Barntumörbanken Symposium 2022

1–2 December 2022

Aula Medica

Karolinska Institutet, Stockholm

Barntumörbanken

Karolinska Institutet

KAROLINSKA UNIVERSITY HOSPITAL

Welcome to Barntumörbanken Symposium 2022

We are honored to welcome you to the 1st International Symposium arranged by The Swedish Childhood Tumor Biobank (Barntumörbanken, BTB). The Symposium takes place on 1-2 December 2022 in Aula Medica, Stockholm.

The scientific program consists of state-of-the-art lectures and poster presentations on topics in the areas of pediatric cancer, human biobanking, large scale sequencing and precision cancer medicine.

The primary purpose of the Symposium is to provide a platform for participants to share experiences and knowledge through listening to scientific experts and networking with colleagues and representatives from healthcare, academia and industry.

The event is sponsored by The Swedish Childhood Cancer Fund (Barncancerfonden) and organized by BTB, which is a research infrastructure, sample and genomic data collection for all Swedish pediatric patients diagnosed with CNS and other solid tumors. BTB is funded by The Swedish Childhood Cancer Fund and was established with the aim to improve knowledge on the biology, treatment and outcome of childhood tumors.

BTB has a national multidisciplinary collaborative network, and the biospecimens and generated genomic data are accessible to the scientific community to enable advances in research for the benefit of children with a solid tumor disease.

The Swedish Childhood Tumor Biobank

Barntumörbanken

BARNCANCER FONDEN

Cover photo of Aula Medica: Annika Evolahti

Practical information

Venue
The Symposium takes place on 1-2 December in the Erling Persson Hall, located at Aula Medica, Karolinska Institutet (Nobels väg 6, 171 65 Solna).

Registration desk opening hours
1 December: 11:00-12:30
2 December: 08:30-09:00

Name badge
Please keep your name badge on and visible at all times during the entire Symposium, as it is your ticket for the lectures, coffee and lunches.

Lunches and coffee breaks
Registration is free of charge and includes lunch and coffee according to the programme. Lunch and coffee will be served in the foyer outside the Erling Persson Hall.

Dinner
The dinner is also free of charge and will be held at Haga Bottega Restaurant, conveniently located in the Elite Hotel Carolina Tower.
Date: 1 December 2022
Start time: 18:30
Place: Haga Bottega
Address: Eugeniavägen 6, 171 64 Solna
Requirement: If you have registered to the dinner, your name badge will be marked with "Dinner 1 Dec". Therefore, bring your name badge, as it is your entrance ticket to attend the dinner.

Wifi at Aula Medica
Network: KI-Guest. **Password:** Campus22

Contact
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Force Majeure
The organisers are not liable for any claims for damages and/or losses if the entire Symposium has to be cancelled due to a force majeure incident.

Programme

Thursday 1 December 2022

11:00 – 12:30	**REGISTRATION and LUNCH**
12:30 – 12:50	**The Swedish Childhood Tumour Biobank** Welcome address *Johanna Sandgren, Karolinska Institutet and Karolinska University Hospital; Gustaf Ljungman, Uppsala University Hospital and Uppsala University*
12:50 – 14:30	**Clinical genomics and targeted therapies in the pediatric cancer field** *Chairs: Gustaf Ljungman, Per Kogner*
12:50 – 13:30	INFORM and the Heidelberg experience (live streamed) *Olaf Witt, The German Cancer Research Center (DKFZ), Germany*
13:30 – 14:10	Clinical sequencing at St Jude *Jinghui Zhang, St. Jude Children's Research Hospital, USA*
14:10 – 14:30	Genomic Medicine Sweden and pediatric cancer patients *David Gisselsson Nord, Lund University, Sweden*
14:30 – 15:00	**COFFEE and POSTER VIEWING**
15:00 – 15:40	**Novel targets and therapies in pediatric cancer medicine** *Chairs: Klas Blomgren, Jakob Stenman*
15:00 – 15:20	PDX- models for CNS tumours and The Preclinical Cancer Treatment (PCT) Center *Fredrik Swartling, Uppsala University, Sweden*
15:20 – 15:40	New treatments and models of neuroblastomas *Daniel Bexell, Lund University, Sweden*
15:40 – 16:00	**Science for Life Laboratories Precision Medicine Initiatives** *Chairs: Klas Blomgren, Jakob Stenman*
15:40 - 16:00	Systems medicine based diagnostics development for precision medicine *Janne Lehtiö, Karolinska Institutet, Sweden*

16:00 – 17:00 **Novel molecular technology and diagnostics**
Chairs: Teresita Diaz de Ståhl, Anna Hagström

16:00 – 16:20 Spatial transcriptomics in pediatric CNS tumours
Linda Kvastad, The Royal Institute of Technology, Sweden

16:20 – 16:40 Cell free tumour DNA analysis in pediatric CNS tumours
Emma Tham, Karolinska Institutet, Sweden

16:40 – 17:00 Clonal architecture of human neuroblastoma
Ninib Baryawno, Karolinska Institutet, Sweden

18:30 **Conference dinner, restaurant Haga Bottega**

Friday 2 December 2022

08:30 – 09:00 **REGISTRATION**

09:00 – 10:00 **Epigenomics**
Chairs: Magnus Sabel, Ingrid Øra

09:00 – 09:40 Classifying sarcomas by methylation analyses
Andreas von Deimling, The German Cancer Research Center (DKFZ), Germany

09:40 – 10:00 Improved diagnostics of pediatric CNS tumours based on DNA methylation classification
Helena Carén, University of Gothenburg, Sweden

10:00 – 10:30 **COFFEE and POSTER VIEWING**

10:30 – 12:10 **Large scale biobanking and sequencing**
Chairs: Johanna Sandgren, Valtteri Wirta

10:30 – 10:50 National strategies for biobanks in healthcare and research
Anna Beskow, Biobank Sweden, Sweden

10:50 – 11:20 U-CAN- collections of biomaterials and clinical information from adult cancer patients in Sweden
Tobias Sjöblom, Uppsala University, Sweden

11:20 – 11:40 Genomic Medicine Sweden
Richard Rosenquist Brandell, Karolinska Institutet, Sweden

11:40 – 11:55 The Norwegian Childhood Cancer Biobank (NCCB) – experiences and challenges
Lars O. Baumbusch, Oslo University Hospital, Norway

11:55 – 12:10 Development and strategies for the National Genomics Infrastructure
Tuuli Lappalainen, The Royal Institute of Technology, Sweden

12:10 – 13:10	**LUNCH and POSTER VIEWING**
13:10 – 13:30	**Remarks** *Jonas Bergh, Director Cancer Research, Karolinska Institutet* *Annika Tibell, Director Research, Education, Development and Innovation, Karolinska University Hospital* *Britt-Marie Frost, Head of Research, Barncancerfonden*
13:30 – 14:30	**Pediatric cancer genomic and pathology** *Chairs: Monica Nistér, Susan Pfeifer*
13:30 – 14:10	Histone mutations in DIPG *Cynthia Hawkins, The Hospital for Sick Children, University of Toronto, Canada*
14:10 – 14:30	Lessons from gene expression for combination chemotherapy and immunotherapy *Nikolas Herold, Karolinska Institutet and Karolinska University Hospital, Sweden*
14:30 – 15:00	**COFFEE and POSTER VIEWING**
15:00 – 16:00	**Pediatric cancer predisposition** *Chairs: David Gisselsson Nord, Emma Tham*
15:00 – 15:40	Genomic predictors of response to PD-1 inhibition in children with germline DNA replication repair deficiency *Eric Bouffet, The Hospital for Sick Children, University of Toronto, Canada*
15:40 – 16:00	Childhood Cancer Predisposition (ChiCaP) *Ann Nordgren, Karolinska Institutet and Karolinska University Hospital, Sweden*
16:00 – 16:20	**Selected presentations from submitted abstracts** *Chairs: David Gisselsson Nord, Emma Tham*
16:00 – 16:10	Lorlatinib monotherapy for ALK mutated neuroblastoma relapses – an uncharted course *Torben Ek, Children´s Cancer Centre, Sweden*
16:10 – 16:20	The irradiation-induced deterioration of gamma oscillations in the juvenile mouse brain is prevented by lithium treatment *Carlos Rodrigues, Karolinska Institutet, Sweden*
16:20 – 16:30	**Concluding remarks and best poster awards** *Gustaf Ljungman and Johanna Sandgren*

Keynote speakers

Olaf Witt is the Director of the Translational Program of the Hopp Children's Cancer Center Heidelberg (KiTZ), Division Head of the CCU Pediatric Oncology at the German Cancer Research Center (DKFZ), and the Section Head of the Phase I/II Clinical Trial Unit and Brain Tumors Department of Pediatric Oncology, Hematology, Immunology and Pulmonology at the University Hospital Heidelberg. He studied medicine at the Universities of Münster, Hamburg and Michigan, USA and is specialized in the field of pediatrics, neonatal medicine and pediatric oncology and hematology. Olaf Witt started his scientific career at the University of Göttingen Medical School and was appointed to his current position as a full professor for pediatric oncology in 2005.

Professor Witt's major interest is the identification of biomarkers for response prediction in precision medicine as well as in developing rationale treatment combination strategies to overcome resistance in pediatric oncology. Since 2015, Olaf Witt is coordinating the (inter)national precision program in pediatric oncology termed "INFORM" (INdividualized Therapy FOr Relapsed Malignancies in Childhood) and based on this is developing innovative phase I/II biomarker driven combination basket trials series termed "INFORM2". He is coordinating investigator of the pan-European low grade glioma phase III trial (LOGGIC Europe Trial) study group and elected board member of the German Society of Pediatric Oncology and Hematology (GPOH). He is author of more than 150 publications.

Dr. Jinghui Zhang is the inaugural Chair of Department of Computational Biology and Endowed Chair of Bioinformatics at St. Jude Children's Research Hospital. Her research is to understand the effect of genomic variants on initiation and progression of pediatric cancer. Using innovative genomic analysis tools developed in her lab, she discovered novel targetable fusions in high-risk leukemia and brain tumors leading to new clinical trials. Her analysis on germline cancer susceptibility mutations in pediatric cancer led to a recommendation of genetic testing on every patient. She mapped the genomic landscape of >20 subtypes of pediatric cancer while her pan-cancer study unveiled major differences between pediatric and adult cancer genomes, emphasizing the need for developing distinct therapeutic approaches. She has led the development of an integrative clinical sequencing platform with analytics advocating incorporating whole-genome sequencing for pediatric oncology testing. She developed St Jude Cloud, an ecosystem for accessing, analyzing and visualizing 1.2PB omics data from >10,000 pediatric cancer patients.

Dr. Zhang was a recipient of the 2019 American Association of Cancer Research Team Science Award and Microsoft Healthcare Innovation Award. She was also named the Digital Edge 50 for 2019 for her work on St Jude Cloud.

Andreas von Deimling received his basic medical education in the city of Freiburg, Germany. Clinical training began with a first residency at the University Hospital Zurich, Switzerland, in 1988 followed by a research program in the Neuro-Oncology Department of the Massachusetts General Hospital from 1990 to 1992. Neuropathology training was completed in the Department of Neuropathology at the University of Bonn from 1992 to 1994. From 1995 to 1988 he served there as consultant and was awarded the endowed "Schilling Professorship". In 1998, he was appointed as Director of Neuropathology at the Charité, Humboldt University, in the city of Berlin. This was followed by relocation to the city of Heidelberg in 2007, accompanied by a combined appointment as director of Neuropathology at the University of Heidelberg and director of the Clinical Cooperation Unit Neuropathology at the German Cancer Institute. His scientific focus is on molecular tumor neuropathology with special attention to developing diagnostic tools and algorithms. This included the mutation specific antibodies H09 targeting the IDH1-R132H and VE1 targeting the BRAF-V600E mutations. Recent work focused on a methylation based classification systems for brain tumors and sarcomas. He is a member of the European Academy of Cancer Sciences and the German National Academy of Sciences (Leopoldina).

Dr. Cynthia Hawkins obtained her MD/PhD from Western University. She completed her residency training in neuropathology at the University of Toronto, including a post-doctoral fellowship at the University of Zurich. Dr. Hawkins is a Neuropathologist and the Medical Director of Translational Molecular Pathology at the Hospital for Sick Children (SickKids). She is also a Senior Scientist at the SickKids Research Institute, a Professor of Laboratory Medicine and Pathobiology at The University of Toronto and holds a Garron Family Chair in Childhood Cancer Research.

Dr. Hawkins' clinical practice specializes in pediatric neuropathology. She is best known for her expertise in pediatric brain tumors and has a research lab devoted to pediatric glioma. Her research interests include molecular pathogenesis and therapeutics for pediatric glioma and clinical implementation of novel diagnostic, prognostic and therapeutic markers for pediatric brain tumors. As a neuropathologist, Dr. Hawkins has been instrumental in translating high impact genomic research into the clinic using emerging technologies. Dr. Hawkins' research defined the clinical relevance of histone mutations and the genetic and epigenetic landscape of pediatric midline glioma/ diffuse intrinsic pontine gliomas as well as infant glioma. The Hawkins lab has published multiple landmark studies concerning the prevalence, oncogenic function and clinical relevance of histone mutations as well as the discovery of a novel cancer gene, ACVR1.

Dr. Bouffet is an Emeritus Professor of Paediatrics in the University of Toronto. He was the Head of the Neuro-oncology Section in the Division of Haematology/Oncology at the Hospital for Sick Children, Toronto from 2000 till 2022 and the Garron Family Chair in Childhood Cancer Research between 2011 and 2022. He graduated in 1980 from medical school at the University of Lyon and worked as paediatric oncologist in Lyon, Bristol, London and then Toronto where he moved in 2000 to develop the Paediatric Neuro-oncology Program within the Division of Haematology/Oncology. He is an Emeritus Senior Associate Scientist in the Research Institute at the Hospital for Sick Children. His research interests are in the area of novel treatments and clinical trials in children with brain tumours and implementation of neuro-oncology programs in countries with limited resources. He is author or co-author of over 600 peer-reviewed manuscripts and author/co-author on numerous book chapters in the field of neuro-oncology. He was President of the International Society of Paediatric Oncology (2016-2019) and is Member of the Board of Directors of the Union for International Cancer Control (UICC) and the GFAOP (Franco-African Group of Paediatric Oncology).

Exhibition

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