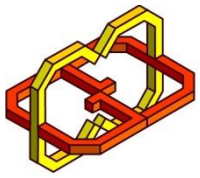

Technion-Israel Institute of Technology

Computer Science Department

Center for Graphics and Geometric Computing

CGGC Seminar – M.Sc. Talk

David Cohen

Computer Science Department, Technion-Israel Institute of Technology

Generalized Volumetric Foliation from Inverted Viscous Flow

We propose a controllable geometric flow that decomposes the interior volume of a triangular mesh into a collection of encapsulating layers, which we denote by a generalized foliation. For star-like genus zero surfaces we show that our formulation leads to a foliation of the volume with leaves that are closed genus zero surfaces, where the inner most leaves are spherical. Our method is based on the three-dimensional Hele-Shaw free-surface injection flow, which is applied to a conformally inverted domain. Every time iteration of the flow leads to a new free surface, which, after inversion, forms a foliation leaf of the input domain. Our approach is simple to implement, and versatile, as different foliations can be generated by modifying the injection point of the flow. We demonstrate the applicability of our method on a variety of shapes, including high-genus surfaces and collections of semantically similar shapes.

The lecture will be held on Sunday, 28.04.2019, at 14:00, Taub 401

הזמנה זו מהווה אישור כניסה עם רכב לטכניון