro M. One-Day Versus Three-Day Dexamethasone in Combination with Palonosetron for the Prevention of Chemotherapy-Induced Nausea and Vomiting: A Systematic Review and Individual Patient Data-Based Meta-Analysis. Oncologist. 2019 Dec;24(12):1593-1600. doi: 10.1634/theoncologist.2019-0133. Epub 2019 Jun 19. PubMed PMID: 31217343; PubMed Central PMCID: PMC6975929. (IF: 5.25)
- Baron-Hay S, Aapro M, Bernareggi A, Schwartzberg L. Timing flexibility of oral NEPA, netupitant-palonosetron combination, administration for the prevention of chemotherapy-induced nausea and vomiting (CINV). Support Care Cancer. 2019 Apr;27(4):1309-1317. doi: 10.1007/s00520-019-4640-8. Epub 2019 Jan 26. PubMed PMID: 30685793; PubMed Central PMCID: PMC6394711. (IF: 2.75)
- Ludwig H, Bokemeyer C, Aapro M, Boccadoro M, Gascón P, Denhaerynck K, Krendyukov A, Abraham I, MacDonald K. Chemotherapy-induced neutropenia/febrile neutropenia prophylaxis with biosimilar filgrastim in solid tumors versus hematological malignancies: MONITOR-GCSF study. Future Oncol. 2019 Mar;15(8):897-907. doi: 10.2217/fon-2018-0814. Epub 2019 Mar 4. PubMed PMID: 30827127. (IF: 2.13)

- Aapro M, Ruiz-Borrego M, Hegg R, Kukielka-Budny B, Morales S, Cinieri S, Freitas-Junior R, Garcia-Estevez L, Szombara E, Borges GS, Passalacqua R, Hervieu H, Groc M, Villanova G. Randomized phase II study evaluating weekly oral vinorelbine versus weekly paclitaxel in estrogen receptor-positive, HER2-negative patients with advanced breast cancer (NorBreast-231 trial). Breast. 2019 Jun;45:7-14. doi: 10.1016/j.breast.2019.01.009. Epub 2019 Jan 28. PubMed PMID: 30802822. (IF: 3.49)
- Ludwig H, Gascón P, Bokemeyer C, Aapro M, Boccadoro M, Denhaerynck K, Krendyukov A, MacDonald K, Abraham I. Outcomes of chemotherapy-induced (febrile) neutropenia prophylaxis with biosimilar filgrastim (Zarzio®) initiated "same-day" (<24 h), "per-guidelines" (24-72 h), and "late" (>72 h): findings from the MONITOR-GCSF study. Support Care Cancer. 2019 Jun;27(6):2301-2312. doi: 10.1007/s00520-018-4513-6. Epub 2018 Oct 20. PubMed PMID: 30343410. (IF: 2.75)
- Taban F, Elia N, Rapiti E, Rageth C, Fioretta G, Benhamou S, Than Lam G, David-Montefiore E, Bouchardy C. Impact of experience in breast cancer surgery on survival: the role of quality of care in a registry-based cohort. Swiss Med Wkly. 2019 Jan 14;149:w14704. doi: 10.4414/smw.2019.14704. eCollection 2019 Jan 14. PubMed PMID: 30685868. (IF: 1.82)
- Burkhardt C, Bühler L, Tihy M, Morel P, Forni M. Bazedoxifene as a novel strategy for treatment of pancreatic and gastric adenocarcinoma. Oncotarget. 2019 May 7;10(34):3198-3202. eCollection 2019 May 7. PubMed PMID: 31139333; PubMed Central PMCID: PMC6516716. (IF: 5.16)

OPHTHALMOLOGY

- Elahi S, Bravetti GE, Gillmann K, Villamarin A, Meeus L, Stergiopoulos N, Mansouri K, Mermoud A. EyeWatch Rescue of Refractory Hypotony After Baerveldt Drainage Device Implantation: Description of a New Technique. J Glaucoma. 2020 Feb;29(2):e7-e10. doi: 10.1097/IJG.0000000000001417. PubMed PMID: 31821180. (IF: 1.66)
- Ch'ng TW, Gillmann K, Hoskens K, Rao HL, Mermoud A, Mansouri K. Effect of surgical intraocular pressure lowering on retinal structures – nerve fibre layer, foveal avascular zone, peripapillary and macular vessel density: 1 year results. Eye (Lond). 2019 Aug 13;. doi: 10.1038/s41433-019-0560-6. [Epub ahead of print] PubMed PMID: 31409906. (IF: 2.36)
- Gillmann K, Bravetti GE, Mermoud A, Rao HL, Mansouri K. XEN Gel Stent in Pseudoexfoliative Glaucoma: 2-Year Results of a Prospective Evaluation. J Glaucoma.2019 Aug;28(8):676-684. doi: 10.1097/IJG.0000000000001295. PubMed PMID: 31162174. (IF: 1.66)
- Gillmann K, Bravetti GE, Mermoud A, Mansouri K. A Prospective Analysis of iStent Inject Microstent Positioning: Schlemm Canal Dilatation and Intraocular Pressure Correlations. J Glaucoma. 2019 Jul;28(7):613-621. doi: 10.1097/IJG.0000000000001273. PubMed PMID: 31058666. (IF: 1.66)

- Roy S, Villamarin A, Stergiopulos C, Bigler S, Guidotti J, Stergiopulos N, Kniestedt C, Mermoud A. Initial Clinical Results of the eyeWatch: a New Adjustable Glaucoma Drainage Device Used in Refractory Glaucoma Surgery. J Glaucoma. 2019 May;28(5):452-458. doi: 10.1097/IJG.0000000000001209. PubMed PMID: 31048640. (IF: 1.66)
- Bravetti GE, Gillmann K, Mansouri K, Mermoud A. Congenital Refractory Glaucoma: A New Ophthalmic Association of Kabuki Syndrome and its Management With Glaucoma Drainage Devices. J Glaucoma. 2019 Jun;28(6):e96-e98. doi: 10.1097/IJG.0000000000001201. PubMed PMID: 30676414. (IF: 1.66)
- Gillmann K, Mermoud A. Visual Performance, Subjective Satisfaction and Quality of Life Effect of a New Refractive Intraocular Lens with Central Extended Depth of Focus. Klin Monbl Augenheilkd. 2019 Apr;236(4):384-390. doi: 10.1055/a-0799-9700. Epub 2019 Feb 14. PubMed PMID: 30763956. (IF: 0.79)
- Midha N, Rao HL, Mermoud A, Mansouri K. Identifying the predictors of needling after XEN gel implant. Eye (Lond). 2019 Mar;33(3):353-357. doi: 10.1038/s41433-018-0206-0. Epub 2018 Sep 11. PubMed PMID: 30206416; PubMed Central PMCID: PMC6460693. (IF: 2.36)

RADIO-ONCOLOGY

- Kaššák F, Rossier C, Picardi C, Bernier J. Postmastectomy radiotherapy in T1-2 patients with one to three positive lymph nodes – Past, present and future. Breast. 2019 Dec;48:73-81. doi: 10.1016/j.breast.2019.09.008. Epub 2019 Sep 17. Review. PubMed PMID: 31561088. (IF: 3.49)
- Picardi C, Caparroti F, Di Maio M, Kaššák F, Banna GL, Addeo A. Prophylactic cranial irradiation in extensive disease small cell lung cancer: An endless debate. Crit Rev Oncol Hematol. 2019 Nov;143:95-101. doi: 10.1016/j.critrevonc.2019.08.010. Epub 2019 Sep 12. Review. PubMed PMID: 31563079. (IF: 5.01)
- Amaldi U, Cuccagna C, Lo Moro A, Rizzoglio V, Bernier J, Bulling S. Sparse proportional re-scanning with hadron beams. Phys Med. 2019 Sep;65:200-208. doi: 10.1016/j.ejmp.2019.07.022. PubMed PMID: 31505371. (IF: 3.03)

RHEUMATOLOGY

- Ankli B, Berger CT, Haeni N, Kyburz D, Hügle T, So AK, Daikeler T. The target uric acid level in multimorbid patients with gout is difficult to achieve: data from a longitudinal Swiss single-centre cohort. Swiss Med Wkly. 2019 Aug 26;149:w20121. doi: 10.4414/smw.2019.20121. eCollection 2019 Aug 26. PubMed PMID: 31476243. (IF: 1.82)

Genolier Innovation Network
Route du Muids 3
CH–1272 Genolier