

大学院特別講義のご案内

◆日時：2026 年 8 月 4 日（火）17 時半から 19 時

◆場所：D 棟 4 階 大講義室

◆講師：YANG FAN-PEI 先生

(Professor, Artificial Intelligence Center , National Tsing Hua University Founding director, Center for Cognition and Mind Sciences, National Tsing Hua University)

◆演題：" From Teeth to Tumors:

How AI Is Reshaping Oral and Maxillofacial Radiology — and Where We Can Build Together "

Over the past decade, artificial intelligence (AI) has moved from a curiosity to a central theme in dentomaxillofacial imaging. Using *Oral Radiology* as a lens, AI-related publications in the journal have grown from a single paper in 2018 to roughly thirty in 2025 — a near-monotonic rise that mirrors the field as a whole. This lecture first maps that trajectory: what problems researchers have tackled (tooth detection and numbering, caries, anatomical and lesion segmentation, third-molar risk assessment, periodontal and periapical disease), and which methods have dominated (CNN classifiers, U-Net and nnU-Net for segmentation, the YOLO family for detection, with radiomics, transformers, and large language models now emerging). Against this backdrop, most published work remains retrospective, single-center, and small-scale — a gap that defines the opportunity ahead. The talk then argues that oral cancer is the field's highest-value and least-crowded frontier, where early detection and imaging-based staging carry both clinical urgency and translational potential. It also highlights an underused idea: a single dental image can screen for far more than teeth — from carotid artery calcification and stroke risk to osteoporosis and medication-related osteonecrosis of the jaw. The session closes with a live look at a working oral-cancer image-interpretation interface and an open invitation to build collaborative, multi-site studies together.

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