Nancy Cheng  
November 10, 2014  
Nancy Yen-wen Cheng, RA, LEED AP  
Associate Professor, University of Oregon  
Shaping Light with Folded Surfaces

Light reveals our visual universe. Light shapes how we perceive form and the boundaries of space. Light gives vitality to immutable form, revealing the familiar in new ways. Small adjustments in light intensity, composition and viewpoint can yield big changes in highlights and shadow patterns. Nancy Cheng experiments with how sheet materials can be cut, creased, or crimped to generate lighting effects that change with the sun's movement, while blocking unwanted heat and glare. Her Shaping Light project explores how physical prototyping and digital methods can be combined to foreground material properties in design. She seeks the creative possibilities that stem from a material's stiffness, shininess, translucence or color. She has used digital modeling for geometric variations, kinetic studies and lighting simulation in both open-ended studies and interior installations.

Nancy Cheng has been teaching sustainable architectural design and design communication at the University of Oregon since 1996, and directed its Architecture Department's Portland Architecture Program 2009-2013. She previously taught at the University of Hong Kong, connecting global partners in Virtual Design Studios. Since that time, she has used social media, electronic portfolios and international exchange programs to link students to professional experts. Cheng has headed the Association for Computer Aided Design in Architecture (ACADIA), the national AIA Technology in Architectural Practice group, and edited issues of the International Journal of Architectural Computing. On sabbatical 2013-14, she lectured in China, Germany, Australia and India and worked with RMIT University’s Spatial Information Architecture Lab examining the cooling potential of folding surface structures.