

Kyoto University On-site Laboratory: Quantum Nano Medicine Research Center



General Information

- ◆ Approved in FY 2019
- ◆ Established in October 2019
- ◆ Established by the Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University Institute for Advanced Study (KUIAS)
Co-operated with the Institute for Integrated Radiation and Nuclear Science
- ◆ Partner institution: The University of California Los Angeles (UCLA)
- ◆ Purposes: Quantum nano-medicine research with a focus on BNCT, practical application for cancer treatment, and expansion of collaboration with UCLA and industrial partners
- ◆ Location: Kyoto University, Kyoto, Japan (inbound)
- ◆ Functions: Promoting academic, researcher and student exchange between UCLA and Kyoto University, Hosting symposiums and seminar series

Positive ripple effects to the university's activities

- Establishment of new academic fields
- Advancements in radiation medicine, with a focus on BNCT
- Collaboration with research centers in California
- Ripple effects on industries in California and Japan
- Advancements in quantum nano medicine research have influenced research at Kyoto University, including the development of new radiation therapies. The center promotes interdisciplinary research that transcends disciplinary boundaries at the university
- The center provides opportunities for the university's researchers and world-class researchers in the US to interact by engaging in its activities

Activity Overview



Kyoto University
iCeMS



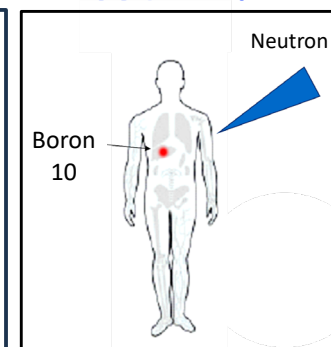
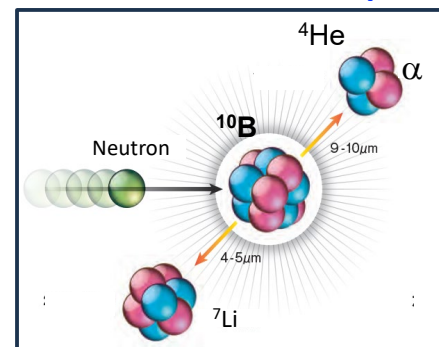
Kyoto Univ Institute for Integrated
Radiation and Nuclear Science



UCLA
Dept. of MIMG



Boron Neutron Capture Therapy (BNCT)



Recent work on
BNCT

New boron reagents
Tumor elimination
Abscopal effect

Nanoparticles
Tumor targeting



Main activities in FY 2025

Academic Exchange

May 14–16: Held UCLA–Kyoto University–Academia Sinica symposium entitled, “New developments in Biomedical Sciences” at CNSI auditorium. Organizers are QNM Center, Dept. of MIMG, California NanoSystems Institute and Academia Sinica. Fuyuhiko Tamanoi and Kotaro Matsumoto from QNM Center played major roles in this meeting.



UCLA–Kyoto University–Academia Sinica symposium

September 10–11: Held a symposium entitled, “New developments on nanomedicine and cancer research” at Ito Hall (Tokyo University). Organizers include QNM Center, Kyoto University Institute for Integrated Radiation and Nuclear Sciences, Japan Nanomedicine Society.

Quantum Nano Medicine is emerging as a new scientific discipline. This was presented at the following meetings.

October 2025, The Quantum Medicine Foundation Symposium, Tosu

December 2025, Annual Meeting of the Japanese Society of Patient–Derived Cancer Models, National Cancer Center

December 2025, 18th International Symposium on Nanomedicine (ISNM2025), Hiroshima

July 2025: Ohio State University delegation (Hisashi Yamaguchi, Nilendu Gupta, Wei Meng) visited QNM Center and we exchanged opinions on BNCT activities in Kumatori.

December 2025: Three members from Tokyo University of Science and three people from Nagasaki University Hospital visited the QNM Center.