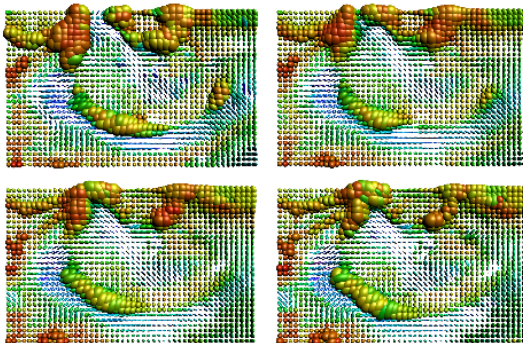


Tuesday 2 March 2021

Online (Zoom)




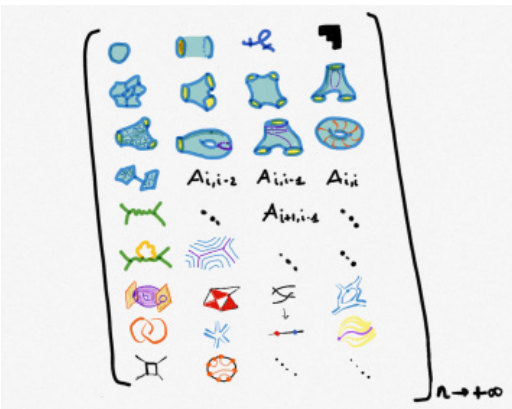
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11:00 Gabriele Steidl *(TU Berlin)*

Motion and Deformation in Mathematical Imaging

Dynamical imaging – the treatment of videos and multimodal images – leads to questions in optical flow, optimal transport and image metamorphosis. The talk will introduce the mathematical foundations of these techniques and demonstrate their applications. For example, the concept of metamorphosis particularly endows the space of images with a nonlinear Riemannian structure, which one can use in applications such as diffeomorphism estimation by minimizing the path energies of corresponding geodesics.

Gabriele Steidl is a professor of Applied Mathematics at TU Berlin. Her research interests include applied and computational harmonic analysis, convex analysis and optimization with applications in image processing. 



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17:00 Gaëtan Borot *(HU Berlin)*

Matrix models and counting surfaces: from combinatorics to geometry

The talk will review the relation between matrix integrals and the enumeration of discrete surfaces, which was the starting point for the discovery (in the 90s) of recursive structures solving these enumeration problem by constructing complicated surfaces from simpler ones. These ideas of “topological recursion” now extend far beyond the realm of matrix models, apply to various problems in physics and in mathematics, and provides rigorous bridges between seemingly unrelated topics.

Gaëtan Borot is a professor of Mathematical Physics at HU Berlin. His scientific research focuses on mathematical aspects of QFT and strings. 