Aqua Lung is a project motivated by New York City’s growing need for housing and the potential threat of a catastrophic storm surge. Stringing from Lower Manhattan’s Battery Park to the Red Hook Container Terminal in Brooklyn, this mile long residential flood gate aligns itself with the existing Brooklyn-Battery Tunnel below.

Aqua Lung activates the Harbor with an entirely new typology combining public security and mixed-use modular residences. At sea level, this project serves as a highly public, linear trajectory. A string of parks, restaurants, shops, temporary and permanent vending allows the commuting public to use this architectural proposal as a highly functional, as well as recreational, pedestrian pathway between New York’s inner boroughs.

The bladder walls protecting the upper residential zone utilize ethylene tetrafluoroethylene (ETFE), a fluorine based plastic, as a means to capture and store surge water. Furthermore, the pivoting water towers not only have the ability to offset the flooding burden but to continuously generate energy either through wave movement or, during “activated” state, hydroelectric generation.

This proposal both houses and secures the general public through the use of soft infrastructure, slowing the velocity of a surge, as well as hard infrastructure that shields the city.
DAVID KIM is currently a student at the University of Arizona finishing his last year to hold a Bachelor’s of Architecture. Advocating more performance-based architecture in buildings today has been a particular interest along with how various programs can adapt to these performative conditions. Academically, he has been rewarded and nominated for design awards and competitions. Professionally, David has worked in New York City for various firms during past summers and is currently working at SHoP architects.

CHRISTOPHER PELA is currently attending the University of Arizona in pursuit of a Bachelor’s of Architecture. He is entering his 5th year. Christopher has worked with architects, engineers and planners in a professional setting since 2004 producing presentation graphics as well as construction documents for both large- and small-scale projects. In 2009, Christopher decided to follow his passion for design at the University of Arizona, in Tucson. Since his enrollment at the college, he has consistently been nominated for design awards each year of the professional phase. Christopher is currently interning at Rob Paulus Architects in Tucson.