

# 2017 Keynote Presentation

## Designed Resilience

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### ABSTRACT

Designing from an ecological perspective provides insights and reframes the creative process. Looking to nature is not new to the design professions, but the planned translation of design principles derived from nature to solve man-made solutions is relatively new. This keynote will offer examples, in projects and methodology, where biomimicry frames a technology transfer, opening new insights to resilience and sustainability.

In Haiti, a new children's center uses mother-daughter branching for structural and cultural meaning, in Brazil the multi-functionalism of a keystone species inspires a building envelope to produce a rain cloud to improve a local micro-climate. In China, a district master plan meets daylight access requirements patterned after the structural diversity of the forest it replaced, while low-flow multi-path channels manage water. In the California desert, a transit facility is informed by survival strategies of local desert plants to achieve net-zero energy. These examples and more illustrate how design trajectories shifted at key moments through a curiosity-based, ecologically-driven design approach.

### BIOGRAPHY

Thomas Knittel is the design partner of McLennan Design, an architectural, planning and consulting practiced focused on net-zero, low carbon and living buildings. His past projects in the U.S, Asia, Brazil, Middle East and Haiti explore connections between people, place and ecology. He has used biomimicry—the 'technology transfer' of natural systems to solve human problems—to inspire and inform the design process. Knittel holds a Masters from the Harvard Graduate School of Design, is a certified biomimicry professional, studied at SCI-Arc, and has received over 30 design awards across a broad range of building types. He donates his time as the design leader for The William Jefferson Clinton Children's Center in Port au Prince (currently under construction), a new family learning center and orphanage funded by the USGBC designed to LEED Platinum and net-zero standards, a project he began at HOK and continues in his new firm. He is a registered architect in multiple states and a member of NCARB.