

ICAADE2017

THE SECOND INTERNATIONAL CONFERENCE ON
AMPHIBIOUS ARCHITECTURE, DESIGN AND ENGINEERING



Amphibious Houses in Maasbommel, Netherlands, Dura Vermeer

In the last 20 years, the 10 worst floods around the world have displaced over 1.1 billion people and resulted in damages of over \$165 billion¹. It's time to find a solution.

June 25 - 28 2017

About ICAADE2017

University of Waterloo
Waterloo, Ontario, Canada

ICAADE2017 will unite academics, practitioners, professionals and policy-makers in the exchange of knowledge on amphibious flood mitigation strategies, inviting collaboration among researchers, businesses, institutions, and governments around the world. Flood mitigation and climate change adaptation will require the development of new housing types and retrofit strategies in order to maintain community integrity in populated regions where flooding is expected to increase.

The conference will create collaboration among architects, planners, builders, researchers, engineers, and participants from government and industry, representing a broad range of disciplines such as water management, urban and landscape design, hydraulic engineering, social sciences, humanities, building construction, education and health, and experts from such fields as commerce, policy, information systems, and knowledge management.

2.3
BILLION PEOPLE

affected by floods in
the past 20 years²

1. Center for Research on the Epidemiology of Disasters (2015)
2. Ibid.

About the Conference

The second International Conference on Amphibious Architecture, Design Engineering will be held in Waterloo, Canada from June 25 to 28, 2017 and will encourage discussion of flood resilience in infrastructure systems and communities affected by flood disasters.

Amphibious Home
Buckinghamshire, UK
Baca Architects



Submission of Abstracts

The **ICAAD2017** Organizing Committee invites authors to submit abstracts for presentations on any of the **ICAAD2017** topics. Submissions are sought for both oral and poster presentations.

FLOAT House
New Orleans, Louisiana, USA
Morphosis and Make It Right Foundation

Important Dates

January 2017	Submission of Oral Presentation abstracts
February 2017	Notification of acceptance
March 2017	Earlybird registration deadline
April 2017	Submission of poster abstracts
May 2017	Submission of final abstracts and papers for publication in conference proceedings

Amphibious House
Bangkok, Thailand
Site-Specific Architecture



Further Information

Further information can be found on the **ICAAD2017** website. Details about the conference registration, schedule, program, venue, tours, sponsorship opportunities and student participation will be posted on the website as it becomes available.

LIFT House
Dhaka, Bangladesh
Prithula Prosun, University of Waterloo

Objectives

ICADE 2017 will draw participants from around the world, working with authorities from every continent to increase global awareness of amphibious design as a flood mitigation technique. The conference will connect over 200 researchers, students, practitioners, industry leaders and government participants from around the world. Topics for **ICADE 2017** will include:

Living with Water aims to achieve a common understanding across countries, organizations, professions and communities of the basic principles underlying new approaches to living with water rather than fighting it.

Flood Resilient Systems and Communities will cover both the technical and social dimensions of flood resilience through exploring pathways to adapting communities and neighborhoods to withstand increasingly frequent flooding.

Climate Change Adaptation will explore amphibious innovation's potential as an adaptive strategy to alleviate climate change.

Vernacular Amphibious Solutions will present case studies of historical uses of amphibious construction by indigenous and non-industrialized populations.

Concepts, Typologies and Designs will feature innovative concepts, typologies and designs ranging from individual building scale to the scale of neighborhoods, cities and regions.

Case Studies will feature amphibious construction projects that have been successfully realized. They will highlight the necessary steps for implementation and how the process can be replicated.

Technology and Construction. With different approaches used around the world, there is great potential to accelerate the development and optimization of amphibious technology and construction through international collaboration and the sharing of lessons.

Opportunities for Business will discuss entrepreneurial, financial and logistical dimensions of amphibious construction.

Challenges to Implementation will discuss the impediments, policies, and regulations at local, regional and national levels that inhibit the realization of amphibious construction.

Visions for the Future will explore new ways of living with water that amphibious design makes possible. What visions of the future can we imagine?

ICADE 2017 will build on the **ICADE 2015** conference, discussing recent advances in this emerging field, exploring the role of amphibious buildings as a catalyst for change. For more information on the 2015 conference, please visit www.icaade.org.

Amphibious design refers to an alternative flood mitigation strategy that allows an otherwise-ordinary structure to float on the surface of rising floodwater rather than succumb to inundation.

An amphibious foundation retains a home's connection to the ground by resting firmly on the earth under usual circumstances, yet it allows a house to float as high as necessary when flooding occurs. A buoyancy system beneath the house displaces water to provide flotation as needed, and a vertical guidance system allows the rising and falling house to return to exactly the same place upon descent.

Amphibious architecture is a flood mitigation strategy that works in synchrony with a flood-prone region's natural cycles of flooding, rather than attempting to obstruct them.

WHAT IS AMPHIBIOUS DESIGN?



Flood performance of static house vs amphibiated house, Old River Landing, Louisiana, USA

You can Make a Difference.

By attending ICAADE2017 you can contribute to innovation with the potential to have positive impact on hundreds of millions of lives. We're glad you're on our team.

As global climate change causes sea levels to rise and weather events become more extreme, the occurrence of severe floods will continue to become more common around the world. The large populations living in deltaic or riverine floodplain regions will be particularly severely affected, especially those living at the lowest levels of income. Flooding is estimated to represent 40% of all natural hazardous events in the world and is one of the most tangible results of anthropogenic climate change. While the frequency and intensity of flood events are increasing, only 1% of development aid goes toward disaster risk reduction³.



lives in river basins at risk of frequent flooding⁴



lives in coastal areas at risk of sea level rise⁵

Questions?

www.icaade.org

INTERNATIONAL STEERING COMMITTEE

Robert Barker (UK)

Benjamin Casper (GE)

Yi-Chang Chiang (TW)

Richard Coutts (UK)

James Davidson (AU)

Brent Doberstein (CA)

Elizabeth English (CA)

Yuliya Georgieva (FR)

Melanie Goodchild (CA)

Scott Holcombe (US)

Fransje Hooimeijer (NL)

Natasha Klink (CA)

Koen Olthuis (NL)

Chutayaves Sinthuphan (TH)

Danai Thaitakoo (TH)

Scott Turner (CA)

Jason CS Yu (TW)

Chris Zevenbergen (NL)

3. United Nations Office for Disaster Risk Reduction (2012)

4. Kundzewicz (2007)

5. United Nations Commission on Sustainable Development (2005)