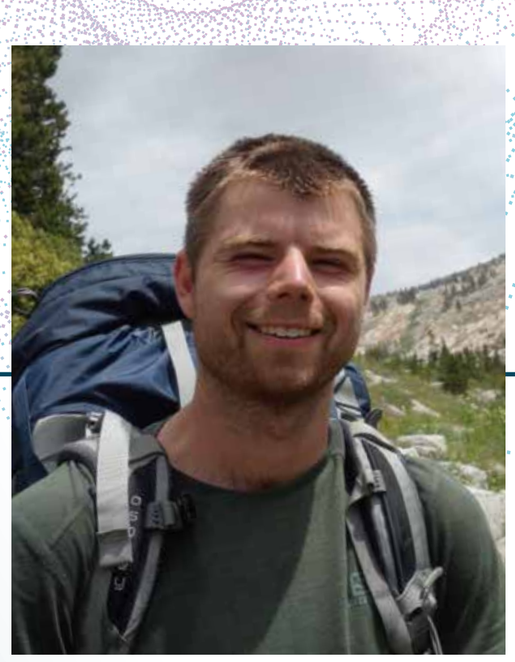
National Center for Theoretical Sciences

International GMT Seminar

Regularity of capillary minimal surfaces



Time | **Wednesday, January 15, 2025**
19:00 - 21:00 (Taipei time)

Agenda | 7:00 p.m. Get-together (30 min)
7:30 p.m. Presentation Nicholas Edelen (60 min)
8:30 p.m. Questions and Discussions (30 min)

Venue | **Online (HyHyve)**

Registration and more information:

Nicholas Edelen

University of Notre Dame

A capillary surface is a hypersurface meeting some container at a prescribed angle, like the surface of water in a cup. In this talk I describe some recent results concerning the boundary regularity of capillary surfaces which either minimize or are critical for their relevant energy. The first result (joint with O. Chodosh and C. Li) is an improved dimension bound for the boundary singular set of energy-minimizers, exploiting the connection between capillary minimal surfaces and the one-phase Bernoulli problem. The second (joint with L. de Masi, C. Gasparetto, and C. Li) is an Allard-type regularity theorem for energy-critical capillary surfaces near capillary half-planes, which implies regularity at generic boundary points of density < 1.