

Jong Chul Ye

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EDUCATION

Ph.D., Electrical and Computer Engineering, Purdue University, USA, 1999 | M.S., Control Engineering, Seoul National University, 1995 | B.S., Control Engineering, Seoul National University, 1993

PROFESSIONAL EXPERIENCE

- 2022–present: Full Professor, Graduate School of AI, KAIST
- 2004–2021: Assistant/Associate/Full Professor, Dept. of Bio and Brain Engineering
- 2014–2015: Interim Department Head, Dept. of Bio and Brain Engineering
- 2012–2013: Beckman Senior Fellow, University of Illinois at Urbana-Champaign
- 1999–2004: Researcher positions at UIUC, Philips Research, and GE Global Research

SELECTED RESEARCH CONTRIBUTIONS

- **Foundation models for healthcare:** demonstrated Transformer-based CXR diagnosis improvements and pioneered LLM-driven target-volume contouring for radiation oncology.
- **Diffusion models for inverse problems:** introduced influential approaches including MCG, DPS, bidirectional diffusion sampling, and diffusion models for accelerated MRI and biomedical image reconstruction.
- **Generative AI for image/video processing:** pioneered DiffusionCLIP for text-driven image editing and advanced video motion customization, interpolation, inverse-problem solving, and alignment methods.
- **Deep learning for biomedical reconstruction:** led early low-dose CT reconstruction work and developed deep convolutional framelets as a theoretical framework for inverse problems.
- **Compressed sensing and neuroimaging:** pioneered k-t FOCUSS for dynamic MRI, ALOHA for low-rank Hankel matrix completion, and NIRS-SPM for fNIRS statistical mapping.
- **Commercialization:** technology transfers to Samsung, HDX, and Promedius; co-founder of Promedius and Mintlabs for AI-based medical imaging products.

HONORS AND AWARDS

- 2025: Merck Fellow Award; Fellow, National Academy of Medicine of Korea. 2024: Fellow, Korean Academy of Science and Technology.
- 2023: Choi Suk Jeong Award. 2022: KumGok Technical Achievement Award. 2021: Career Achievement Award, KSMRM. 2020: IEEE Fellow; IEEE EMBS Distinguished Lecturer.
- 2016: Runner-up, AAPM Low-Dose CT Grand Challenge; Best Student Paper, IEEE ISBI. 2012: Beckman Senior Fellowship; KAIST Research Excellence Award. 2009: 1st Place, ISMRM Reconstruction Challenge.

LEADERSHIP AND PROFESSIONAL SERVICE

- **President**, Korean Society for Artificial Intelligence in Medicine (KoSAIM), 2023–2024
- **Chair**, IEEE Technical Committee on Computational Imaging, 2020–2021
- **General Co-Chair**, IEEE ISBI 2020
- **Editorial leadership:** Founding Executive Editor, Biological Imaging; Senior Editor, IEEE Signal Processing Magazine; Associate Editor, IEEE TMI, IEEE TCI, and IEEE TIP.
- **Guest editor** for special issues on Mathematics for Deep Learning, Foundation Models in Medical Imaging, Domain-Enriched Learning for Medical Imaging, Computational MRI, and Machine Learning for Image Reconstruction.

SELECTED BOOKS AND PUBLICATIONS

- **Research impact:** h-index 93; >40,000 citations; 179 journal papers and 95 top-tier AI conference papers as of June 2026.
- **Books:** Geometry of Deep Learning: A Signal Processing Perspective (Springer, 2022); Deep Learning for Biomedical Image Reconstruction (Cambridge University Press, 2023).
- **Representative journal venues:** Nature Communications, Nature Machine Intelligence, Medical Image Analysis, IEEE TPAMI, IEEE TMI, IEEE TIP, IEEE TCI, SIAM Journal on Imaging Sciences, Magnetic Resonance in Medicine.
- **Representative AI conferences:** NeurIPS, ICLR, ICML, CVPR, ICCV, ECCV, AAAI, and MICCAI, including spotlight/oral papers and extensive invited/keynote presentations.