

On demand

ITCCIR 2021

# International Training Course on Carbon-ion Radiotherapy

29 Nov. ~ 12 Dec. 2021

## Course Program

**Introduction** · History of CIRT · J-CROS activities in Japan · Cost effectiveness

**Biology** · Characteristics of Carbon ion Radiotherapy · Rationale for hypofractionation  
· Role of heavy-ion-induced free radicals · Immune radiotherapy  
· Harnessing heavy ions for immunotherapy · Targeted radionuclide therapy  
· DNA damage and cell killing effects · FLASH particle therapy

**Physics** · Accelerators for CIRT and Quantum Scalpel · Motion management  
· Beam delivery, QA and radiation protection · IGRT with in-room CT  
· Biological models for CIRT · Building design of Yonsei Cancer Center  
· Treatment planning and range uncertainty · Facility commissioning at Osaka  
· Learning from IMRT and high- tech RT · Facility commissioning at Yamagata

**Clinical** · Head & Neck and Skull base · Bone & Soft tissue  
· Eye · Genitourinary (prostate, kidney)  
· Lung · Rectal (post-op recurrence)  
· Liver · Gynecological  
· Pancreas · Breast

**Diagnosis** · Molecular diagnosis for radiotherapy · Diagnostic imaging for radiotherapy

**Topics** · Overview of Proton Therapy · Rationale and Indications for CIRT at Mayo Clinic USA  
· Overview of BNCT · Radiation Emergency Medicine

**Vendor Presentation**  
**Facility introduction**

## Course Directors

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National Institute for Quantum and Radiological Sciences and Technology(QST)

Hiroshi Tsuji, M.D., Ph.D.

Director, QST Hospital  
National Institute for Quantum and Radiological Sciences and Technology(QST)

Tatsuya Ohno, M.D., Ph.D.

Professor, Gunma University Heavy Ion Medical Center

Under Construction

## Registration

## Registration Fee

10,000 JPY

Gunma University Heavy Ion Medical Center

Hyogo Ion Beam Medical Center

Ion Beam Therapy Center, SAGA HIMAT Foundation

i-ROCK, Kanagawa Cancer Center

Proton Medical Research Center, University of Tsukuba

Osaka Heavy Ion Therapy Center

National Institute for Quantum and Radiological Sciences and Technology

Association for Nuclear Technology in Medicine(ANTM)

## ITCCIR secretariat

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<http://www.congre.co.jp/itccir2021/>