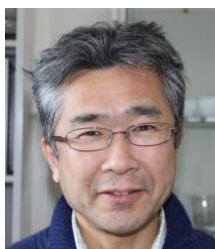




AVVISO DI CONFERENZA

Si comunica che **venerdì 27 ottobre 2023, alle ore 15.00**, nell'Aula A del Dipartimento di Chimica e Tecnologie del Farmaco (Edificio CU019) dell'Università Sapienza, il prof.



Naoki Komatsu

**Graduate School of Human and Environmental Studies,
Kyoto University, Sakyo-ku, Kyoto 606-8501, Japan**

terrà una conferenza sul tema

"Tumor eradication by boron neutron capture therapy using 10-boron enriched nanoparticles"

La S.V. è invitata ad intervenire.

Proponente: Prof. Pietro Matricardi

Il Direttore: Prof. Claudio Villani

Boron neutron capture therapy (BNCT) is a non-invasive cancer treatment with little adverse effect utilizing nuclear fission of ^{10}B upon neutron irradiation. While neutron source has been developed from a nuclear reactor to a compact accelerator, only two kinds of drugs, boronophenylalanine (BPA) and sodium borocaptate (BSH), have been clinically used for decades despite their low tumour specificity and/or retentivity. To overcome these challenges, various boron-containing nanomaterials, or "nanosensitizers", have been designed based on micelles, (bio)polymers and inorganic nanoparticles. Among them, inorganic nanoparticles such as boron carbide ($^{10}\text{B}_4\text{C}$) and boron nitride (^{10}BN) can include much higher ^{10}B content, but successful in vivo applications are very limited. In this talk, I will present our successful results in eradicating tumours in cancer mice by BNCT using ^{10}B -boron-containing nanoparticles under neutron irradiation.

Biography

Naoki Komatsu received his bachelor's, master's and doctor's degrees from Kyoto University in 1986, 1988 and 1993, respectively. He joined Okayama University in 1993 and moved to Kyoto University as Assistant Professor in 1994. In 1997, he worked at Florida State University as a visiting scholar for one year. In 2003, he moved from Kyoto University to Shiga University of Medical Science as Associate Professor. He was promoted to Professor at Kyoto University in 2015. His research concept is to "apply organic chemistry to nanomaterials" including supramolecular chemistry for structural separation of nanocarbons and synthetic organic chemistry on inorganic nanoparticles for cancer nanomedicine.