Meeting on Tomography and Applications
Discrete Tomography and Image Reconstruction

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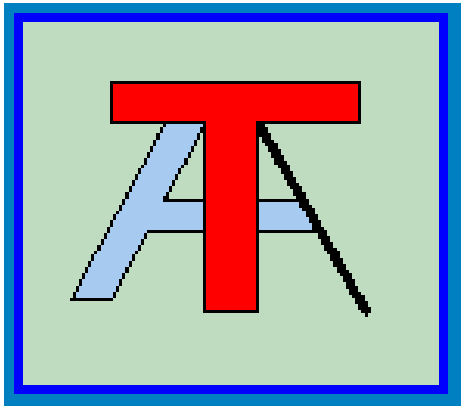
Description

- This is the 8th edition of an appointment concerning Tomography and Applications organized at the Department of Mathematics, Politecnico di Milano between May 7-9, 2014.
- The aim of the Meeting is to share interdisciplinary aspects between the experimental research concerning X-ray tomography and the mathematical image reconstruction community.



Topic

- Researches based on Tomography touch on problems related to areas of pure mathematics as well as to applications.
- The contact point can be identified with image reconstruction by means of X-rays.
- The usual related topics base, on one side on improvements of reconstruction algorithms, on the other side on providing new uniqueness reconstruction models under suitable assumptions.
- Properties and results coming from the various scenarios often overlap, even if different tools and strategies are employed in different areas.

Talks - May 7 Morning

10.30-11.20

Alfred Louis (Saarland University): Feature Reconstruction in Tomography

11.30-11.55

Roman Shkarin (Karlsruhe Institute of Technology): GPUoptimized Direct Fourier method for online tomography

12.00-12.25

Andrey Shkarin (Karlsruhe Institute of Technology): UfoART: An open source gpuaccelerated framework for flexible algebraic reconstruction in Xray CT

12.30-12.55

Csaba Vincze (Debrecen University): Continuity properties and their applications in Xray tomography

Talks - May 7 Afternoon

14.30-14.55

Sara Brunetti (Università di Siena): Bounded sets in Discrete Tomography

15.00-15.25

Peter Balazs (University of Szeged): Reconstruction of hv-Convex Binary Images: A Survey and Open Questions

16.00-16.25

Grzegorz Sojka (Warsaw University of Technology): Determination of convex bodies by values of parallel Xray of order i or parallel i-chord functions

16.30-16.55

Jesus Yepes Nicolas (Universidad de Murcia): Unique reconstruction of convex bodies by projection data via refinements of the Brunn-Minkowski inequality

Talks – May 8

10.00-10.50

Lucia Mancini (Elettra Sincrotrone Trieste): Advanced X-ray microtomography techniques: biomedical and materials science applications

11.30-11.55

Antal Nagy (University of Szeged): Practical Questions in Discrete Tomography

12.00-12.25

Andreas Alpers (Technische Universität München): Power diagrams for tomographic grain reconstruction

12.30-12.55

Nicola Viganò (ESRF, Grenoble): Reconstruction of Local Orientation in Grains using a Discrete Representation of the Orientation Space

14.30-14.55

Chiara Guazzoni (Politecnico di Milano): X-ray polycapillary optics in 3D tomography of low X-ray contrast samples

15.00-15.25

Luca Fieramonti (Politecnico di Milano): In-vivo Mapping of the Blood Velocity in Zebrafish with Optical Vector Field Tomography

Talks – May 9

10.00-10.50

Jan Sijbers (University of Antwerp): Opportunities and challenges for discrete algebraic reconstruction methods

11.30-11.55

Rodolfo Fiorini (Politecnico di Milano): Computerized Tomography Noise Reduction and Minimization by Optimized Exponential Cyclic Sequences (OECS)

12.00-12.25

Maurizio Santini (Università di Bergamo): Wettability analyses of multiphase interfaces by 3D X-ray micro computed tomography

12.30-12.55

Roberto Fedele (Politecnico di Milano): A Digital Volume Correlation code for motion estimation based on X-ray microtomography under in situ loading

Acknowledgement

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Nemzeti Kiválóság Program

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