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**UNIVERSITÄT
BERN**

Medical Faculty
Department of Clinical Research
Medical Oncology/Hematology

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<p style="text-align: center;">Translational Cancer Research: Crosstalk in Academic, Clinical and Pharmaceutical Cancer Research: Willing to improve?....</p>
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The GCB Course in Translational Cancer Research will provide scientists with a better understanding of translational research and help them to adapt their research for an increased clinical impact. This course addresses many aspects of translational research including multidisciplinary teams and working collaboratively with industry partners. Furthermore, the course will enable the participants to recognize the unique needs and environment of the clinic and to deal with certain regulatory issues in translational science. During the course, the students will gain broad background knowledge on translational cancer research from scientists in academia and industry as well as from clinicians. Moreover, they will learn about the latest methods and approaches in translational cancer research. This course aims at facilitating the scientific exchange between academic and pharmaceutical institutions by offering a platform for possible scientific collaborations in building an interface between the academic world and the pharmaceutical industry.

Course Directors:

Mario P. Tschan, PhD

Associate Professor, Experimental Pathology, University of Bern
Member Interfaculty PhD Committee, GCB

Nicolas Leupin, MD-PhD, MBA

Chief Medical Officer and Member of the Management Board, Molecular Partners

Goals and Topics: This course will include: an introduction to translational cancer research, drug target identification and validation, individualized targeted therapies, the principles and challenges of drug development, and clinical trials. Basic knowledge of tumor and cell biology is highly recommended (tumor biology course, GCB, Bern; or literature: The Biology of Cancer, Second Edition, Robert A. Weinberg, 2014). Soft skills to be practiced will include video elevator pitches and round table discussions.

Organization: The first 6-8 lectures will be given by the organizers to cover the basics. Invited speakers from pharmaceutical and biotech companies, the clinics as well as from academia will give additional 6-8 lectures.

Venue: Zoom video conferencing

Time: May 12th - June 30th, 2021; Wednesdays: 11:00-13:00

Duration: 6-8 weeks

Limitation: 20 students

ECT credits: 3 with exam

Registration: Via KSL 409748 (<https://www.ksl.unibe.ch/KSL/home>) and an e-mail to mario.tschan@pathology.unibe.ch, indicating your current student status (e.g. PhD student GCB, MD student Medical Faculty,...) and your matriculation #.

Course Schedule

We prefer a rather flexible, dynamic schedule. Thus, the schedule below should be looked at as a general guideline that might change during the course also depending on the student's interests and availability of the guest speakers.

Lectures 1-8, basics, including homework (reading and preparing discussions):

May 12th

Lectures 1/2: Introduction to translational medicine: What do we translate here?

Teaser: Project management in industry and research.

Task: Build interest groups (Academia, Pharma, Clinics, Regulator Affairs) and prepare discussion points for the next lecture (elevator pitches). Discussion points: What does translational medicine mean to you? What is the motivation to develop new drugs or diagnostic approaches for the different interest groups? Imagine you are developing a new anticancer drug or diagnostic approach to support personalized medicine, what would it be about? What would you target? What would be your diagnostic approach?

May 19th

Lectures 3/4: Treatment Options in the Clinics: Has anything improved in the last 30 years?

Teaser: Regional/Political/Social Differences in Clinical Trials: What keeps a young research physician awake at night.

New drugs/diagnostic approaches: Pitches from one person of each interest group.

Teaser: Group dynamics and leadership.

Task: Discuss/collect/summarize your ideas from last week's task taking into consideration to which interest group you belong to - elevator pitches. Additional points to consider:....? Prepare role-play/Zoom "round table discussion" for the next lecture.

May 26th

Lectures 5/6: Resistance Mechanisms: Why does it not always work? Cancer Stem Cells/Models: Have we now finally understood how it works?

Zoom "round table discussion" from the different interest groups (role-play): Stand-alone therapy? Combination? First line? Relapsed and refractory? Subpopulation only? How could we escape resistance?

To discuss: Caveats? What was new in our novel approach? Did our design make sense? Which partner would do what in our endeavor to develop a new breakthrough cancer drug/diagnostic tool?

June 2nd

Lectures 7/8: Novel Approaches and Drug Development: 'Gimme hope Scottie'

Task: Get familiar with topic/background of first guest speaker. Prepare questions.

Confirmed guest speakers: Sylviane Muller (Univ. Strasbourg), Andrea Bazzotti (Ultragenyx), Imke Renz (Idorsia), Stefan Halbherr (Innomedica), Jonas Zeller (Innomedica), Poorya Amini (Risklick)

Our guest speakers will cover among others the following topics: "Drug Discovery in Oncology", "What do you need to consider to start up a biotech company?", "Legal aspects in drug discovery/development", "Big data and AI",....

June 9th

Sylviane Muller, Directeur de l'Institut du Médicament de Strasbourg, CNRS UMR7242 Biotechnologie & signalisation cellulaire, Institut de Science et d'Ingénierie Supramoléculaires (ISIS).

"A novel strategy to treat inflammatory diseases: a translational experience from bench to clinical studies".

June 16th

Poorya Amini, Clinical Study Manager, CTU Bern, CEO at Risklick.

„AI/machine learning in clinical trials“

June 23rd

Andrea Bazzotti, Head of Legal, Ultragenyx Europe GmbH.

"Legal aspects in drug discovery/development"

June 30th

Imke Renz, Senior Scientist, Oncology Biology, Idorsia Pharmaceuticals Ltd.

"Drug Discovery in Oncology/Case study" *live stream*

July 7th

Stefan Halbherr/Jonas Zelle, InnoMedica.

"What do you need to consider to start up a biotech company?"

"Liposome platform addressing unmet medical needs in oncology and neurology"

Onsite visit of Nanofactory in Marly.