

NCI Workshop on Neutron Capture Therapy for Cancer
Symposium Presented by DCTD's Radiation Research Program
April 20-22, 2022

April 20, Session 1. Clinical Trials

Moderators: Akira Matsumura and Sunil Krishnan

9:00 – 9:10 am *Welcome Remarks, Jacek Capala, Bhadrasain Vikram, Norm Coleman*

9:10 – 9:20 am *Overview of BNCT in 2022, Wolfgang Sauerwein*

9:20 – 10:50 am *Initiatives Towards Clinical BNCT in Japan*

- *Introduction, Akira Matsumura*
- *Regulatory Issues with PMDA in Japan, Tomoyuki Asano*
- *Accelerator-based BNCT for Recurrent Head and Neck Cancer, Katsumi Hirose*
- *Accelerator-based BNCT for recurrent glioblastoma, Shinji Kawabata*
- *Accelerator-based Boron Neutron Capture Therapy for Skin Tumors, Hiroshi Igaki*
- *Progress on Non-clinical Trials Using a Newly Developed Accelerator Neutron Source at the University of Tsukuba, Kei Nakai*

10:50 – 11:20 am *The Finnish BNCT Experience*

- *Setting up a New Accelerator-based NCT Facility, Liisa Porra*
- *Clinical Trials, Past and Future, Heikki Joensuu*

11:20 – 11:40 am *Optimal Design of Future NCT Clinical Trials, Andrea Wittig*

11:40 – 12:00 pm *Panel Discussion*

April 21, Session 2. Delivery Agents

Moderators: Graca Vicente and Narayan Hosmane

9:00 – 10:45 am *Small Molecules*

- *Synthesis and Application of Biology Oriented Boron Chemicals, Bhaskar Das*
- *The Uniqueness of Boron Clusters as Challenging Scaffolds to Tackle Cancer by Multitherapies, Clara Vinas*
- *Design and Synthesis of Carborane-containing Matrix Metalloproteinase Ligands as Candidates for BNCT, Daniel Becker*
- *Carborane-peptide conjugates as selective boron-delivery agents for potential applications in BNCT, Evamarie Hey-Hawkins*
- *Boron Delivery using Serum Albumin, Hiroyuki Nakamura*
- *Panel Discussion*

- 10:45 – 11:30 am *Nanoparticles*
- *Boron-rich Liposomes as Nanoscale Delivery Agents for BNCT*, Satish Jalisatgi
 - *Targeted NanoBoron for BNCT of Malignant Glioma*, Rameshwar Patil
 - *Panel Discussion*

- 11:30 – 12:00 pm *Beyond Boron and Neutrons*
- *Boron Compounds for Proton Boron Fusion Therapy*, James Welsh
 - *Tumor targeted boron and gadolinium incorporated phospholipid molecules for NCT*, Jamey Weichert
 - *Panel Discussion*

April 22, Session 3. Translational Research

Moderators: Mandy Schwint and Natsuko Kondo

- 9:00 – 9:55 am *Dosimetry/Reporting*
- *New Dosimetry Methods for NCT*, Reinhard Schulte
 - *NCT Reporting Requirements*, Wolfgang Sauerwein
 - *Panel Discussion*

- 9:55 – 10:50 am *Radiation biology*
- *Preclinical Studies to Evaluate Biological Effects of an Accelerator-based BNCT System*, Mitsuko Masutani
 - *Systems Biology Approach to Investigate Biomarkers, Boron-10 Carriers and Mechanisms Useful for Improving BNCT*, PierLuigi Mauri
 - *Panel Discussion*

- 10:50 – 11:45 am *Optimal Models*
- *Rat and Mouse Brain Tumor Models for Experimental Neuro-oncology Research*, Rolf Barth
 - *Animal Tumor Models for BNCT Studies (Non–Central Nervous System Solid Tumors)*, Andrea Monti Hughes
 - *Panel Discussion*

11:45 -12:00 pm *Wrap-up/Next Steps*, Jacek Capala