



Universiteit
Leiden
The Netherlands

Faster X-ray computed tomography in real-world dynamic applications

Graas, A.B.M.

Citation

Graas, A. B. M. (2026, February 4). *Faster X-ray computed tomography in real-world dynamic applications*. Retrieved from <https://hdl.handle.net/1887/4291923>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/4291923>

Note: To cite this publication please use the final published version (if applicable).

Publications

1. Adriaan B.M. Graas, Evert C. Wagner, Tristan van Leeuwen, J. Ruud van Ommen, K. Joost Batenburg, Felix Lucka, and Luis M. Portela. “X-ray tomography for fully-3D time-resolved reconstruction of bubbling fluidized beds”. In: *Powder Technology* 434 (2024), p. 119269. ISSN: 0032-5910. DOI: [10.1016/j.powtec.2023.119269](https://doi.org/10.1016/j.powtec.2023.119269)
2. Adriaan Graas, Sophia Bethany Coban, K. Joost Batenburg, and Felix Lucka. “Just-in-time deep learning for real-time X-ray Computed Tomography”. In: *Scientific Reports* 13.1 (2023), p. 20070. ISSN: 2045-2322. DOI: [10.1038/s41598-023-46028-9](https://doi.org/10.1038/s41598-023-46028-9)
3. Adriaan Graas, Willem Jan Palenstijn, Ben van Werkhoven, and Felix Lucka. “ASTRA KernelKit: GPU-accelerated projectors for Computed Tomography using CuPy”. In: *Applied Mathematics for Modern Challenges* 2.1 (2024), pp. 70–92. DOI: [10.3934/ammc.2024004](https://doi.org/10.3934/ammc.2024004)
4. Adriaan Graas and Felix Lucka. “Scintillator decorrelation for self-supervised X-ray radiograph denoising”. In: *Measurement Science and Technology* 36.6 (2025), p. 065415. DOI: [10.1088/1361-6501/addc06](https://doi.org/10.1088/1361-6501/addc06)
5. Adriaan Graas, Evert Wagner, and Felix Lucka. *Fluidized-bed-phantom radiographs from three Caesium-Iodine DALSA Xineos-3131 detectors for empirical PRF estimation*. Dataset on Zenodo. 2025. DOI: [10.5281/zenodo.15383254](https://doi.org/10.5281/zenodo.15383254)

Curriculum Vitæ

Adriaan Graas was born in Hoorn, and brought up Woerden, the Netherlands. After working as a freelance software engineer in Bodegraven, he studied the BSc. Earth Sciences with a *beta+* track at Utrecht University, finishing in 2015. He completed the MSc. Mathematical Sciences at Utrecht University in 2018, with specialization in Scientific Computing and master thesis on *Dimensionality Reduction & Uncertainty Quantification in Seismic Waveform Inversion*. In the same year, he started his doctoral research at the Centrum Wiskunde & Informatica in Amsterdam, as part of the NDN+ cluster on topic of Mathematics and Algorithms for 3D Imaging of Dynamic Processes, with Dr. Felix Lucka as co-promotor and daily supervisor, and Prof. Dr. Joost Batenburg as promotor. The research was embedded in the *Computational Imaging* group, currently headed by Prof. Dr. Tristan van Leeuwen. Adriaan lectured the master course *Laboratory Class Scientific Computing*, organised with Prof. Dr. Rob Bisseling. During his Ph.D. studies, he took courses in scientific writing and scientific conduct.