

Computational Medical Imaging

Christian Riess, Tobias Lasser

Topic list:

Basics of X-ray CT:

- analytical reconstruction
- iterative reconstruction
- line integral discretization
- including prior information
- incomplete data

Applications of Tomography:

- optical tomography
- light field and Fourier light field microscopy
- X-ray phase-contrast imaging
- X-ray dark-field imaging
- X-ray tensor tomography
- spectral X-ray computed tomography

Deep Learning:

- generative adversarial networks
- recurrent networks
- transformers for medical imaging
- embedding of operators
- tomographic image reconstruction
- invertible neural networks
- saliency maps
- out-of-distribution detection
- adversarial examples
- few shot learning

Please send your **three** preferred topics (sorted by preference)

by email to lasser@in.tum.de by **July 25, 2022**