Special Guest Lectures

Image processing at the Infmath Imaging Group – University of Innsbruck

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Abstract:
The techniques involved in our work are analytical methods for partial differential equations and variational methods, geometry, and computational geometry, for image processing applications. We also work on the efficient implementation of imaging techniques, like pattern recognition, denoising and imaging segmentation techniques. Although these are core areas of computer science we focus on mathematical techniques, in particular complicated partial differential equations and variational methods. Main issues and central questions are existence of solutions of the techniques and efficient and reliable implementation. For image processing and image reconstruction we base our work on analytical considerations with exact reconstruction, which are in a second step efficiently numerically implemented. The reliable implementation of these techniques requires analytical methods from the mathematical area of tomography.

Speaker's Bio:
Tobias Riser studied mathematics and physics on teaching profession at the University of Innsbruck. Now he is working as a PhD-Student at the University of Innsbruck – Institute of Computer Science. His research interest is mainly focused on visualization methods of volumetric and high dimensional data and filtering algorithms for ultrasound images.

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