



Technion-Israel Institute of Technology
Computer Science Department
Center for Graphics and Geometric Computing



CGGC Seminar

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Poisson Manifold Reconstruction (beyond co-dimension one)

In this talk we consider the problem of manifold reconstruction from oriented point clouds for embedded manifolds of co-dimension larger than one. Using the framework of Poisson Surface Reconstruction, and formulating the problem in the language of alternating products, we show that the earlier approach for reconstructing hyper-surfaces extends to general manifolds, at the cost of replacing a quadratic energy with a multi-quadratic energy. We provide an efficient iterative hierarchical solver that empirically converges to a good reconstruction. We show examples reconstructing curves in 3D and surfaces in 4D. And we validate that the approach remains stable in the presence of sampling and noise.

**The lecture will be held on Thursday, 18.01.2024, at 11:30, Auditorium
GOT 012, visitors center, Taub building floor- 0**

& in Zoom: <https://technion.zoom.us/j/96116063600>

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