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기타소속:

**강연제목: 차세대 고감도 PET 시스템을 위한 나노 섬광체 개발**

**Nano-scintillator development for next-generation PET systems**

### **Abstract:**

Next-generation high-sensitivity PET systems aim to provide high-quality imaging with lower radiopharmaceutical doses, thereby reducing patient radiation exposure and shortening scan times. In particular, Time-of-Flight (TOF) PET enhances image quality by improving timing resolution; however, conventional scintillators suffer from optical losses and low light collection efficiency, which limit TOF performance optimization.

In this presentation, we propose a nano-scintillator design to minimize optical losses and maximize light collection, thereby enhancing TOF PET performance.

### **Brief Biosketch**

2023 – 현재: 과학기술연합대학원대학교(UST) 조교수

2020 – 현재: 한국원자력연구원(KAERI) 선임연구원

2018 – 2019: Stanford University 박사 후 연구원

2018: 서울대학교 의과대학 방사선응용생명과학 박사

2012: 서울대학교 공과대학 원자핵공학과 학사

### **연구 분야:**

핵의학 영상기기 및 방사선 계측, 나노 섬광체 및 방사선 검출 기술 개발, Monte Carlo Simulation 을 활용한 방사선 탐지 및 영상 분석, AI 기반 환자 체내 방사선량 평가 기술 개발

2023 – Present: Assistant Professor, University of Science and Technology (UST)

2020 – Present: Senior Researcher, Korea Atomic Energy Research Institute (KAERI)

2018 – 2019: Postdoctoral Researcher, Stanford University

2018: Ph.D. in Radiation Applied Life Science, Seoul National University College of Medicine

2012: B.S. in Nuclear Engineering, Seoul National University College of Engineering

### **Research Interests:**

**Nuclear medicine imaging and radiation detection, Development of nano-scintillators and radiation detection technologies, Radiation detection and imaging analysis using Monte Carlo simulation, AI-based internal radiation dose assessment**