



"CAPTURING CANCER COMPLEXITY AND CLINICAL CHALLENGES"

CCBIO1 Newsletter

EDITOR: eli.vidhammer@uib.no

DIRECTOR'S COMMENTS

Dear all

On October 15, Dr. Bruce R. Zetter was appointed as Honorary Doctor at the University of Bergen. Bruce has been a strong supporter of CCBIO and UIB for many years, and we are truly thankful for the continuing input from the Vascular Biology Program in Boston and its many members. The guest lecture by the Honorary Doctor was spectacular and presented for a full auditorium. He had three advices to young students and scientists: 1. be fairless; 2. collaborate with someone who is better than you are; 3. make sure that your research is going to have relevance to human cancer.

SCANPATH was initiated by CCBIO in 2016 as a Nordic network meeting for pathologists and basic scientist with an interest in the integration of molecular data with increasing morphologic resolution. This fits very well with the strategic focus of CCBIO during the second period. Next year's SCANPATH meeting will be held close to Lund with Karin Jirström as the coordinator.

Take a look at all the information on upcoming research seminars, CCBIO courses and other events, as well as some selected external meetings that might be relevant.

And congratulations to Agnete Engelsen for having finished the one-year certificate program at Harvard Medical School (HMS), the High-Impact Cancer Research (HICR): Cancer, Biology and Therapeutics Program. Read the story below, and get inspired!

Best regards, Lars A. Akslen, Director

Programs and Research Teams

Mechanisms of Tumor-Microenvironment Interactions:

- Donald Gullberg
- Karl-Henning Kalland
- Emmet McCormack

Exploration and Validation of Cancer Biomarkers:

- Lars A. Akslen
- Jim Lorens
- Camilla Krakstad
- Daniela Costea
- Elisabeth Wik

Clinical Applications and Trial Studies:

- Bjørn Tore Gjertsen
- Oddbjørn Straume
- Line Bjørge

Health Ethics, Prioritization and Economics:

- Roger Strand
- John Cairns
- Ole Frithjof Norheim

Additional resource: Bioinformatics and Big Data

- Inge Jonassen

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FULL HOUSE FOR THE HONORARY DOCTOR BRUCE ZETTER

October 15th, Professor Bruce R. Zetter from Harvard Medical School and Boston Children's Hospital was appointed as Honorary Doctor at the University of Bergen, Faculty of Medicine. The day before, October 14th, he gave his honorary doctor lecture, on the topic "RNA as a tool for cancer therapy".

The auditorium was overfilled with more than 270 participants, and Zetter's talk was a great success (see abstract [here](#)).

Dr. Zetter has visited the University of Bergen many times. He thinks the honorary doctorate will further strengthen the relationship.

"We are having scientists and students from UiB to Harvard Medical School and our laboratories, and we are sending ours to UiB. I think the collaboration, not only with me and my colleagues, but also between Harvard Medical School and the University of Bergen will continue to grow," Zetter says.

[Read the full story here](#), including a video with Dr. Zetter giving 3 tips to our students on how to achieve success as a cancer researcher.



From the honorary lecture. Photo: G.O. Løken



The UiB Rector Dag Rune Olsen and Professor Zetter at the honorary doctor ceremony. Photo: Thor Brødreskift

NORDIC UPDATES AND NETWORKING IN TRANSLATIONAL PATHOLOGY

CCBIO hosted the 4th Annual Scandinavian Seminar on Translational Pathology at Solstrand Hotel, Os (Bergen), with 78 dedicated participants from Norway, Sweden and Finland.

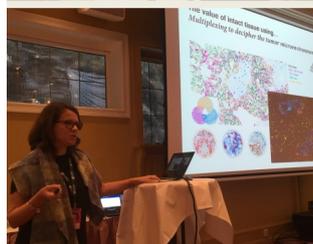
SCANPATH is an annual network meeting for Scandinavian tumor pathologists and pre-clinical scientists with an interest in the prospects of next generation tissue profiling. The aim is to stimulate tissue-based studies of tumor mechanisms and biomarker mapping. This meeting was initiated by CCBIO in 2016 and it has been a success since the startup. SCANPATH is now a well established annual forum.

The scientific program of this year's Translational Pathology Seminar was filled with inspirational and educational presentations, and included internationally renowned researchers.

CCBIO Director Lars A. Akslen finds that this year's Translational Pathology Seminar was a very stimulating meeting with a firm focus on spatial resolution and attempts to integrate tissue context with various omics data.

"Some of the presentations and recent developments in morphology based techniques, such as imaging mass cytometry, reminds me of the excitement at the time when the Hubble telescope was introduced in modern cosmology. We need to continue our "Hubble approach" in studies of tissue landscapes in tumors and other diseases", Akslen concludes.

[Read more here.](#)



Photos: G.O. Løken and Ingeborg Winge

CONTINUED PROJECT SUPPORT FOR ORAL PATHOLOGY & ORAL CANCER COLLABORATION WITH EURASIA COUNTRIES

In 2016 CCBio's Associate Investigator Professor Costea received 3 million NOK in funding from DIKU for a 3 year collaboration project for education and research in oral pathology and oral cancer between Norway, Moldova, Belarus and Armenia. Due to its achievements, the project was selected for two years of additional support.

The most important and successfully achieved activity of this project has been the generation and implementation of joined standardized guidelines for education and training in oral pathology for dentists at undergraduate and graduate levels at the collaborative institutions.

Another major achievement of the project was the establishment of a digital platform comprising oral pathology cases representative of most oral diseases. With the invaluable contribution from the Department of Pathology, Haukeland University Hospital, a library of microscopical slides has been developed with the most common oral disease entities. The digital platform using the open source software CYTOMINE, where digital slides of representative cases are continuously uploaded and shared between participating institutions, has been established with support from the IT Department at the UiB.

[Read more here.](#)



HARVARD MEDICAL SCHOOL INSPIRATION AND AWARD

We congratulate CCBio Associate Researcher Agnete S.T. Engelsen on completion of the one-year certificate program at Harvard Medical School (HMS), the High-Impact Cancer Research (HICR): Cancer, Biology and Therapeutics Program. Engelsen was the first attendee from Norway in this diverse group of highly motivated new and seasoned researchers from 42 countries, all around the world.

In recognition of Excellence on the Hallmarks of Cancer Team Project: Hallmarks of Cancer: The Next Generation Revisited, Engelsen and her team of close collaborators were honored by the program directors, HMS Professors Ed Harlow, Peter Howley and George D. Demetri with diplomas presented to them at the Gala Dinner at the Harvard Club of Boston, October 25th 2019. The program directors emphasized that the team's vision and the novel and creative re-organization and presentation of the Hallmarks of Cancer made their contribution stand out.

"This recognition of a successful team effort makes the award very special to me," Agnete Engelsen says. "In light of the increasing demand for internalization in research and the recognition that excellence in science is really all about leveraging the strengths of the individual members of an interdisciplinary team, this recognition serves to support that successful interdisciplinary networks of researchers can accomplish far more as a team than as individuals," she continues. "I am proud that we have been able to bring out the best and benefit from the various cultural backgrounds and scientific professions of our international team through stimulating discussions, and eventually communicate complex ideas successfully to our peers."

[Read more here.](#)



Participants at the Harvard Medical School certificate program High-Impact Cancer Research (HICR) gathered for the Gala Dinner at the Harvard Club of Boston. Photo: Cesar Rodriguez .



Engelsen on stage with the Program Directors Ed Harlow, Peter Howley, George Demetri at the Graduation ceremony. HMS HICR October 26th 2019. Photo: Miriam Chung-Hsing Chang

ERC ADVANCED INVESTIGATOR GRANT TO KLAUS PANTEL'S GROUP

CCBIO's international affiliated researcher [Professor Klaus Pantel](#) and his team have received 2.5 mill Euro through a ERC Advanced Grant for their project "Impact of tissue injury induced by diagnostic biopsies and surgery on cancer metastasis". In their project, the group will evaluate whether tissue injury contributes to a significant blood-borne dissemination of viable tumor cells, which is one of the most under-investigated areas in cancer research.



The group will focus on the two most frequent malignancies in women (breast cancer) and men (prostate cancer) that occur in the in European Union with incidence rates of 139.5 and 139.0 cases per 100,000, respectively. The current project will study the extent of the release of tumor cells into the blood circulation after needle tissue biopsies and primary surgery, the characteristics of the released tumor cells and the contribution of this release to cancer progression. Moreover, they will assess therapeutic strategies to block extravasation of circulating tumor cells (CTCs) to distant sites. As experimental approach, they will apply novel technologies for capturing CTCs and for determining their molecular characteristics in cancer patients as well as experimental models that are able to determine the functional properties of CTCs.

The results will have an important impact on medical practice. If biopsies would contribute to tumor progression, it might be a strong driving force for the development of better imaging modalities or "liquid biopsy" assays of peripheral blood that can diagnose cancer through the detection of CTCs or tumor cell products such as circulating nucleic acids (DNA, microRNA), exosomes or tumor-educated platelets. Moreover, short-term pharmacologic inhibition of extravasation might be able to prevent the extravasation of injury-released CTCs and reduce the risk of metastasis.

[See project presentation.](#)

CCBIO SEMINARS

We are currently completing the CCBIO Seminar list for the spring term, so save the dates in your calendar. There are also still 2 CCBIO Seminars to come in this term, so don't miss out! The CCBIO seminars are open to all, including the following pizza get-together. No registration required.



November 28: Speaker [Curzio Rüegg](#), Department of Medicine, Faculty of Science University of Fribourg, Switzerland. Title: *Chemotherapy-induced immunological dormancy in breast cancer*. Chairperson: Oddbjørn Straume

December 12: Speaker [Anders Goksøyr](#), Department of Biological Sciences (BIO), University of Bergen. Title: *From feminized fish to obese mice – On endocrine and metabolic disruption in wildlife (and the lab)*. [See abstract here](#). Chairperson: Lars A. Akslen.

January 30: Speaker [Johannes Eble](#), Institute of Physiological Chemistry and Pathobiochemistry, WWU Münster, Germany. Topic: CAF integrins. Chairperson: Donald Gullberg.

February 20: Speaker [Rameen Beroukhim](#), Harvard Medical School and Dana-Farber Cancer Institute. Chairperson: Camilla Krakstad.

March 19: Speaker [Akin Ojesina](#), UAB School of Medicine, the University of Alabama at Birmingham, USA. Topic: Cervix cancer. Chairperson: Camilla Krakstad.

April 30: Still open. Feel free to suggest speaker.

May 28: Speaker [JianFeng Chen](#), Institute of Biochemistry and Cell Biology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences. Topic: Integrin Biology. Chairperson: Donald Gullberg.

June 11: Speaker Biaoyang Lin, Zhejiang University, China. Chairperson: Karl-Henning Kalland.

COMING CC BIO RESEARCH SCHOOL COURSES

All CC BIO's courses are primarily intended for PhD candidates who are affiliated with the Centre for Cancer Biomarkers (CC BIO), but are also open to other students, PhD candidates, postdocs and students attending the designated Medical Student Research Program (forskerlinjen). Researchers and external students are also welcome.

CC BIO903 CANCER RESEARCH: ETHICAL, ECONOMIC AND SOCIAL ASPECTS

The course focuses on ethical, economical and societal aspects of cancer and cancer research and aims to equip PhD candidates with tools for systematic reflection on their own and related research as well as methods for assessing the cost benefit of health measures and methods of treatment.

[John Cairns](#), [Roger Strand](#) and [Anne Blanchard Bremer](#) are responsible for the course. The course provides 5 ECTS.

When: December 9-13 2019 and January 6-9 2020.
Registration is open.

[Read more here.](#)



Illustration: Lightspring/Shutterstock

CC BIO906 CANCER GENOMICS

This 3ECTS course will provide broad understanding of aspects of cancer genome biology and its investigation by next generation sequencing (NGS) technologies. Methods for analyzing DNA variation and structure and RNA expression patterns will be covered, as well as nuclear and chromatin structure. Also, ethical, legal aspects, and hereditary predisposition will be taught.

Ola Myklebost has the academic responsibility for this course.

When: February 19-21, 2020

[Read more here.](#)



Illustration: www.colourbox.com

CC BIO904 BIOMARKERS AND TUMOR BIOLOGY IN CLINICAL PRACTICE

The 4 ECTS course covers broad tumor biological topics that are important for understanding how cancer occurs, the mechanisms that control tumor growth, proliferation and morbidity. The course will focus especially on tumor biological changes that may have or already have significance for personalized cancer treatment and clinical trial studies of new diagnostics and treatment.

The course corresponds partly with the Medical Association's annual tumor biology course, but has a stronger focus on the significance of tumor biological knowledge for clinical trials.

Oddbjørn Straume has the academic responsibility for this course.

When: April 20-22, 2020

[Read more here.](#)



Illustration: colourbox.com/CC BIO

COMING CCBIO EVENTS



Make sure to save the dates in your calendar, and register when applicable. You can see all planned CCBIO events in the CCBIO web calendar.

- November 28, CCBIO Seminar, [speaker Curzio Ruegg](#).
- November 29, [Midway evaluation - Moses Musiime](#), Bergen.
- December 12, CCBIO Seminar, [speaker Anders Goksøyr](#).
- December 9-13, [CCBIO903 Cancer research: Ethical, economic and social aspects](#), Bergen.
- January 30, CCBIO Seminar, [speaker Johannes Eble](#).
- February 19-21, [CCBIO906 Cancer Genomics](#), Bergen.
- February 20, CCBIO Seminar, [speaker Rameen Beroukhim](#).
- March 19, CCBIO Seminar, [speaker Akin Ojesina](#).
- April 20-22, [CCBIO904 Biomarkers and tumorbiology in clinical practice](#), Bergen.
- April 30, CCBIO Seminar, speaker tba.
- May 11, [CCBIO Satellite Symposium](#), Solstrand. This year's topic: Immune Oncology
- May 12-13, [CCBIO's 8th Annual Symposium](#), Solstrand. CCBIO's largest annual event!

OTHER COMING EVENTS



Illustrations: www.colourbox.com

- December 2, [Nature Café on T Cell Immunotherapy](#). CCBIO's partner Oslo Cancer Cluster has an interesting event in Oslo Monday December 2nd in collaboration with Nature Research: a Nature Café on T Cell Immunotherapy: Advances, Challenges and Future Directions. (Registration deadline is November 25th.)
- December 2-3, [Cancer Precision Medicine Forum 2019](#), Berlin.
- December 4-5, [Nordic-American Life Science Conference 2019](#), New York.
- December 12, [DNB Nordic Healthcare Conference 2019](#), Oslo.
- January 15, [Helse og fremtid 2019](#), Oslo, organized by Novartis, Thermo Fisher Scientific and LMI.
- January 16, [Cancer Crosslinks 2020](#), Oslo Cancer Cluster. This year's topic is "Progress in cancer care – a tsunami of promises or game changing strategies?" Note that [Harriet Wikman](#) from [Klaus Pantel's](#) Team at the UKE Hamburg is a speaker at Cancer Crosslinks. She arrives during Jan 15th and departs on Jan 17th, so there is an opportunity to meet her during her visit (and of course on Jan 16th, networking evening).
- January 23-26, [the 56th Winter Contact meeting of the Norwegian Biochemical Society \(NBS\)](#), Voss, Norway. Covering areas of biological, biochemical, biomedical and bioinformatical research. Reduced prices for Master and PhD students.
- February 10-13, [Oslo Life Science Conference](#), the 5th Oslo Life Science Conference hosted by UiO: Life Science and partners.
- March 16-17, [Nordic Precision Medicine Forum 2020](#), Stockholm.
- March 23-25, [Bio-Europe Spring 2020](#), Paris.
- June 8-11, [Bio International Convention 2020](#), San Diego.

PUBLICATIONS

You can find the CCBio publications [on this pubmed link](#).
See the last 5 below.

Illustration: Colourbox.com

- Lende TH, Austdal M, Varhaugvik AE, Skaland I, Gudlaugsson E, Kvaløy JT, **Akslen LA**, Sjøiland H, Janssen EAM, Baak JPA. [Influence of pre-operative oral carbohydrate loading vs. standard fasting on tumor proliferation and clinical outcome in breast cancer patients – a randomized trial](#). BMC Cancer. 2019 Nov 8;19(1):1076.
- Suliman S, Ali HRW, Karlsen TA, Amiaud J, Mohamed-Ahmed S, Layrolle P, **Costea DE**, Brinchmann JE, Mustafa K. [Impact of humanised isolation and culture conditions on stemness and osteogenic potential of bone marrow derived mesenchymal stromal cells](#). Sci Rep. 2019 Nov 5;9(1):16031.
- Tutusaus A, de Gregorio E, Cucarull B, Cristóbal H, Aresté C, Graupera I, Coll M, Colell A, Gausdal G, **Lorens JB**, García de Frutos P, Morales A, Marí M. [[A FUNCTIONAL ROLE OF GAS6/TAM IN NON-ALCOHOLIC STEATOHEPATITIS PROGRESSION IMPLICATES AXL AS THERAPEUTIC TARGET](#)]. Cell Mol Gastroenterol Hepatol. 2019 Nov 2. pii: S2352-345X(19)30146-8. [Epub ahead of print]
- Grønningsæter IS, Fredly HK, **Gjertsen BT**, Hatfield KJ, Bruserud Ø. [Systemic Metabolomic Profiling of Acute Myeloid Leukemia Patients before and During Disease-Stabilizing Treatment Based on All-Trans Retinoic Acid, Valproic Acid, and Low-Dose Chemotherapy](#). Cells. 2019 Oct 10;8(10). pii: E1229.
- Dongre H, Rana N, Fromreide S, Rajthala S, Bøe Engelsen I, Paradis J, Gutkind JS, Vintermyr OK, Johannessen AC, **Bjørge L**, **Costea DE**. [Establishment of a novel cancer cell line derived from vulvar carcinoma associated with lichen sclerosus exhibiting a fibroblast-dependent tumorigenic potential](#). Exp Cell Res. 2019 Oct 23:111684. [Epub ahead of print]

RECENT CCBIO IN THE MEDIA

Recent media appearances by CCBio PIs and group members. For all media hits, see [CCBio's web pages](#).



30.09.19, tvr.by, Belarussian national TV, "[Future dentists of Belarus, Norway, Moldova and Armenia to be trained in a joint program](#)", Daniela E. Costea

20.09.19, VG, "[Ny behandling gir håp til pasienter med uheldelig eggstokkrekft: – Største som har skjedd siden immunterapi](#)", Line Bjørge. Also in [ABC Nyheter](#), [Drammens Tidende](#), [Forskning.no](#), [Fjordabladet](#) and more.

18.09.19, Khrono, "[49 unge forskere konkurrerer om ti finaleplasser i Forsker Grand Prix](#)", Hilde Renate Engerud.

06.09.19, Dagens Medisin, "[Ta tak i genomforskningen!](#)", Inge Jonassen.

04.09.19, Khrono, "[Skal undersøke bruken av 6 milliarder forskningskroner](#)", CCBio.

15.07.19, På Høyden, "[Musikk-medisineren](#)", Bjørn Tore Gjertsen

11.07.19, Helse Bergen, "[Gjennombruddsforskning fra KK om eggstokkrekft](#)", Line Bjørge.

10.07.19, VG, "[Ny forskning om eggstokkrekft: – Et gjennombrudd](#)", Line Bjørge.

14.06.19, Allers, "[Senskader er svært vanlig](#)", Line Bjørge.

14.06.19, OsloBørs, "[BerGenBio presents preliminary Phase II clinical data at EHA 24: bemcentinib in combination with low dose chemotherapy yields durable responses in AML patients unfit for intensive chemotherapy](#)", Bjørn Tore Gjertsen.

