



1st All-Russian Conference and School of Young Scientists
on Boron Neutron Capture Therapy
October 22-24, 2019
Novosibirsk



Russian
Science
Foundation



N*NOVOSIBIRSK
STATE
UNIVERSITY
*The real science

October 22

- 11:00 Registration
- 12:00 Prof. **Alexander Ivanov** - Conference opening
- 12:05 Greetings: Governor of the region **A. Travnikov**, Deputy Mayor of Novosibirsk **M. Kamaev**, Director of the BINP Academician **P. Logatchov**, Rector of NSU Corr. Member **M. Fedoruk**
- 12:25 Lecture # 1. Prof. **Shinichi Miyatake** (Osaka Medical College, Japan)
"Recent advancement of clinical BNCT on brain tumors including malignant gliomas and high-grade meningiomas, using reactor and accelerator"
- 13:25 Lecture # 2. Prof. **Akira Matsumura** (University of Tsukuba, Japan)
"Clinical experience of BNCT in glioblastoma and current BNCT accelerator project in Tsukuba"
- 14:20 Lunch
- 15:20 Press conference
- 16:20 Lecture # 3. Prof. **Wolfgang Sauerwein** (University of Essen, Germany; President of German Society for BNCT)
"Accelerator based BNCT: The challenges from a clinicians perspective"
tour on BNCT facility for accredited media
- 17:10 Coffee break
- 17:40 Lecture # 4. Prof. **Hiroyuki Nakamura** (Tokyo Institute of Technology, Japan; President of Japanese Society of Neutron Capture Therapy)
"Current Status and Future prospects for boron agents in BNCT"
- 18:40 Get Together – 3rd floor on the str. Nikolaeva, 12

October 23

- 09:10 Lecture # 5. Prof. **Alexey Krivoschapkin** (European Medical Center, Moscow, Russia)
"Promising technologies for local control of tumor growth in patients with malignant gliomas"
- 10:00 Lecture # 6. Prof. **Vladimir Chernov** (Research Medical Center, Tomsk, Russia)
"Nuclear medicine in the diagnosis and prognosis of malignant neoplasms"
- 10:50 Coffee break
- 11:20 Lecture # 7. Prof. **Grigory Dianov** (University of Oxford, Great Britain)
"Cellular responses to DNA damage"
- 12:10 Lecture # 8. Prof. **Sergey Taskaev** (BINP, Novosibirsk, Russia)
"Budker Institute solution for BNCT"
- 13:00 Lunch
- 14:00 Lecture # 9. Prof. **Andres Kreiner** (CNEA, Argentina)
"Status of Accelerator-Based BNCT worldwide"
- 14:50 Lecture # 10. Dr. **Hiroaki Kumada** (University of Tsukuba, Japan)
"Treatment planning and dose estimation for BNCT"
- 15:40 Coffee break
- 16:10 Lecture # 11. Prof. **Tooru Kobayashi** (Kyoto University Research Reactor Institute, Japan)
"Basic understanding of BNCT from the viewpoint of medical physics and engineering"
- 17:00 Lecture # 12. Prof. **Saverio Altieri** (University of Pavia, Italy)
"Boron measurement and imaging techniques in BNCT"

October 24

09:00 Tour on BNCT facility

10:30 – 18:00 **Conference sessions**

Physics & Engineering

Chair: Prof. **Sergey Taskaev** (BINP, Novosibirsk, Russia)

- 10:35 Dr. **Artem Smirnov** (TAE Life Sciences, Foothill Ranch, California, USA)
"TAE Life Sciences' Clinical Neutron Beam System for BNCT"
- 10:55 Prof. **Sang Moo Lim** (Korea Institute of Radiological and Medical Sciences, Seoul, Korea)
"Introduction of KIRAMS BNCT Project"
- 11:40 Dr. **Ilya Urupa** (National Research Nuclear University MEPhI, Moscow, Russia)
"Neutron generator protection parameters calculated using the Geant4 software package"
- 12:00 Coffee break

Chemistry & Pharmacology

Chair: Prof. **Vladimir Bregadze** (Institute of Organoelement Compounds, Moscow, Russia)

- 12:30 Dr. **Dmitry Gruzdev** (Institute of Organic Synthesis, Ekaterinburg, Russia)
"Carborane-containing amino acid derivatives and analogs as a platform for design of promising BNCT agents"
- 12:50 Dr. **Ekaterina Andrewchuk** (Institute of Organoelement Compounds, Moscow, Russia)
"Получение б,б'-замещенных арилпроизводных бис(дикарболлид)ов никеля(IV) и кобальта(III)"
- 13:10 Dr. **Anna Druzina** (Institute of Organoelement Compounds, Moscow, Russia)
"New Boron-Containing Lipids for NCT"
- 13:30 Dr. **Sergey Uspenskii** (Institute of Synthetic Polymeric Materials, Moscow, Russia)
"Experimental and feasibility study of using boron and gold particles in medicine"
- 13:50 Ms. **Polina Khaptakhanova** (Institute of Synthetic Polymeric Materials, Moscow, Russia)
"Boron nanoparticles as a potential target drug for boron neutron capture therapy"
- 14:10 Lunch

Biological targeting

Chair: Prof. **Vladimir Richter** (Institute Chemical Biology and Fundamental Medicine, Novosibirsk)

- 15:00 Dr. **Darya Novopashina** (Institute Chemical Biology and Fundamental Medicine, Novosibirsk, Russia) "Novel approaches to the synthesis of high boron-loaded oligonucleotides for BNCT"
- 15:20 Prof. **Vladimir Silnikov** (Institute of Chemical Biology and Fundamental Medicine Novosibirsk, Russia) "Special features of albumin as a carrier for anticancer theranostic agents: A thiolactone entity as a latent thiol functionality to prepare multimodal closo-dodecaborate-conjugated human serum albumins"
- 15:40 Mrs. **Tatyana Avramchuk** (Institute of Chemical Biology and Fundamental Medicine, Novosibirsk, Russia) "Multifunctionalized human serum albumin as versatile theranostic nanoplatform for boron neutron capture therapy"
- 16:00 Prof. **Boris Sukhov** (Institute of Chemistry, Irkutsk, Russia)
"New boron-, gadolinium-containing superparamagnetic nanosubstance's for a multi-channel theranostics of the brain oncological diseases"
- 16:20 Coffee break

Clinical matters

Chair: Dr. **Vladimir Kanygin** (Novosibirsk State University, Novosibirsk, Russia), Dr. **Alexander Zaboronok** (University of Tsukuba, Tsukuba, Japan)

- 16:40 Dr. **Vladimir Kanygin** (Novosibirsk State University, Novosibirsk, Russia)
"Results and prospects of BNCT biological research at the BINP accelerator based neutron source"
- 17:00 Dr. **Alexander Zaboronok** (University of Tsukuba, Tsukuba, Japan)
"Absorbed dose evaluation using complex boron compounds for BNCT"
- 17:20 Dr. **Rinat Mukhamadiyarov** (Kuzbass Cardiology Center, Kemerovo, Russia)
"Особенности синтеза и биораспределения препаратов бора при альтернативных способах доставки в опухоль"
- 17:40 Mr. **Nikita Filin** (Novosibirsk State University, Novosibirsk, Russia)
"Преимущества интракраниального пути введения новых соединений бора на экспериментальных моделях"
- 18:00 Prof. **Sergey Taskaev** - Conference closing