‘House Zero: A first-of-its-kind, ultra-efficient retrofit on Harvard campus’

A talk by Ali Malkawi, Professor at the Harvard Graduate School of Design

Please join us for a conference by Prof. Ali Malkawi

on his very promising project "House Zero"

for a Harvard Club France / ESPCI/ Paris Sciences et Lettres (PSL) event.

Ali MALKAWI is a Professor of Architectural Technology at the Harvard Graduate School of Design and an international scholar and expert in building simulation, energy conservation, and sustainability in buildings. He teaches architectural technology and computation and conducts research in the areas of computational simulation, building performance evaluation, and design decision support. He is also the Founding Director of the Harvard Center for Green Buildings and Cities, a multidisciplinary research institution that seeks to transform the building industry through a commitment to design-centric strategy that directly links research outcomes to the development of new processes, systems, and products.

Lead author or co-author of over one hundred scientific papers, Malkawi is also the co-editor of two books on the subject of computationally-driven design and simulation: Advanced Building Simulation and Performative Architecture Beyond Instrumentality.
Malkawi received his BS in Architectural Engineering and Environmental Design from Jordan University of Science and Technology in 1989, his MArch from the University of Colorado in 1990, his PhD from Georgia Institute of Technology in Architectural Technology/Artificial Intelligence in 1994 and received an honorary masters of Arts degree from Harvard University in 2013.

**Professor Malkawi’s presentation** will focus on the Harvard Center for Green Buildings and Cities’ HouseZero project: a retrofit of its headquarters, a pre-1940s stick-built house on Harvard campus in Cambridge, into a prototype of ultra-efficiency. The structure will use no HVAC system, no electric light use during the day, 100% natural ventilation, almost zero energy, and produce zero carbon emissions.

HouseZero will feature an ultra-healthy, flexible, comfortable indoors that works to fundamentally redefine how a home connects with and responds to its natural environment to promote health and efficiency. All components of the building contain sensors that essentially turn HouseZero into a living lab, generating data that will allow the building to adjust itself and fuel further CGBC research focused on actual data and simulated environments.

HouseZero hopes to prove that by retrofitting existing houses, we can help curb climate change, reduce building operating costs, and achieve new levels of efficiency. By using current technologies at our fingertips, we have the power to change the way we design, construct and operate buildings leading to billion of dollars in savings per year and substantial shifts in the way we approach sustainable energy in our daily lives.

**DATE:** Monday, July 10, 2017

**LOCATION:**

Amphithéâtre Urbain,

Ecole Supérieure de Chimie et Physique Industrielle

10 rue Vauquelin, 75005 Paris

**TIME:** 19:30 - 21:00