Career Opportunities of Nuclear Technology and Applications Division

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2/2/2026

Introduction

- **Our mission:** Nuclear Technology and Applications Division (NTAD) is an application-oriented, non-profit R&D affiliation of the IHEP, aiming at technology transfer and product industrialization

- **Our areas:** Medical imaging devices for pre-clinical research and diagnosis, irradiation accelerators, industrial CT, radiation safety monitoring, low-toxic tumor therapy nano-medicine, etc.

Beijing office

Jinan Laboratory

# Introduction

Staff and graduate students: 126 in total

- Full-time faculties: 58
- Post doctorate: 9
- Graduate students: 56
- Others: 3

Our focus: device and technology for:

- Imaging for clinic diagnosis and life science
- Nondestructive testing (NDT) for industry and laboratory
- Radiation safety monitoring
- Advanced compact accelerator

Our Achievements

Imaging devices for diagnosis and pre-clinical research

Positron Emission Mammography (with CFDA registration)
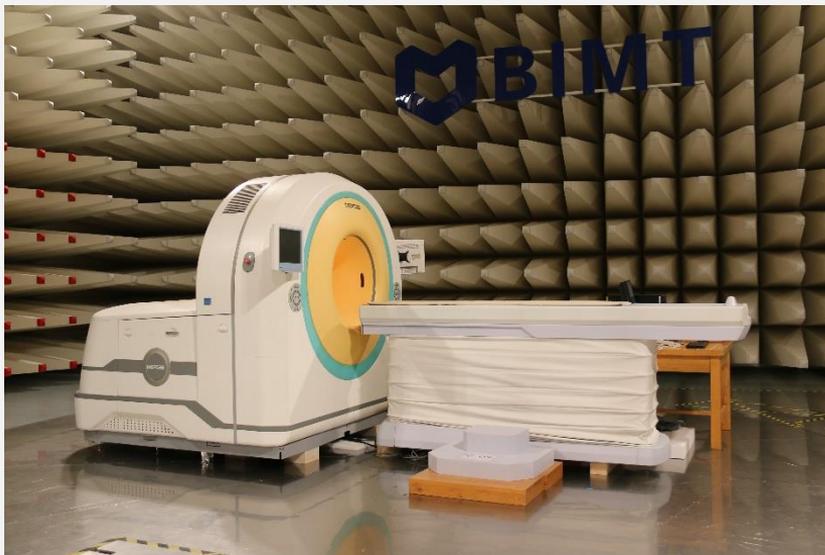
Positron Emission Tomography (PET)

Whole-body PET/CT for small animals

Spectral CT for small animals

Our Achievements
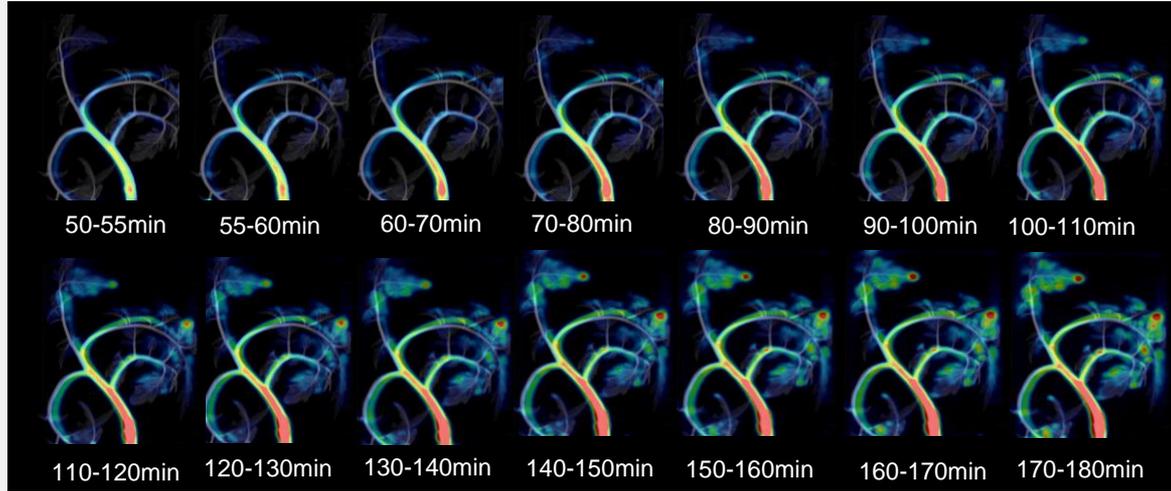
Dynamic PET/CT imaging of tomato sprout

Time: 0s

Dynamic PET/CT imaging of rat

Our Achievements

Bone, iodine, soft tissue channels and merged rendering

3D printing of rat and mouse
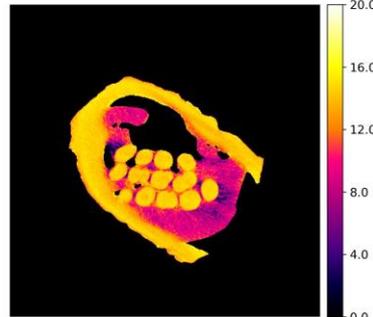
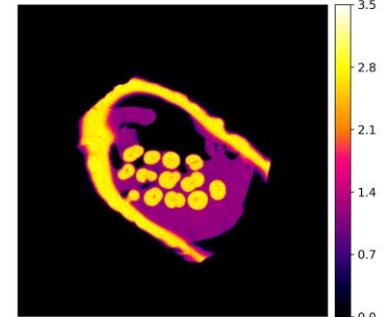# Our Achievements
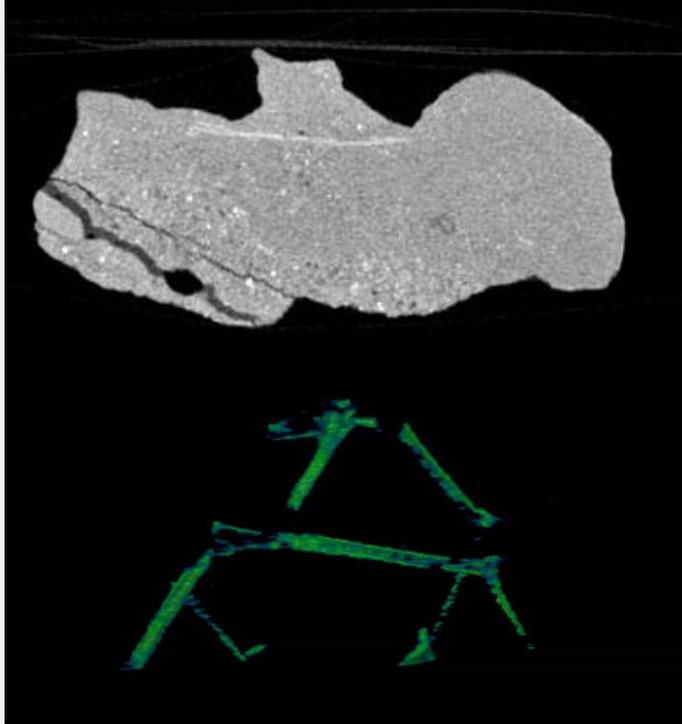
Fossil bone extraction from the rock
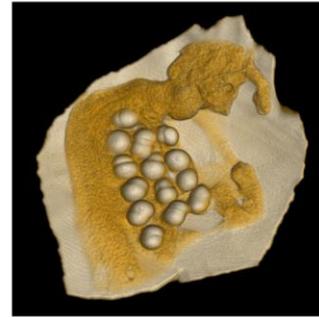
(a) 3D image
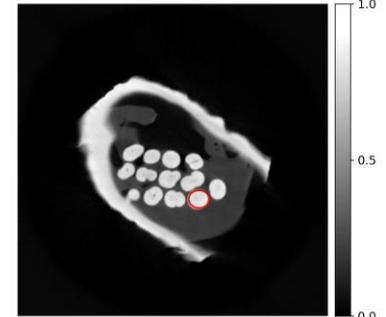
(b) [45-75]keV

(d) Effective atomic number

(e) Mass density (g/cm³)

Quantitative analysis of pearls
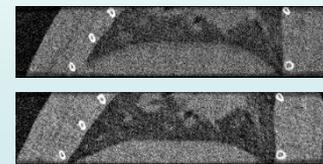
Our Achievements
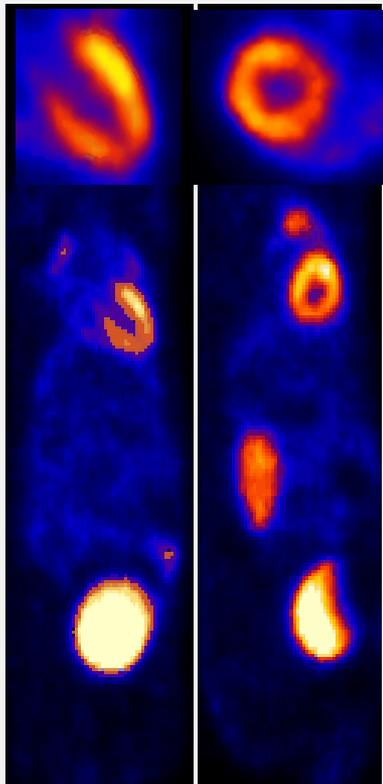
cardiac gated PET scan
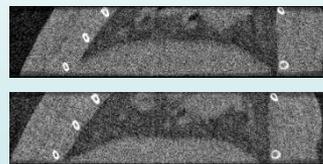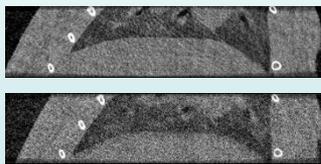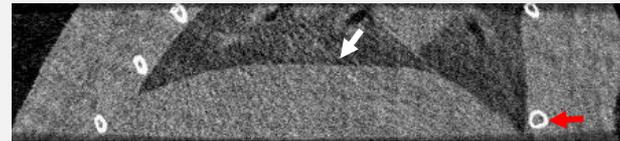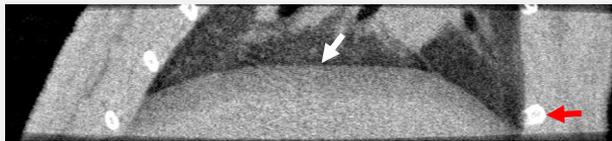
normal CT scan

respiratory gated CT scan
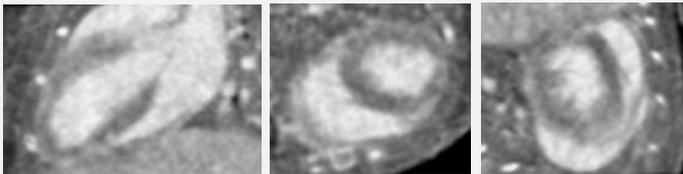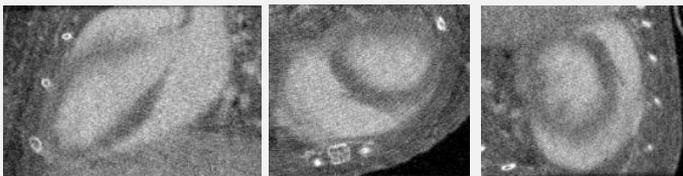
cardiac gated CT scan
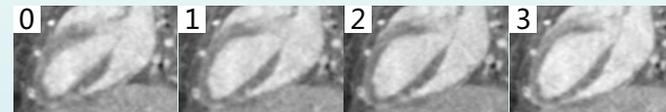
different periods in a cardia cycle

Our Achievements

Molecular probe developing

Tumor PET imaging for mouse
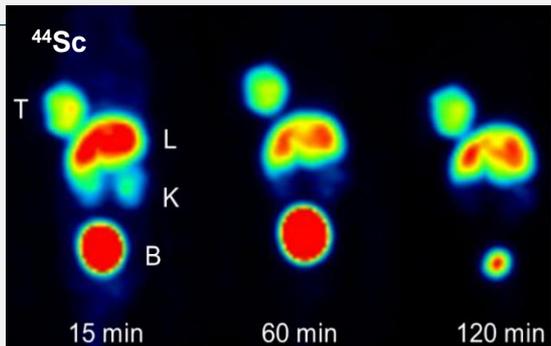
16.5 MeV cyclotron

Rat PET and SPECT imaging
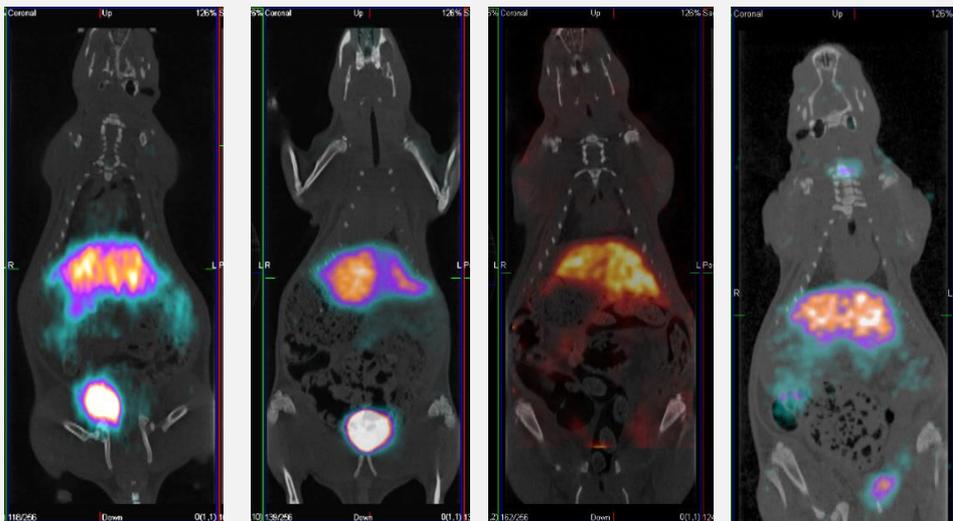
99mTc SPECT

68Ga PET

64Cu PET

124I PET
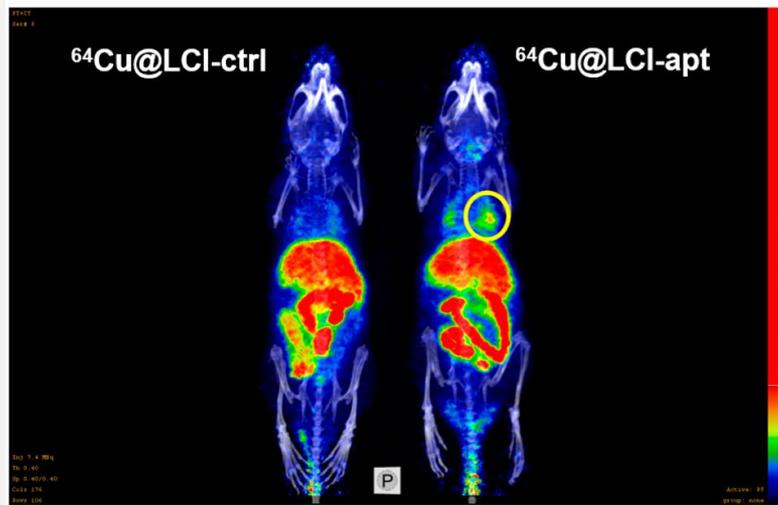
Nude mouse lung cancer PET imaging
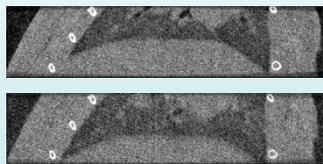
Our Achievements

CT equipment commercialization

computed laminography for semiconductor product (IGBT) NDT deployed in our customer's assembly line

Rayim 锐影检测科技(济南)有限公司
Ray Image Testing Technology (Ji Nan) Co. Ltd.

industry CTs about to deliver

Our Achievements

3D model of the powerplant

Monte-Carlo simulation

data set

attention model based neural network

detector setup optimization

sparse data

NerF network for 3D environment reconstruction

3D radiation field reconstruction
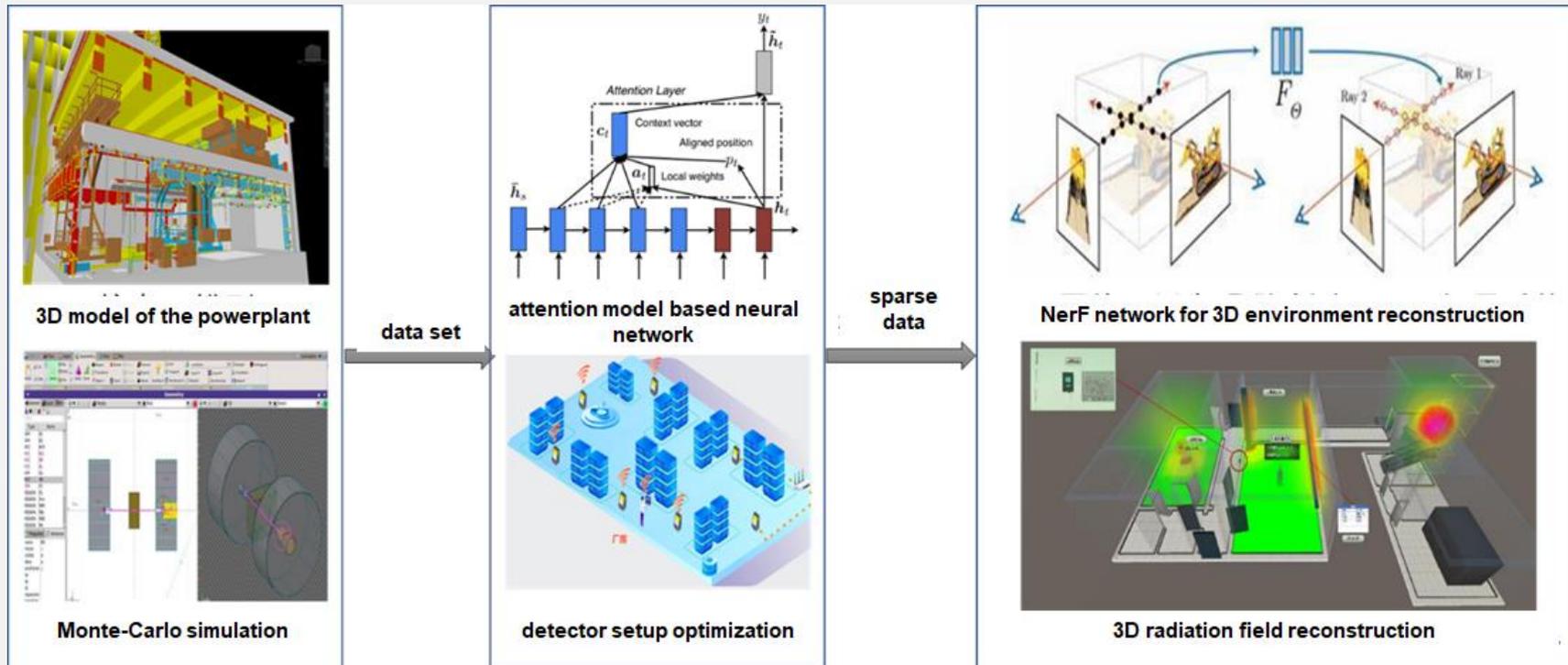
AI-based 3D radiation field reconstruction

Our Achievements

Radiation safety monitoring solution

virtual roaming in nuclear powerplant with image fusion of optical and radioactive signals

Our Achievements

Radiation safety monitoring solution

pipeline radiation monitoring

radioactive chemical leakage
detection and analysis

Our Achievements

Serialized and commercialized dosimeter products

radiation probes

personal radiation dosimeters

stationary radiation detectors

Our Achievements

Robotic XRF for archeology and cultural heritage study

Robotic XRF equipment
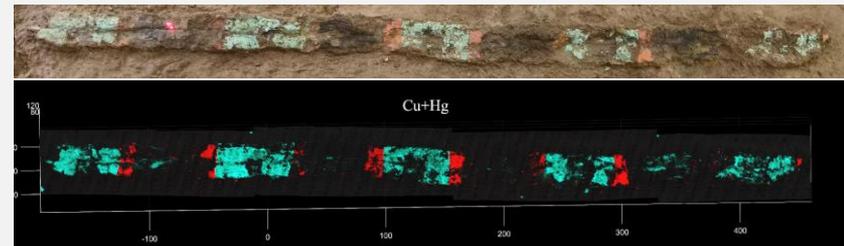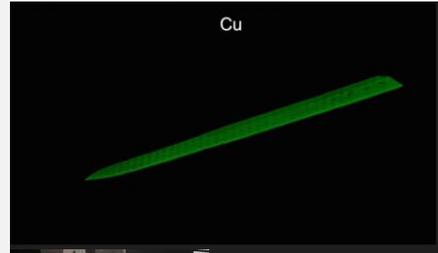
chemical analysis of the Sword of King Goujian and ceremonial relic

Our Achievements

Compact accelerators

L-band 10MeV industrial irradiation accelerator

S-band 10MeV industrial irradiation accelerator

6MeV accelerator X-ray source

9MeV accelerator X-ray source

Position Description

- **Opening:** Professor

- **Research area:** Nuclear medical imaging technology

- **Professional background requirements:**

  1. Professor or equivalent rank

  2. Experienced in PET/SPECT algorithm or instrumentation

Position Description

- **Opening:** Associate professor
- **Research area:** Nuclear medical imaging technology
- **Professional background requirements:**
  1. Associate professor or post doctorate experience abroad
  2. Experienced in PET/SPECT algorithm or instrumentation

Position Description

- **Opening:** Associate professor

- **Research area:** Radiation detector and system R&D

- **Professional background requirements:**

  1. Associate professor or post doctorate experience abroad

  2. Experienced in advanced radiation detector R&D

Position Description

- **Opening:** Post doctorate

- **Research area:** X-ray imaging technology

- **Professional background requirements:**

  1. 1) CT imaging theories, including reconstruction and data correction or 2) frontier basic research of physics and mathematics

  2. Innovative technology research of static CT and spectral CT, their applications in industry and medicine

Position Description

- **Opening:** Post doctorate
- **Research area:** Nuclear detection and imaging
- **Professional background requirements:**
  1. Nuclear detection technology research and detection system development
  2. Majoring in physics, nuclear science and technology, biomedical engineering; being familiar with particle physics and nuclear physics
  3. Good communication and cooperation

Position Description

- **Opening:** Post doctorate

- **Research area:** Molecular probe

- **Professional background requirements:**

  1. Frontier research of chemistry of radioactive medicine

  2. Diagnosis and treatment dual-purpose radioactive probe design and synthesis

Position Description

- **Opening:** Post doctorate

- **Research area:** Accelerator technology and application

- **Professional background requirements:**

  1. Advanced accelerator technology research and application

  2. Majoring in accelerator physics, accelerator technology and other relative area

  3. Experienced in accelerator system and key component R&D

Welcome to join us!

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