

David Xianfeng Gu 顾险峰 is a Professor at Stony Brook University in Long Island, New York. He got his bachelor degree in Computer Science from Tsinghua University in 1994, and his PhD from Harvard University in 2003 under the direction of Professor Shing-Tung Yau. Dr. Gu focuses on applying modern geometry for engineering and medicine fields, and developing mathematical theories in the discrete setting for the computational purposes. Prof. Yau and Dr. Gu have developed theories and algorithms of computational conformal geometry, which is an emerging interdisciplinary field combining pure mathematics and computer science, including discrete Hodge theory, discrete surface Ricci flow, discrete optimal mass transportation theory, and applied to computer vision, graphics, geometric modeling, networking and medical imaging fields. Dr. Gu has systematically developed software tools for computational topology, conformal geometry and Riemannian geometry, as well as real applications, such as brain mapping, colon cancer detection, human face registration, virtual clothing and so on. Dr. Gu's biggest hobby is to convert the abstract and profound modern geometry/topology theorems to practical computational algorithms. This summer, we are fortunate to have him teach a Computer Science course at Mathcamp, with focus on 3D imaging.