



**The 17th International Congress
on Neutron Capture Therapy**
University of Missouri
Columbia, Missouri, USA

CONGRESS PROGRAM



PROGRAM AT-A-GLANCE

Sunday, October 2, 2016

- 3:00 pm - 4:00 pm
Executive Board Meeting
- 4:00 pm - 4:30 pm
Board of Councilors Meeting
- 4:30 pm - 6:00 pm
Registration & Check-in
- 4:30 pm - 7:00 pm
Exhibits
- 4:30 pm - 7:00 pm
Networking Reception

Monday, October 3, 2016

- 8:00 am - 9:00 am
Registration & Check-in
- 8:00 am - 6:15 pm
Exhibits
- 9:00 am - 9:30 am
Opening Ceremony
- 9:30 am - 10:15 am
Hatanaka Lecture
- 10:15 am - 10:35 am
Break
- 10:40 am - 12:10 pm
Plenary Session 1
- 12:15 pm - 1:15 pm
Lunch
- 1:30 pm - 3:05 pm
Plenary Session 2
- 3:05 pm - 3:25 pm
Break
- 3:30 pm - 5:00 pm
Plenary Session 3
- 5:15 pm - 6:15 pm
Small Committee Meetings
- 5:15 pm - 6:15 pm
Poster Session 1

Tuesday, October 4, 2016

- 8:30 am - 6:00 pm
Exhibits
- 8:30 am - 9:45 am
Breakout Session 1
- 9:45 am - 10:15 am
Break
- 10:15 am - 11:50 am
Plenary Session 4
- 11:50 am - 2:00 pm
Lunch & Exhibits
- 2:00 pm - 3:10 pm
Plenary Session 5

- 3:15 pm - 4:15 pm
Poster Session 2
- 4:30 pm - 6:05 pm
Breakout Session 2

Wednesday, October 5, 2016

- 8:00 am - 4:00 pm
Exhibits
- 8:30 am - 10:05 am
Plenary Session 6
- 10:10 am - 10:50 am
General Assembly Meeting
- 10:55 am - 11:55 am
Poster Session 3
- 11:55 am - 12:55 pm
Lunch
- 1:00 pm - 2:35 pm
Plenary Session 7
- 2:35 pm - 3:00 pm
Break
- 3:00 pm - 4:15 pm
Breakout Session 3
- 5:45 pm - 6:00 pm
Group Photo
- 6:00 pm - 9:00 pm
Banquet & Reception

Thursday, October 6, 2016

- 8:30 am - 1:30 pm
Exhibits
- 8:30 am - 9:00 am
Executive Board Meeting
- 9:00 am - 10:15 am
Breakout Session 4
- 10:15 am - 10:40 am
Break
- 10:45 am - 12:20 pm
Plenary Session 8
- 12:20 pm - 1:15 pm
Lunch
- 1:15 pm - 9:00 pm
Pre-paid Excursion

Friday, October 7, 2016

- 9:00 am - 10:35 am
Plenary Session 9
- 10:35 am - 11:00 am
Break
- 11:00 am - 12:00 pm
Closing Session
- 12:30 pm - 1:30 pm
Executive Board Meeting & Lunch



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Reynolds Alumni Center Floor Plan	Inside back cover



Dear Colleagues,

It is my pleasure to welcome everyone to the 17th International Congress on Neutron Capture Therapy (ICNCT-17) at the University of Missouri located in the heartland of America. The congress will be spread over five days and will feature plenary talks, poster presentations and focused sessions in the clinical, radiobiological and neutron physics aspects of Boron Neutron Capture Therapy (BNCT).

Clinicians and researchers from around the world come together to showcase their findings and generate new thoughts related to Neutron Capture Therapy. The key areas include the latest developments in accelerator-based neutron sources, the next generation of delivery agents, as well as the latest results in chemical, biological and clinical research.

I am proud to be a part of this global community composed of world-renowned scientists from industry and academia collaborating in pursuit of a common goal, a cancer cure. There is no better time than now, as we look forward to the exciting future for BNCT. With a number of promising developments currently underway, from new boron delivery agents to new accelerator-based neutron sources, the promise of BNCT as a standard radiation therapy for cancer is finally becoming a reality.

On behalf of the University of Missouri and the International Institute of Nano and Molecular Medicine I am delighted to welcome you to this beautiful campus in the heart of the United States.

Satish S. Jalisatgi, Ph.D.

A handwritten signature in black ink, appearing to read 'S. Jalisatgi'. The signature is fluid and cursive, with a small flourish at the end.

President, 17th ICNCT meeting
President, International Society for Neutron Capture Therapy
Assistant Director, International Institute of Nano and Molecular Medicine
University of Missouri



Dear Colleagues,

With a great sense of satisfaction, I am pleased to welcome the participants of the 17th International Congress on Neutron Capture Therapy (ICNCT) convened by the International Institute of Nano and Molecular Medicine (I²NM²) of the University of Missouri (MU), Columbia. As in the past, this congress collects a diverse group of scientific contributors for the purpose of defining the current state of neutron capture therapy and plans for future medical advances.

The I²NM² was founded in 2005 when the Hawthorne research group relocated from the University of California Los Angeles (UCLA) to MU. This move was possible due to the construction of a dedicated I²NM² building at MU. In addition, the nuclear reactor at MU was equipped with a thermal neutron beamline suitable for BNCT studies with small animals. Boron chemistry relevant to BNCT was emphasized at MU along with the associated biological aspects of research leading to small animal therapy studies.

Besides exploratory BNCT studies the I²NM² research program has involved several areas based upon borane/carborane chemistry. These are drug delivery (closomers), new routes to ¹⁰B enriched compounds for use in BNCT, new MRI agents for tumor visualization, hydrogen storage with boranes and molecular motors based upon metallacarboranes.

Members of the I²NM² are especially pleased by our opportunity to host the 17th ICNCT since we are intimately involved in BNCT chemistry and biology.

With a warm welcome to all,

A handwritten signature in black ink that reads "M. Frederick Hawthorne". The signature is written in a cursive, flowing style.

Fred Hawthorne, Ph.D.
Director, International Institute of Nano and Molecular Medicine (I²NM²)
University of Missouri

Committees

Organizing Committee

Chair: Satish Jalisatgi

John Brockman
Thomas Everett
Elizabeth Porting-Jackson
Carol Krause
Erica Lovercamp
Charles Maitz
Dawn Moorehead
Matthew Reeps
Alexander Safronov

Local Scientific Committee

Chair: Satish Jalisatgi

John Brockman
Thomas Everett
Charles Maitz
Alexander Safronov

ISNCT Executive Board (2014-2016)

Satish Jalisatgi
(President, Ex-Officio)
Fong-In Chou
President-Elect, Ex-Officio)
Leena Kankaanranta
*(Immediate Past President,
Ex-Officio)*
David W. Nigg
*(Secretary-Treasurer, Ex-Officio,
2010-2016)*
Silva Bortolussi
(Elected Member, 2012-2016)
Akira Matsumura
(Elected Member, 2014-2018)
Andres Kreiner
(Elected Member, 2014-2018)
Iiro Auterinen
(Elected Member, 2014-2018)
Yi-Wei Chen
(Elected Member, 2014-2018)

ISNCT Board of Councillors (2014-2016)

End of term 2016 (Elected 2010)

Junichi Hiratsuka
Ling-Wei Wang
Amanda Schwint
Alejandra Dagrosa
Hiroyuki Nakamura
Luca Menichetti
Silva Bortolussi
Yuan-Hao Liu
Hanna Koivunoro
Stead Kiger

End of term 2018 (Elected 2012)

Akira Matsumura
Shin-Ichi Miyatake
Shin-Ichiro Masunaga
Veronica Trivillin
Satish Jalisatgi
Mitsunori Kiriata
Iiro Auterinen
Hiroaki Kumada
Andrea Wittig
Saverio Altieri

End of term 2020 (Elected 2014)

Yoshinori Sakurai
Andres Kreiner
Luigi Panza
Ming-Hua Hsu
Minoru Suzuki
Desire Ngoga
Koji Ono
Augustina Portu
Ignacio Porras
Tetsuya Yamamoto

History of ICNCT Locations & Presidents

1983, 1st ICNCT

October 12th - 14th
Cambridge, Massachusetts USA
Congress Pres. Brownell & Fairchild

1985, 2nd ICNCT

October 18th - 20th
Tokyo, Japan
Congress Pres. Hiroshi Hatanaka

1988, 3rd ICNCT

May 31st - June 3rd
Bremen, Germany
Congress Pres. Detlef Gabel

1990, 4th ICNCT

December 4th - 7th
Sydney, Australia
Congress Pres. Barry J Allen

1992, 5th ICNCT

September 14th - 17th
Columbus, Ohio USA
Congress Pres. Albert J Soloway

1994, 6th ICNCT

October 31st - November 4th
Kobe, Japan
Congress Pres. Yutaka Mishima

1996, 7th ICNCT

September 4th - 7th
Zurich, Switzerland
Congress Pres. Borje Larsson

1998, 8th ICNCT

September 13th - 18th
La Jolla, California, USA
Congress Pres. Frederick Hawthorne

2000, 9th ICNCT

October 2nd - 6th
Osaka, Japan
Congress Pres. Keiji Kanda

2002, 10th ICNCT

September 8th - 13th
Essen, Germany
Congress Pres. Wolfgang Sauerwein

2004, 11th ICNCT

October 11th - 15th
Boston, USA
Congress Pres. Robert Zamenhof

2006, 12th ICNCT

October 9th - 13th
Takamatsu, Japan
Congress Pres. Yoshinobu Nakagawa

2008, 13th ICNCT

November 2nd - 7th
Florence, Italy
Congress Pres. Aris Zonta

2010, 14th ICNCT

October 25th - 29th
Buenos Aires, Argentina
Congress Pres. Sara J Liberman

2012, 15th ICNCT

September 10th - 14th
Tsukuba, Japan
Congress Pres. Akira Matsumura

2014, 16th ICNCT

June 14th - 19th
Helsinki, Finland
Congress Pres. Leena Kankaanranta

2016, 17th ICNCT

October 2nd - 7th
Columbia, Missouri, USA
Congress Pres. Satish Jalisatgi

1994-2016 Hatanaka Award Recipients

1994, 6th ICNCT, Kobe, Japan
Jeffrey Coderre (USA)

1996, 7th ICNCT, Zurich, Switzerland
Yoshinori Yamamoto (Japan)

1998, 8th ICNCT, LaJolla, USA
Borje Larsson (Sweden)

2000, 9th ICNCT, Osaka, Japan
Detlef Gabel (Germany)

2002, 10th ICNCT, Essen, Germany
Yoshinobu Nakagawa (Japan)

2004, 11th ICNCT, Boston, USA
Rolf Barth (USA)

2006, 12th ICNCT, Takamatsu, Japan
David Nigg (USA), Wolfgang Sauerwein (Germany)

2008, 13th ICNCT, Florence, Italy
Otto Harling (USA)

2010, 14th ICNCT, Buenos Aires, Argentina
Tooru Kobayashi (Japan), Akira Matsumura (Japan), Koji Ono (Japan)

2012, 15th ICNCT, Tsukuba, Japan
Raymond Moss (Netherlands)

2014, 16th ICNCT, Helsinki, Finland
Shin-Ichi Miyatake (Japan)

2016, 17th ICNCT, Columbia, Missouri, USA
Heikki Joensuu (Finland)

THANK YOU TO OUR SILVER SPONSOR



THANK YOU TO OUR BRONZE SPONSORS



THANK YOU TO OUR EXHIBITORS



THANK YOU TO OUR FRIENDS OF ICNCT-17



THANK YOU TO OUR PARTNER



International Institute of Nano & Molecular Medicine

Registration Check-in and Help Desk

If you need to reach a member of the organizing committee, please visit the help desk, email muconf1@missouri.edu or leave a message with a staff member at the University of Missouri Conference Office at (573) 882-4349.

Reynolds Alumni Center	Sunday, October 2	4:00 pm – 7:00 pm
	Monday, October 3	8:00 am – 5:00 pm
	Tuesday, October 4	8:00 am – 5:00 pm
	Wednesday, October 5	8:00 am – 6:30 pm
	Thursday, October 6	8:00 am – 1:30 pm
Hampton Inn	Friday, October 7	8:00 am – 11:00 am

LOCATION CHANGE: Friday, October 7th

On Friday, October 7th the conference will be held at the Hampton Inn and Suites located at 1225 Fellows Place Boulevard, Columbia, MO 65201 (573) 214-2222. The final Plenary Session and Closing Session will be held in the hotel ballroom. The conference will end at 12:00 pm (noon).

Local Transportation

Shuttle service will be provided to/from Stoney Creek Hotel and the Hampton Inn. The pickup location at the both hotels will be located at the front entrance. The conference location for Friday, October 7th will be held at the Hampton Inn; therefore, no shuttle service will be provided at this location.

Stoney Creek and Hampton Inn Shuttle Pick-up/Return Schedule:

Sunday:

Pick-up: 4:00 pm, 5:00 pm, 6:00 pm
Return: 5:00 pm, 6:00 pm, 7:00 pm

Monday:

Pick-up: 7:30 am, 8:00 am, 8:30 am
Return: 6:15 pm, 6:45 pm

Tuesday:

Pick-up: 7:30 am, 8:00 am
Return: 5:45 pm, 6:15 pm

Wednesday:

Pick-up: 7:30 am, 8:00 am, 4:00 pm, 4:30 pm
Return: 5:00 pm, 5:30 pm, 9:00 pm, 9:30 pm

Thursday:

Pick-up: 8:00 am, 8:30 am
Return: 1:30 pm, 2:00 pm, 9:00 pm

Friday:

Pick-up: 8:00 am, 8:30 am
Return: 12:00 pm, 12:30 pm

General Information

Local Transportation *(continued)*

Shuttle service will be provided to/from the Tiger Hotel and the Broadway for Friday, October 7th. The pickup location at the hotels will be located at the front entrance.

The Tiger and the Broadway Shuttle Pick-up/Return Schedule for Friday, October 7th.

Pick-up: 8:00 am, 8:30 am

Return: 12:00 pm, 12:30 pm

COMO Connect (www.comoconnect.org) is Columbia's public bus transportation system. Bus transportation is available from all hotels Monday - Saturday to campus and other areas around Columbia. There is an app available for Apple and Android devices called COMO Connect, which shows customers real-time maps of all routes, buses, bus stops, and estimated time of arrival for the next bus. Please note that bus fare requires exact change as drivers are unable make change.

Hours of Operation:

Monday-Friday: 6:25 am - 8:00 pm; Saturday: 10:00 am - 8:00 pm

Bus Fare:

Regular one-way fare: \$1.50 USD; Regular all-day pass: \$3.00 USD

Taxi Services:

There are several taxi companies in the area that are available for transportation to and from the Columbia airport and to and from your hotel to the conference center.

ABC Taxi, (573) 424-0589

Economy Cab, (573) 886-2233

Liberty Taxi, (573) 817-2227

Taxi Terry's, (573) 441-1414

Rick's Taxi, (573) 449-6282

5 Star Taxi, (573) 449-7827

Late night taxi services (11:00 pm - 2:00 am) are available at designated stands located downtown at: 6th and Broadway, 9th and Elm streets, 9th and Locust streets, 10th and Cherry streets and 10th and Broadway.

Conference Parking

The conference is conveniently located next to two covered parking garages. Parking permits will be available for purchase at the registration desk at the conference center.

Parking Structures & Enforcement Hours:

1. Turner Avenue Garage (<http://bit.ly/Turner17>)
Monday - Friday, 7:00 am - 6:00 pm
Park on levels 3, 6 or 7
2. Conley Avenue Garage (<http://bit.ly/Conley17>)
Monday - Friday, 7:00 am - 6:00 pm
Park on levels 3 and above

Permit Rates:

Purchase parking at the conference registration desk in the Reynolds Alumni Center. Rates will be available at the desk. To purchase a permit, have the following available: License plate number, the state where the license is issued, make of car, type of car (4-door, 2-door, van, etc.) and color of car.

Meals & Dining Options

A light continental breakfast and lunch will be provided by the conference each day. Dinner will only be provided during the banquet on Wednesday, October 5th and for those who chose to attend the excursion on Thursday, October 6th.

There are a variety of great culinary choices to choose from for those who venture out and explore Columbia's beautiful downtown area, known as The District. For a list of local favorites visit The District's visitor site at <http://www.visitcolumbiamo.com/section/district-eat/>. If you would like additional recommendations or have questions, ask one of the local organizing committee members for their favorite spot to eat.

Gratuity

In general, 15%-20% of the total bill (including alcohol) before taxes is common to give to wait staff.

University of Missouri & Columbia

Time and time again, visitors are delightfully surprised by what Columbia has to offer. From picturesque parks and clever cuisine to amazing art and superb shopping, visitors find that Columbia is 'more than a college town' and 'surprisingly sophisticated.' We like to think of Columbia as a cool neighborhood in a big city, with a young vibe, an active buzz and an engaged community. We're also a friendly and welcoming community, with a thriving downtown and an abundance of cultural opportunities. Learn more about Columbia by visiting the Convention and Visitors Bureau website (<http://www.visitcolumbiamo.com>).

Take time to explore and learn about our beautiful campus. The University of Missouri was founded in 1839 as the first public university west of the Mississippi River (<http://missouri.edu/about/>). Designated a botanic garden (<http://gardens.missouri.edu>), MU's 1,262-acre main campus features more than 42,000 plants and trees in numerous thematic and special collection settings. Many university buildings are listed on the National Register of Historic Places.

Smoking Policy

The University of Missouri is a smoke-free campus both indoors and outdoors. If you must smoke you will need to leave the campus boundaries.

The City of Columbia also has a smoke-free policy, banning smoking in all public places, including bars and restaurants.

Health Care and Emergencies

Non-emergency care: If you are facing an immediate but non-life-threatening health care issue, physicians at urgent care facilities can help.

Mizzou Urgent Care

Open daily, 8:00 am - 8:00 pm
(573) 882-1662
551 E. Southampton Dr.
Columbia, MO 65201

Mizzou Quick Care (located in Hy-Vee Supermarket)

Monday - Friday, 7:00 am - 7:00 pm
Saturday - Sunday, 8:00 am - 4:00 pm
(573) 884-0146
405 E. Nifong Blvd.
Columbia, MO 65201

Emergency Room Care

If in need of urgent medical assistance dial 911 or visit University Hospital Emergency Services.

Open 24 hours
(573) 882-4141
1 Hospital Dr.
Columbia, MO 65212

Pharmacies

University Hospital Pharmacy

Monday - Friday, 7:00 am - 8:00 pm
Saturday - Sunday, 9:00 am - 5:00 pm
(573) 882-8600
1 Hospital Dr.
Columbia, MO 65212

Mizzou Pharmacy-MU Student Center

Monday - Friday, 9:00 am - 5:30 pm; Saturday: 10:00 am - 3:00 pm
(573) 884-4373
911 E. Rollins St.
1207 MU Student Center
Columbia, MO 65201

Emergency Phone Numbers

Campus Police Department (MUPD)

Emergency: 911
Non-Emergency: (573) 882-7201

City of Columbia Police & Fire Department

Emergency: 911
Non-Emergency: (573) 442-6131

Social Program

Networking Reception

Sunday, October 2, 2016, 4:30 pm - 7:00 pm - Reynolds Alumni Center

Join us in celebrating the opening of ICNCT-17. Light hors d'oeuvres will be served and wine, beer, mixed drinks, and spirits will be available for purchase.

Group Photo

Wednesday, October 5, 2016, 5:45 pm - 6:00 pm

Please be available Wednesday at 5:45 pm on the plaza outside the Alumni Center, on the east side.

Congress Award Banquet

Wednesday, October 5, 2016, 6:00 pm - 9:00 pm

Join us at the Congress banquet, to celebrate the society, meet new friends, and learn about the University of Missouri's history and their traditions. Please join the University of Missouri members and wear black and gold.

Excursion

Thursday, October 6, 2016, 1:15 pm - 9:00 pm

For attendees participating in the Thursday, October 6th Excursion (dinner included), please make sure to bring weather appropriate attire, walking shoes, money, and any other items needed for the afternoon. If you did not select the excursion upon registering and would like to attend, please visit the registration desk for availability. The excursion shuttle departs outside of the conference center on Tiger Avenue at 1:15 pm. The excursion will arrive back at the University of Missouri campus by 9:00 pm.

Conference Attire

Sunday, October 2, 2016 – Friday, October 7, 2016

Networking Reception: Smart Casual/Business Casual

Dress Code During the Conference: Smart Casual/Business Casual

Banquet & Reception: Smart Casual

Suggested Attire Colors: Black & Gold

Excursion: Smart Casual with weather appropriate attire and walking shoes



KEYNOTE SPEAKERS

Invited Speakers

Keynote Speakers



Molecular Targeting of Boron Delivery Agents for Neutron Capture Therapy of Brain Tumors in the Genomic Era

Rolf Barth, Department of Pathology, Ohio State University, Columbus, Ohio, USA

Feasibility Study of Boron Neutron Capture Therapy for the Treatment of Osteosarcoma

Silva Bortolussi, University of Pavia, National Institute of Nuclear Physics (INFN), Italy



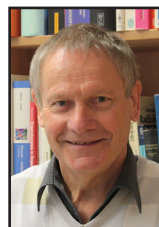
Synthesis of Cobalt and Iron Bis(dicarbollide) Derivatives for Potential BNCT Application

Vladimir Bregadze, A.N. Nesmeyanov Institute of Organoelement Compounds, Russian Academy of Sciences, Russia



BNCT and some of its returning misconceptions

Detlef Gabel, Department of Life Sciences and Chemistry, Jacobs University, Bremen, Germany



Nanostructured Boron Compounds: Applications in Cancer Therapy

Narayan Hosmane, Department of Chemistry and Biochemistry, Northern Illinois University, Illinois, USA



Worldwide Status of Accelerator-Based BNCT

Andres Kreiner, Department of Accelerator Technology Research and Application Area, Atomic Energy Commission of Argentina (CNEA) and National Research Council, Argentina



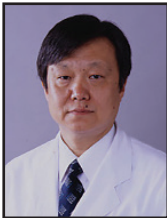


Tumor Selection for BNCT: A Clinician's Perspective

George Laramore, Department of Radiation Oncology,
University of Washington, Seattle, USA

***Development of Linac-based neutron source for BNCT
(i-BNCT project)***

Akira Matsumura, Department of Neurosurgery, University of
Tsukuba, Japan

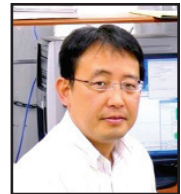


***BNCT for Malignant Brain Tumors, from Reactor to
Accelerator***

Shin-Ichi Miyatake, Cancer Center, Osaka Medical College,
Japan

***Enhanced Permeability and Retention (EPR) Effect-Based
Efficient Boron Delivery Systems for BNCT***

Hiroyuki Nakamura, CLS, Institute of Innovative Research,
Tokyo Institute of Technology, Japan



***BNCT studies in the hamster cheek pouch oral cancer
model employing different treatment strategies and the
boron carriers BPA, GB-10 or MAC-TAC liposomes***

Mandy Schwint, Atomic Energy Commission of Argentina
(CNEA) and National Research Council, Argentina



DAILY PROGRAM

Sunday, October 2, 2016

Donald W. Reynolds Alumni & Visitor Center

3:00 pm - 4:00 pm

Executive Board Meeting

4:00 pm - 4:30 pm

Board of Councilors Meeting

4:30 pm - 6:00 pm

Registration & Check-in

4:30 pm - 7:00 pm

Exhibits

4:30 pm - 7:00 pm

Networking Reception

Monday, October 3, 2016

Donald W. Reynolds Alumni & Visitor Center

8:00 am - 9:00 am

Registration & Check-in

8:00 am - 6:15 pm

Exhibits

9:00 am - 9:30 am

Opening Ceremony

9:30 am - 10:15 am

Hatanaka Lecture

Heikki Joensuu, Helsinki University Central Hospital, Finland

10:15 am - 10:35 am

Break

PLENARY SESSION 1

10:40 am - 12:15 pm | Columns Ballroom

10:40 am - 11:00 am

Tumor Selection for BNCT: A Clinician's Perspective

George Laramore, Department of Radiation Oncology, University of Washington, Seattle, USA

11:05 am - 11:25 am

Requalification and Experimental Validation of the Epithermal Neutron Beam Facility for Radiotherapy Research at Washington State University

David Nigg, Idaho National Laboratory, USA

11:30 am - 11:50 am

New Gadolinium Agents for Binary Cancer Therapies

Louis Rendina, The University of Sydney, Australia

11:55 am - 12:15 pm

Molecular Targeting of Boron Delivery Agents for Neutron Capture Therapy of Brain Tumors in the Genomic Era

Rolf Barth, Department of Pathology, The Ohio State University, USA

12:15 pm - 1:15 pm

Lunch

PLENARY SESSION 2

1:30 pm - 3:05 pm | Columns Ballroom

1:30 pm - 1:50 pm

Worldwide Status of Accelerator-Based BNCT

Andres Kreiner, Atomic Energy Commission of Argentina (CNEA) and National Research Council, Argentina

1:55 pm - 2:15 pm

Extra-corporal BNCT for liver malignancies: Lessons learnt from 'Liver Purge'

Matthias Blaickner, Health and Environment Department, AIT Austrian Institute of Technology GmbH, Austria

2:20 pm - 2:40 pm

Production of ^{10}B -enriched materials at the International Institute of Nano and Molecular Medicine, University of Missouri-Columbia, USA

Alexander Safronov, University of Missouri International Institute of Nano & Molecular Medicine, USA

2:45 pm - 3:05 pm

Accelerator-based neutron source for boron neutron capture therapy: *in vitro* efficacy evaluation with in-sample dosimetry using gold nanoparticles

Alex Zaboronok, Department of Neurosurgery, Faculty of Medicine, University of Tsukuba, Japan

3:05 pm - 3:25 pm

Break

PLENARY SESSION 3

3:30 pm - 5:05 pm | Columns Ballroom

3:30 pm - 3:50 pm

Optimization of treatment procedure for hospital-installed accelerator-based BNCT: The experience of Southern Tohoku BNCT Research Center

Katsumi Hirose, Southern Tohoku BNCT Research Center, Japan

Daily Program | Monday, October 3

3:55 pm - 4:15 pm

A Dose Response Analysis of Head and Neck Cancer Patients Treated with Boron Neutron Capture Therapy (BNCT) in Finland

Hanna Koivunoro, Neutron Therapeutics, Finland

4:20 pm - 4:40 pm

Enhanced Permeability and Retention (EPR) Effect-Based Efficient Boron Delivery Systems for BNCT

Hiroyuki Nakamura, CLS, Institute of Innovative Research, Tokyo Institute of Technology, Japan

4:45 pm - 5:05 pm

Feasibility and efficacy of Boron Neutron Capture Therapy for diffused lung tumors: the Pavia University experience on the animal model

Ian Postuma, University of Pavia, National Institute of Nuclear Physics (INFN), Italy

5:15 pm - 6:15 pm

Small Committee Meetings

POSTER SESSION 1

5:15 pm - 6:15 pm | Great Room

5:15 pm - 6:15 pm

See pages 34-37

TUESDAY, OCTOBER 4, 2016

Donald W. Reynolds Alumni & Visitor Center

8:00 am - 6:00 pm

Exhibits

BREAKOUT SESSION 1

8:30 am - 9:45 am

Breakout Session 1: Group 1, Physics.....Columns A/B

8:30 am - 8:45 am

High-Power Liquid-Lithium Target Neutron Source Operation Experience and Gamma Radiation Characterization

Shlomi Halfon, Soreq NRC, Israel

8:50 am - 9:05 am

Design and Optimization of the Beam Shaping Assembly of a Deuterium-Deuterium Neutron Generator-Based BNCT System

Ming-Jung Hsieh, Purdue University, Indiana, USA

9:10 am - 9:25 am

Status of Accelerator Based BNCT Neutron Irradiation System using ${}^7\text{Li}(p,n){}^7\text{Be}$ Near Threshold Reactions for Liquid Lithium Target

Tooru Kobayashi, K2BNCT Science & Engineering Laboratory Co. Ltd, Japan

9:30 am - 9:45 am

Thermal neutron source based on medical electron Linac

Valeria Monti, Department of Physics, University of Torino, Italy

Breakout Session 1: Group 2, Biology.....Columns C

8:30 am - 8:45 am

Evaluation of relationship between uptake of L-BPA in Clear Cell Sarcoma Cell Line and L-type amino acid transporter 1

Tooru Andoh, Kobe Gakuin University, Japan

8:50 am - 9:05 am

Biokinetic of BPA for liver malignancies: Preclinical, clinical and extrapolation studies

Matthias Blaickner, Health and Environment Department, AIT Austrian Institute of Technology GmbH, Austria

9:10 am - 9:25 am

Electroporation enhances tumor control induced by GB-10-BNCT in the hamster cheek pouch oral cancer model

Marcela Garabalino, Atomic Energy Commission of Argentina (CNEA), Argentina

Tuesday, October 4

Daily Program | Tuesday, October 4

9:30 am - 9:45 am

Therapeutic efficacy of Boron Neutron Capture Synovectomy (BNCS) mediated by GB-10 or BPA in a model of antigen-induced arthritis in rabbits: low dose radiobiological studies at RA-1 Nuclear Reactor
Veronica A. Trivillin, Atomic Energy Commission of Argentina (CNEA), Argentina

Breakout Session 1: Group 3, Chemistry..... Columns D/E

8:30 am - 8:45 am

A theranostic approach using Gd/B probes combined with antitumour agents to improve Boron Neutron Capture Therapy efficacy
Simonetta Geninatti Crich, University of Torino, Department of Molecular Biotechnology and Health Sciences, Italy

8:50 am - 9:05 am

Carborane and metallacarborane inhibitors of Carbonic Anhydrase IX, compounds with possible double action
Bohumir Grüner, Institute of Inorganic Chemistry, AS CR, v.v.i., Czech Republic

9:10 am - 9:25 am

Development of New Generation Drug Delivery System for Boron Neutron Capture Therapy
Ming-Hua Hsu, Nuclear Science and Technology Development Center/ National Tsing Hua University, China

9:45 am - 10:15 am

Break

PLENARY SESSION 4

10:15 am - 11:50 am | Columns Ballroom

10:15 am - 10:35 am

Re-start of Clinical and Pre-Clinical BNCT Activities at the Argentine RA-6 Nuclear Reactor
Gustavo Santa Cruz, Atomic Energy Commission of Argentina (CNEA) and National Research Council, Argentina

10:40 am - 11:00 am

Patient Activation Survey for BNCT Clinical Trials at THOR
Chun-Kai Huang, Institute of Nuclear Engineering and Science, National Tsing Hua University, Taiwan

11:05 am - 11:25 am

Nanostructured Boron Compounds: Applications in Cancer Therapy
Narayan Hosmane, Northern Illinois University, USA

11:30 am - 11:50 am

BNCT studies in the hamster cheek pouch oral cancer model employing different treatment strategies and the boron carriers BPA, GB-10 or MAC-TAC liposomes

Mandy Schwint, Atomic Energy Commission of Argentina (CNEA) and National Research Council, Argentina

11:50 am - 2:00 pm

Lunch and Exhibits

PLENARY SESSION 5

2:00 pm - 3:10 pm | Columns Ballroom

2:00 pm - 2:20 pm

Characterization of a CdZnTe detector prototype for Boron imaging by SPECT: simulations and measurements in a neutron field

Setareh Fatemi, University of Pavia & National Institute of Nuclear Physics (INFN), Italy

2:25 pm - 2:45 pm

Synthesis of Cobalt and Iron Bis(dicarbollide) Derivatives for Potential BNCT Application

Vladimir Bregadze, A.N. Nesmeyanov Institute of Organoelement Compounds, Russian Academy of Sciences, Russia

2:50 pm - 3:10 pm

An Effective Therapeutic Method for Treating Multifocal Liver Tumor: Boric Acid-mediated BNCT in VX2 Liver Tumor-bearing Rabbit Model

Fong-In Chou, Nuclear Science and Technology Development Center, National Tsing Hua University, Taiwan

POSTER SESSION 2

3:15 pm - 4:15 pm | Great Room

3:15 pm - 4:15 pm

See pages 38-41

BREAKOUT SESSION 2

4:30 pm - 5:45 pm

Breakout Session 2: Group 1, Physics.....Columns A/B

4:30 pm - 4:45 pm

Methodology for Dosimetric Characterization of the Neutron Therapeutics Accelerator-Based BNCT System

Iiro Auterinen, Neutron Therapeutics, Finland

4:50 pm - 5:05 pm

Comparison between TLD-700 and TLD-100 reliability for measuring both gamma dose and thermal-neutron fluence in radiation fields for NCT

Grazia Gambarini, Department of Physics, University of Milan, Italy

5:10 pm - 5:25 pm

Computational Dosimetry Comparison between External Ion Beam Therapy and BNCT

Ming-Chen Hsiao, Neuboron Medtech Ltd., China

Breakout Session 2: Group 2, BiologyColumns C

4:30 pm - 4:45 pm

An early inflammatory and immune cascade activation after BNCR in human cancer cells

Mitsuko Masutani, Nagasaki University, Japan

4:50 pm - 5:05 pm

CBE factors for boron compounds to the tumor varies depending on their ¹⁰B levels – radiobiological consideration about its significance –

Koji Ono, Kyoto University Research Reactor Institute, Japan

5:10 pm - 5:25 pm

Biodistribution and convection-enhanced delivery of the boronated porphyrin in the F98 intracerebral rat glioma model

Hiroyuki Shiba, Department of Neurosurgery, Osaka Medical College, Japan

Breakout Session 2: Group 3, ChemistryColumns D/E

4:30 pm - 4:45 pm

Approaches to the Synthesis of Boronic Acid-Derived Sugars

Daniela Imperio, Department of Pharmaceutical Sciences, University of Eastern Piedmont, Italy

4:50 pm - 5:05 pm

Hypoxia Targeted Boron Delivery Agent for BNCT Treatment of Brain Tumor

David (Y.W.) Lee, Harvard Medical School/McLean Hospital, Massachusetts, USA

5:10 pm - 5:25 pm

Boraminic Acid: A New Theranostic Platform Serves Imaging Guided Boron Neutron Capture Therapy

Zhibo Jia, National Institutes of Health, Maryland, USA

CANCELLED

Tuesday, October 4

Breakout Session 2: Group 4, Clinical T.O. Wright Room

4:30 pm - 4:45 pm

Evaluation of fluoride-labeled boronophenylalanine-PET imaging for the assessment of radiation treatment in patients with re-recurrence head and neck squamous cell carcinoma

Teruhito Aihara, Proton Medical Research Centre, University of Tsukuba, Japan

4:50 pm - 5:05 pm

Personalized BNCT?

Allah Detta, University Hospital Birmingham, United Kingdom

5:10 pm - 5:25 pm

A case of boron neutron capture therapy for recurrent oral cavity cancer

Yuta Sekino, Proton Medical Research Centre, University of Tsukuba, Japan

5:30 pm - 5:45 pm

Boron neutron capture therapy (BNCT) combined with image-guided intensity modulated radiotherapy (IG-IMRT) for locally recurrent head and neck cancer: a preliminary report

Ling-Wei Wang, Taipei Veterans General Hospital, Taiwan

8:00 am - 4:00 pm

Exhibits

PLENARY SESSION 6

8:30 am - 10:05 am | Columns Ballroom

8:30 am - 8:50 am

The first NCT clinical trial of skin melanoma at In-Hospital Neutron Irradiator

Zizhu Zhang, China Nuclear Industry Beijing 401 Hospital & Beijing Capture Technology Co. Ltd., China

8:55 am - 9:15 am

Items Layout of Nuclear Medical Ship for Neutron Capture Therapy (NCT) Clinical Studies and Trials

Guotu Ke, China Institute of Atomic Energy (CIAE), China

9:20 am - 9:40 am

BNCT and some of its returning misconceptions

Detlef Gabel, Department of Life Sciences and Chemistry, Jacobs University, Germany

9:45 am - 10:05 am

Targeting the Glioma Hypoxic Tumor Microenvironment with a Novel Boron Neutron Capture Therapy Agent

Micah Luderer, Washington University in St. Louis School of Medicine, Missouri, USA

10:10 am - 10:50 am

General Assembly Meeting

POSTER SESSION 3

10:55 am - 11:55 am | Great Room

10:55 am - 11:55 am

See pages 42-45

11:55 am - 12:55 pm

Lunch

PLENARY SESSION 7

1:00 pm - 2:35 pm | Columns Ballroom

1:00 pm - 1:20 pm

BNCT Laboratory in BINP

Sergey Taskaev, Budker Institute of Nuclear Physics, Russia

1:25 pm - 1:45 pm

Present status of BNCT System using 30 MeV Cyclotron

Toshinori Mitsumoto, Sumitomo Heavy Industries, Ltd., Japan

1:50 pm - 2:10 pm

BNCT for Malignant Brain Tumors, from Reactor to Accelerator

Shin-Ichi Miyatake, Osaka Medical College, Japan

2:15 pm - 2:35 pm

Preliminary study on feasibility of boron neutron capture therapy in patients of diffuse intrinsic pontine glioma without craniotomy

Yuan-Hung Wu, Taipei Veterans General Hospital, Taiwan

2:35 pm - 3:00 pm

Break

BREAKOUT SESSION 3

3:00 pm - 4:15 pm

Breakout Session 3, Group 1, Physics.....Columns A/B

3:00 pm - 3:15 pm

Clinical application of the photon iso-effective dose concept in BNCT from dose-response assessments in an in-vivo oral cancer model

Sara González, National Commission of Atomic Energy (CNEA), Argentina

3:20 pm - 3:35 pm

The prospective of BNCT Project at Tehran Research Reactor

Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran

3:40 pm - 3:55 pm

Computational analysis of the feasibility of treating head and neck cancer with BNCT at the RA-6 Reactor

Lucas Provenzano, National Commission of Atomic Energy (CNEA), Argentina

4:00 pm - 4:15 pm

Boron Neutron Capture Therapy for Extensive Scalp Lesions: Treatment Planning Study

Takushi Takata, Kyoto University Research Reactor Institute, Japan

Breakout Session 3, Group 2, Biology Columns C

3:00 pm - 3:15 pm

Application of carbon nanohorn containing boron to BNCT

Kei Nakai, Ibaraki Prefectural University Of Health Sciences, Japan

Daily Program | Wednesday, October 5

3:20 pm - 3:35 pm

Neutron irradiation of human glioma cultured cells using accelerator based neutron source

Alexander Zaboronok, Department of Neurosurgery, Faculty of Medicine, University of Tsukuba, Japan

3:40 pm - 3:55 pm

Boron delivery system using boronated polyethylene-glycol binding BSA for boron neutron capture therapy *in vitro*

Hironobu Yanagie, Meiji Pharmaceutical University, Japan

4:00 pm - 4:15 pm

Development of a real-time prompt gamma-ray imaging system using GAGG:Ce or SrI₂:Eu scintillator array for BNCT

Hiroki Tanaka, Kyoto University Research Reactor Institute, Japan

Breakout Session 3, Group 3, Chemistry Columns D/E

3:00 pm - 3:15 pm

Novel ROS-scavenging, Boron-Cluster-containing Nanoparticles for Highly Effective BNCT with Low Adverse Effects

Zhenyu Gao, Graduate School of Pure and Applied Sciences, University of Tsukuba, Japan

3:20 pm - 3:35 pm

Development of a 3D cell culture model for depth dependent BNCT efficacy evaluations of boron containing magnetic nanoparticles

Harald Unterweger, University Hospital Erlangen, Section of Experimental Oncology and Nanomedicine (SEON), Germany

3:40 pm - 3:55 pm

Progress of the beam specifications and development of the Prompt Gamma Neutron Activation Analysis facility for BNCT at RA-3

Matias Valero, Favaloro University, Argentina

5:45 pm – 6:00 pm

Group Photo

Please be available Wednesday at 5:45 pm on the plaza outside the Alumni Center, on the east side.

Banquet & Reception

6:00 pm - 9:00 pm | Columns Ballroom

THURSDAY, OCTOBER 6, 2016

Donald W. Reynolds Alumni & Visitor Center

8:30 am - 1:30 pm

Exhibits

8:30 am - 9:00 am

Executive Board Meeting

BREAKOUT SESSION 4

9:00 am - 10:15 am

Session 4, Group 1, PhysicsColumns A/B

9:00 am - 9:15 am

The Neutron Therapeutics Solid Lithium Neutron Target For Accelerator-Based BNCT

Bill Park, Neutron Therapeutics, Finland

9:20 am - 9:35 am

A Multi-beam DD Neutron Generator with an Internal Cylindrical Moderator: Its First Operation and Possible Use for Neutron Capture Therapy

Melvin Piestrup, Adelphi Technology Inc., California, USA

9:40 am - 9:55 am

Gamma-ray Production from a Proton-Lithium Neutron Source and Its Impact on Boron Neutron Capture Therapy

Tatsuhiko Saito, Tokyo Institute of Technology, Japan

10:00 am - 10:15 am

Optimum Neutron Energy Spectrum as the basis of Tunable Moderators for Next Generation Accelerators of Boron Neutron Capture Therapy (BNCT)

Ryoichi Seki, Research Center for Nuclear Physics, Osaka University, Japan

Session 4, Group 2, PhysicsColumns C

9:00 am - 9:15 am

Enhancing Resolution in Neutron Autoradiography of Tissue Samples by UV-C Sensitization

Agustina Portu, National Commission of Atomic Energy (CNEA), Argentina

9:20 am - 9:35 am

Development of remote-changeable Bonner-sphere spectrometer for QA/QC in BNCT

Yoshinori Sakurai, Kyoto University Research Reactor Institute, Japan

Daily Program | Thursday, October 6

9:40 am - 9:55 am

Computational Dosimetry by Monte Carlo Calculation for Several BNCT Facilities with New Treatment Planning System “Tsukuba-Plan”

Kenta Takada, Faculty of Medicine, University of Tsukuba, Japan

10:00 am - 10:15 am

Study of Polymer Gel Dosimeter Response in Neutron Irradiation Fields

Ryohei Uchida, Kyoto University, Japan

Session 4, Group 3, Physics Columns D/E

9:00 am - 9:15 am

Compact Accelerator-Driven BNCT System Used Sealed Lithium Target

Kazuki Tsuchida, Nagoya University, Japan

9:20 am - 9:35 am

Characterization of the neutron beams at the IHNI-1 for BNCT

Zizhu Zhang, China Nuclear Industry Beijing 401 Hospital & Beijing Capture Technology Co. Ltd., China

9:40 am - 9:55 am

Development of the Neutron Therapeutics Accelerator-Based BNCT System

Noah Smick, Neutron Therapeutics, Finland

10:00 am - 10:15 am

Accelerator Based Neutron Capture Therapies in France

Daniels Santos, LPSC, Grenoble-Alpes University, CNRS-IN2P3, France

10:15 am - 10:40 am

Break

PLENARY SESSION 8

10:45 am - 12:20 pm | Columns Ballroom

10:45 am - 11:05 am

Feasibility Study of Boron Neutron Capture Therapy for the Treatment of Osteosarcoma

Silva Bortolussi, University of Pavia, National Institute of Nuclear Physics (INFN), Italy

11:10 am - 11:30 am

Towards ^{10}B neutron capture reaction mapping in a patient with photon-counting SPECT systems

Hanna Koivunoro, Neutron Therapeutics, Finland

Thursday, October 6

11:35 am - 11:55 am

Clinical results of reactor-based BNCT using BPA for the patients with recurrent malignant glioma

Shin-Ichi Miyatake, Koji Takeuchi, Hiroyuki Shiba, Department of Neurosurgery, Osaka Medical College, Japan

12:00 pm - 12:20 pm

Development of Linac-based neutron source for BNCT (i-BNCT project)

Akira Matsumura, University of Tsukuba, Japan

12:20 pm - 1:15 pm

Lunch

1:15 pm - 9:00 pm

Pre-paid Excursion

Lake of the Ozarks

PLENARY SESSION 9

9:00 am - 10:35 am | University Room

9:00 am - 9:20 am

Time course changes in ^{18}F -BPA uptake dynamics by PET scan

Hiroshi Igaki, National Cancer Center Hospital, Japan

9:25 am - 9:45 am

Cerebrospinal fluid (CSF) dissemination of malignant gliomas following treatment with boron neutron capture therapy (BNCT)

Natsuko Kondo, Kyoto University Research Reactor Institute, Japan

9:50 am - 10:10 am

Case experience of boron neutron capture therapy for radiation-induced cranial osteosarcoma

Hiroyuki Shiba, Department of Neurosurgery, Osaka Medical College, Japan

10:15 am - 10:35 am

Boron neutron capture therapy in skull base high-grade meningioma

Koji Takeuchi, Department of Neurosurgery, Osaka Medical College, Japan

10:35 am - 11:00 am

Break

11:00 am - 12:00 pm

Closing Session

12:30 pm - 1:30 pm

Executive Board Meeting & Lunch



POSTER SESSION

POSTER SESSION 1

Monday, October 3 | 5:15 pm - 6:15 pm | Great Room

- 1. Mechanism of Action Analysis for Boric Acid-Mediated Neutron Capture Therapy of Cancer**
Yu-Chi Bai, Department of Medical Science & Institute of Bioinformatics and Structural Biology, National Tsing Hua University, Taiwan
- 2. FBPA-PET predicts L-BPA concentration after amino acid preloading in HuH-7 liver tumor model**
Matthias Blaickner, Health and Environment Department, AIT Austrian Institute of Technology GmbH, Austria
- 3. Adaption of a pin-diode detector as an online neutron monitor for the thermal column of the TRIGA research reactor**
Matthias Blaickner, Health and Environment Department, AIT Austrian Institute of Technology GmbH, Austria
- 4. Analysis of Biological and Physical Markers as Prospective Indicators of Tumor Response for the Individualized BNCT Treatment in a Melanoma Animal Model**
Marina Carpano, National Atomic Energy Commission (CNEA), Argentina
- 5. Using Low-dose Gamma Radiation to Improve the Therapeutic Efficiency of BPA-mediated BNCT in an Orthotopic Oral Cancer Animal Model**
Fong-In Chou, Nuclear Science and Technology Development Center, National Tsing Hua University, Taiwan
- 6. Theoretical approach based on Monte Carlo simulations to predict the cell survival following BNCT**
Daniel Santos, LPSC, Grenoble-Alpes University, CNRS-IN2P3, France
- 7. BSH delivery by angiopep-2 modified liposome and gene expression variation in glioma cells treated by an In-Hospital Neutron Irradiator**
Bin Feng, Dalian Medical University, China
- 8. BNCT mediated by boric acid is selectively effective in tumors in the hamster cheek pouch oral cancer model**
Marcela A. Garabalino, National Atomic Energy Commission (CNEA), Argentina

- 9. Development of TSPO ligand as a target compound for boron neutron capture therapy: tumor imaging potential with PET**
Md. Maqsood Alam, Neuroscience Research Institute, Gachon University, South Korea
- 10. Effect of particle size of nanoparticulate L-BPA formulation on biodistribution of ^{10}B after its subcutaneous administration to tumor-bearing mice**
Tooru Andoh, Faculty of Pharmaceutical Sciences and Cooperative Research Center of Life Sciences, Kobe Gakuin University, Japan
- 11. Development of Fluorescent Iron Oxide - Gadolinium Borate Multifunctional ($\text{Fe}_3\text{O}_4@\text{GdBO}_3/\text{SiO}_2$ (FITC)-FA) Nanocomposites for Combined (GdBNCT)**
Okan Icten, Hacettepe University, Turkey
- 12. Boron Neutron Capture Therapy (BNCT) for Axillary Lymph Node Metastasis of Breast Cancer**
Takuya Fujimoto, Hyogo Cancer Center, Department of Orthopedics Surgery, Japan
- 13. Boron neutron capture therapy in non-SCC patients with intractable head and neck malignancies who have no other treatment options**
Itsuro Kato, Department of Oral and Maxillofacial Surgery, Osaka University Graduate School of Dentistry, Japan
- 14. Design and Feasibility of a Gamma-Ray Detection System for Three Dimensional Patient Dose Imaging**
Kiyotaka Akabori, Sumitomo Heavy Industries, Ltd., Japan
- 15. An innovative neutron spectrodosimeter based on thermal and fast neutron bubble detectors**
Katia Alikaniotis, University of Trieste, Italy
- 16. Deuteron Induced Reactions as Epithermal Neutron Sources for Accelerator-Based Boron Neutron Capture Therapy**
Maria Eugenia Capoulat, National Atomic Energy Commission (CNEA), National University of General San Martín, The National Scientific and Technical Research Council (CONICET), Argentina
- 17. Blistering Characteristics of Backing Metals for AB-BNCT Neutron-Producing Target by Low-Energy Hydrogen Ion Implantation**
Der-Sheng Chao, Nuclear Science and Technology Development Center, National Tsing Hua University, Taiwan

18. Cancericidal Nuclide Neutron Knife

Chen Xinru, China National Nuclear Corporation/China Zhongyuan Engineering Corporation, China

19. Comparison of Dose Calculation Using Treatment Planning Systems THORplan and SERA for BNCT

Yi-Chiao Teng, Institute of Nuclear Engineering and Science, National Tsing Hua University, Taiwan

20. ABENS-BNCT System: Verification of durability of thin layer solid lithium target for high current proton beam

Ryo Fujii, Cancer Intelligence Care Systems, Inc., Japan

21. Fricke Gel Detectors In High-LET and Long-Time Irradiations for BNCT Dosimetry

Grazia Gambarini, The University of Milan, Department of Physics, Italy

22. Response of Fricke Gel Detectors to Extended and High-LET Irradiations in BNCT Beams

Grazia Gambarini, The University of Milan, Department of Physics, Italy

23. “Neobor”— European/International Scientific Network for BNCT Research and Medical Training at MARIA Reactor (Poland)

Michal Gryzinski, National Center for Nuclear Research, Poland

24. Clinical Commissioning of a Cyclotron-Based Epithermal Neutron Source at Southern Tohoku BNCT Research Center

Takaomi Harada, Southern Tohoku BNCT Research Center, Japan

25. Preliminary Study for the Beam Component Separation Using Polymer Gel Detector Containing Lithium Compounds

Shin-ichiro Hayashi, Hiroshima International University, Japan

26. Dynamic Infrared Imaging in the Hamster Cheek Pouch Model of Oral Cancer

Maria Herrera, National Atomic Energy Commission (CNEA), Argentina

27. Optimum Design of an Electron-Linear-Accelerator-Driven Subcritical Neutron Multiplier for Boron Neutron Capture Therapy

Fujio Hiraga, Hokkaido University, Japan

28. Upgrade of On-line Monitoring System of BNCT Beam at THOR

Yu-Shiang Huang, National Tsing Hua University, Taiwan

29. Neutron Activation Analysis Using BNCT Beam at THOR

Chun-Kai Huang, Institute of Nuclear Engineering and Science, National Tsing Hua University, Taiwan

30. The Design for BNCT Facility Based on Radiation Dose Estimation

Go Ichikawa, Nagoya University, Japan

31. Conceptual Design of TRR Medical Room for BNCT

Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran

32. Neutron Beam Based on the Nuclear Reactors: Using the Experiences for Accelerator-Based BNCT

Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran

33. $^{124}\text{SbBe}$ Photo-Neutron Source for BNCT: Is It Possible?

Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran

34. Advances in the Autoradiography Technique for Boron-10 Quantification in Bone

Lucas Provenzano, National Atomic Energy Commission (CNEA), Argentina

35. 3D SPECT reconstructed image from prompt gamma ray in BNCT for a heterogeneous human phantom: A Monte Carlo simulation study

Chunhui Gong, Nanjing University of Aeronautics and Astronautics, China

POSTER SESSION 2

Tuesday, October 4 | 3:15 pm - 4:15 pm | Great Room

- 1. The Investigation for Optimization of Melanoma BNCT Models in Mice**
Shoji Imamichi, Division of Chemotherapy and Clinical Research, National Cancer Center Research Institute, Japan
- 2. The DNA Double-Strand Breaks Damage in CHO Cells Induced by the Fractionated Neutron Irradiation**
Yuko Kinashi, Research Reactor Institute, Kyoto University, Japan
- 3. Gadolinium Neutron Capture Therapy for Brain Tumor Therapy: A Preliminary Evaluation**
Wei-Neng Liao, Institute of Biomedical Engineering & Nanomedicine, National Health Research Institutes, Taiwan
- 4. Effect of Oxygen Pressure During Incubation with a ^{10}B -Carrier on ^{10}B Uptake Capacity of Cultured *p53 Wild-Type* and *Mutated* Tumor Cells With Reference to Dependency on *p53 Status* of Tumor Cells and of ^{10}B -carriers**
Shin-ichiro Masunaga, Research Reactor Institute, Kyoto University, Japan
- 5. Topical application of Histamine Gel Would Protect Oral Precancerous Tissue from BNCT Induced Mucositis, but Would Affect Therapeutic Effect on Tumors: Preliminary Studies in an Oral Cancer Model**
Andrea Monti Hughes, National Atomic Energy Commission (CNEA), Argentina
- 6. Translational BNCT Studies in the Hamster Cheek Pouch Model of Oral Cancer at the New Configuration of the RA-6 Nuclear Reactor**
Andrea Monti Hughes, National Atomic Energy Commission (CNEA), Argentina
- 7. Development of Dual Formulations as Boron Neutron Capture Therapy Agents**
Hong Chuang, Department of Chemistry, National Tsing Hua University, Taiwan
- 8. Microdistribution and Excretion Pathways of Boron Neutron Capture Therapy Agents Delivered by rationally Designed Liposomes**
Thomas Everett, International Institute of Nano & Molecular Medicine, University of Missouri, USA

- 9. Detection of Boron-Pharmaceuticals in Live Cancer Cells Using Fluorescent Boron-Sensor**
Yoshihide Hattori, Research Center of BNCT, Osaka Prefecture University, Japan
- 10. Preparation and Evaluation of Complexes of Boric Acid and Hydrogen Fluoride for Boron Neutron Capture Therapy**
Fong-In Chou, Nuclear Science and Technology Development Center, National Tsing Hua University, Taiwan
- 11. Estimation of Radioactivation of Dental materials and Neutron Loss by Dental Materials, and the Measure for Those Problems**
Toshiyuki Kubota, Kkota Dental Clinic, Japan
- 12. Experimental Study of Uptake the Boron Compound in Glioma Stem Cell**
Tadashi Kurita, Department of Neurosurgery, Faculty of Medicine, University of Tsukuba, Japan
- 13. Effects of the Fast-Neutron-Rate in a Neutron Beam and the Boron-Density in a Phantom on the RBE Dose Calculations for the Accelerator-Based BNCT**
Takuya Ooie, Graduate School of Engineering, Hokkaido University, Japan
- 14. In-phantom Gel Dosimetry in TRR BNCT Beam Line**
Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran
- 15. The Effect of the Moderator: Reflector Geometry of BSA on the Skin Dose During BNCT of Brain Tumors**
Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran
- 16. Investigation on the BNCT for Liver at TRR**
Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran
- 17. A Comparison of Proton Therapy and BNCT at TRR in Treatment of Brain Tumors Using the High-Resolution Voxel-Based Zubal Head Phantom**
Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran
- 18. A New Approach to use D-T Neutron Generator for BNCT**
Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran

19. Modern Arak Heavy Water Research Reactor for BNCT

Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran

20. Dosimetric Impact Due to Intratreatment Positioning Error in Boron Neutron Capture Therapy for the High-grade Glioma

Takahiro Kato, Southern Tohoku BNCT Research Center, Japan

21. Potential of NIPAM Polymer Gel in 3D Mapping of Dose Distribution in Shallow Brain Tumors Treated Using BNCT

Azim Khajeali, Faculty of Medicine, Department of Medical Physics, Tabriz University of Medical Sciences, Iran

22. Development of the Accelerator Based Boron Neutron Capture Therapy System for Cancer Treatment within 1 Hour Therapeutic Time

Dong-su Kim, DAWONSYS, Republic of Korea

23. Design of a Beam Shaping Assembly for the Nagoya University BNCT Engineering Study System

Yoshiaki Kiyonagi, Nagoya University, Japan

24. An Approach to be a General Radiation Therapy for BNCT

Tooru Kobayashi, K2BNCT Science & Engineering Laboratory Co. Ltd, Japan

25. A New Production Method for Patient Fixing Implement by Combination with a Three-Dimensional Printing Technique and Treatment Planning System

Hiroaki Kumada, University of Tsukuba, Japan

26. Assessment of the Reaction and Additional Dose from the Spine-Fixation Screws In Boron Neutron Capture Therapy

Yu-Cheng Kuo, Department of Radiation Oncology, Show-Chwan Memorial Hospital, Changhua County, Taiwan

27. Induced Radioactivity and Residual Dose Rates in a Boron Neutron Capture Therapy Facility Based on Be(p,xn) Reaction with 30 MeV Protons

Bo-Lun Lai, National Tsing Hua University, Taiwan

28. A comparison of dose distributions in GTV between BNCT alone and combined BNCT-IMRT Treatment Planning for Head and Neck Cancer

Jia-Cheng Lee, Department Oncology, Taipei Veterans General Hospital, Taiwan

CANCELLED

- 29. A bi-tapered and air-gapped beam shaping assembly used for AB-BNCT**
Pei-Yi Lee, Neuboron Medtech Ltd., China
- 30. Extension Collimator Designed and Used for BNCT Clinical Trial at THOR**
Hong-Ming Liu, National Tsing Hua University, Taiwan
- 31. Using Lithium-6 Filter for Study of Dose Distribution with Maximum and Minimum Displacement of Prostate Inside the Body in BNCT Method**
Dawod Mirzaee, Department of Physics, Faculty of Sciences, Ferdowsi University of Mashhad, Iran
- 32. Development of Treatment Planning System for In-Hospital BNCT System**
Tetsuya Mukawa, Sumitomo Heavy Industries, Ltd., Japan
- 33. Estimation for Exposure Dose to Medical Workers in an Accelerator-Based BNCT system with a Li target**
Masayoshi Munechika, Tokyo Metropolitan University, Japan
- 34. Monte Carlo Simulation of Depth-Dose Distribution in Brain Model for Boron Neutron Capture Therapy**
Rachid Khelifi, University of Blida, Algeria
- 35. Development of a Moderator-Based Spherical Neutron Detector for BNCT**
Takemi Nakamura, Japan Atomic Energy Agency, Japan

POSTER SESSION 3

Wednesday, October 5 | 10:55 am - 11:55 am | Great Room

- 1. Preclinical Studies to Optimize the Application of Boron Neutron Capture Therapy (BNCT) for Treatment the Superficial Cancer**
Susana Isabel Nievas, Department of Boron, Constituyentes Atomic Center. National Atomic Energy Commission (CNEA), Argentina
- 2. Pilot studies to evaluate the effectiveness of high LET particle irradiation in damaging neurotoxic protein aggregates**
Ian Postuma, University of Pavia, Department of Physics and National Institute of Nuclear Physics (INFN), Italy
- 3. Evaluation of BSH containing Kojic acid (KA-BSH) as a novel agent for boron neutron capture therapy**
Koji Takeuchi, Department of Neurosurgery, Osaka Medical College, Japan
- 4. Abscopal Effect of BNCT**
Veronica A. Trivillin, National Atomic Energy Commission (CNEA), Argentina
- 5. L-Phenylalanine preloading reduces the $^{10}\text{B}(n,\alpha)^7\text{Li}$ dose to the normal brain by inhibiting the uptake of L-BPA**
Tsubasa Watanabe, Kyoto University Research Reactor Institute, Japan
- 6. Property and in vitro study of a liposome modified boron lipid for combination therapy**
Makoto Shirakawa, University of Fukuyama, Department of Pharmaceutical Sciences, Japan
- 7. Development of closo-Dodecaborate-Serum Albumin Conjugates via Ruthenium-Photocatalyzed Tyrosine Modification for Neutron Capture Therapy**
Satomu Ishii, Tokyo Institute of Technology, Japan
- 8. Synthesis of water-dispersible boron nitride nanosheets for boron neutron capture therapy**
Yaser Kasesaz, Nuclear Science and Technology Research Institute (NSTRI), Iran
- 9. Synthesis of Fluorescein-Tagged and Water-Soluble Carborane-Appended Compounds**
Lucas Kuzmanic, Northern Illinois University, USA

- 10. BNCT Antitumor Effect of Boron Nitride Nanotubes**
Hiroyuki Nakamura, Chemistry and Life Science (CLS), Institute of Innovative Research, Tokyo Institute of Technology, Japan
- 11. Neutron penetration profile in tissue like phantoms with different neutron energies**
Rainer Tietze, ENT-Department, Else Kröner-Fresenius-Stiftung Professorship, Section for Experimental Oncology and Nanomedicine (SEON), University Hospital Erlangen, Germany
- 12. How Boron Neutron Capture Therapy and other Innovative Therapies can be Game Changers in Palliative Care**
Daniel Quah, National Cancer Center, Singapore
- 13. Boron neutron capture therapy for multiple liver metastases: A case report**
Minoru Suzuki, Research Reactor Institute, Kyoto University, Japan
- 14. A study for the improvement of a thermal neutron irradiation equipment for BNCT researchers at Kyoto University Reactor – An installation of beam monitor system**
Keita Okazaki, Kyoto University, Japan
- 15. Conceptual design of an accelerator based neutron source for BNCT and other applications**
Ignacio Porras, University of Granada, Spain
- 16. Tailoring of an epithermal neutron beam for the RFQ-based facility of INFN**
Ian Postuma, University of Pavia, Department of Physics and National Institute of Nuclear Physics (INFN), Italy
- 17. A new model for the determination of the biological dose in BNCT: weighted kerma factors and the LQ model**
Javier Praena, University of Granada, Spain
- 18. Thermal scattering libraries and their impact on neutron transport for BNCT dosimetry: experimental assessments**
Silva Bortolussi, University of Pavia & National Institute of Nuclear Physics (INFN), Italy
- 19. Comparative study of boron uptake by different tissues, with main focus on calcified tissues, administered as boric acid and BPA in high doses**
Agustina Portu, National Commission of Atomic Energy (CNEA), Argentina

20. Evaporation in Tissue Sections used for Neutron Autoradiography in BNCT

Agustina Portu, National Commission of Atomic Energy (CNEA), Argentina

21. Gadolinium effect estimation of GAGG for BNCT-SPECT

Nobuhide Saraue, Division of Sustainable Energy and Environmental Engineering, Graduate School of Engineering, Osaka University, Japan

22. Feasibility study for estimation of hydrogen density distribution using MR imaging for pleural mesothelioma BNCT

Hiroyuki Sato, Department of Radiology, Tottori University Hospital, Japan

23. Development of neutron collimator for the new wide dynamic range neutron spectrometer for BNCT

Shingo Tamaki, Osaka University, Japan

24. Investigation of beam component monitor for BNCT using gel detector

Kenichi Tanake, Hiroshima University, Japan

25. Study on irradiation field monitor for BNCT using multi imaging plate system

Kenichi Tanake, Hiroshima University, Japan

26. Proton beam of 5 mA in the Tandem Accelerator with Vacuum Insulation

Sergey Taskaev, Budker Institute of Nuclear Physics, Russia

27. Beam Shaping Assembly for BINP Neutron Source

Sergey Taskaev, Budker Institute of Nuclear Physics, Russia

28. Lithium Neutron Producing Target

Sergey Taskaev, Budker Institute of Nuclear Physics, Russia

29. The Effect of Non-uniform Boron Distribution on Treatment Planning Dose Calculation

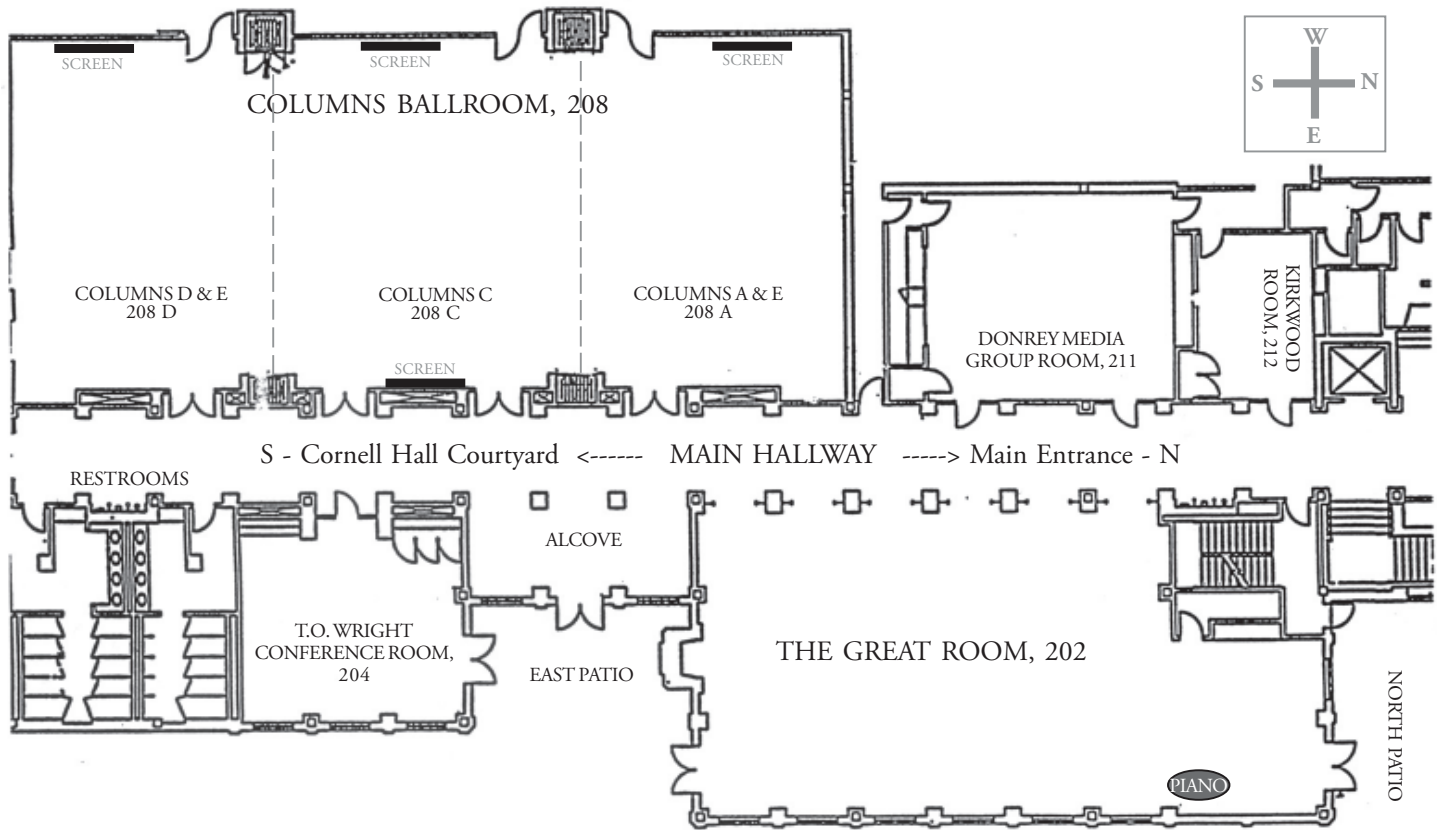
Yi-Chiao Teng, Institute of Nuclear Engineering and Science, National Tsing Hua University, Taiwan

30. Thermal-hydraulic Design and Analysis of A New Cone Lithium Target for BNCT

Jianfei Tong, Institute of High Energy Physics (IHEP), Chinese Academy of Sciences (CAS), China

- 31. Thermal Neutron Fluence and Gamma-ray Dose QA Using $\text{CaF}_2:\text{Mn}$ TLD for BNCT Beam at THOR**
Chun-Kai Huang, Department of Engineering and System Science, National Tsing Hua University, Taiwan
- 32. Experimental Estimation of Neutron Yield from ${}^7\text{Li}(p,n)$ Reaction for Source Term Estimation System for BNCT**
Keita Uehara, Graduate School of Engineering Osaka University, Japan
- 33. Investigation of Methods of Establishing Equivalent Surface Source for BNCT Treatment Planning Calculation**
Zhen-Fan You, Institute of Nuclear Engineering and Science, National Tsing Hua University, Taiwan
- 34. The Boron Neutron Capture Therapy (BNCT) Program at the University of Missouri International Institute of Nano & Molecular Medicine (I²NM²)**
Alice Raphael Karikachery, International Institute of Nano & Molecular Medicine, University of Missouri, USA





Reynolds Alumni Center Floor Plan