

SEPTEMBER 26-28, 2019
TORROJA INSTITUTE | MADRID (SPAIN)
WWW.CONCEPTUALDESIGN2019.COM





Conceptual design plays a leading role in defining the end-performance of structures. Facing new global challenges and embracing new technological opportunities, structural designers are encouraged to develop more creativity in their projects. Each project, indipendently on its size, is an opportunity to create.

Creativity in conceptual design is hard to foster and share. It is not the result of a sudden moment of inspiration, but the fruit of a serious, systematic and ambitious work in the search of the most adequate solution to a given question. Conceptual design is actually rarely taught in civil engineering schools. Traditionally, and commonly to other creative fields (e.g. architecture, writing, gastronomy, painting), successful processes are context-dependent, experience-based and principle-driven. However, new training modes, deeper understanding of history, and the advent of new tools and technologies sets forth new possibilities for creative endeavours.

The International fib Symposium on Conceptual Design of Structures is a one-of-a-kind event specifically addressed to creative designers of all experience levels. The event will take place at the Torroja Institute in Madrid, Spain, a unique blend of civil engineering and architecture.

The *fib* —The International Federation for Structural Concrete—is an association created in the 1950's by eminent engineers—Torroja, Freyssinet, Levi, . . .—that aims at sharing ideas to promote the use of structural concrete. This association acknowledges and has had, throughout its history, the mission to promote, communicate and teach the value of creativity in engineering. The symposium is organized together with the Spanish Association of Structural Engineering (ACHE). The Torroja Institute, built testimony of Eduardo Torroja's creativity and teaching, is the venue of the event.

Four sessions punctuate the symposium, each corresponding to a stage in the conceptual design process: INSPIRATION; DATA COLLECTION; CREATIVITY; and MATERIALIZATION. Each session is filled with a keynote lecture, plenary presentations of selected papers, an open debate with the audience, and a series of hands-on workshops leveraging state-of-the-art tools and methods.

Authors are invited to submit original contributions on any topic related to the conceptual design of structures, and in particular, to the four following stages.

Data Collection

Big Data
3D laser scanning
Photogrammetry
Surrounding structures survey
Cooperation

CREATIVITY

Form Finding and optimization Conceptual design process Parametric design Artificial Intelligence Tools

MATERIALIZATION

Virtual reality
3D printing and rendering
Construction and detailing
Case studies
Temporary structures

NSPIRATION

History of structural engineering
Structural heritage
Emerging technologies and materials
Education
Comprehension of structural phenomena

All papers submitted to the Symposium will be reviewed by the Scientific Committee. Accepted papers will be included in the Symposium Proceedings, which will be indexed on Scopus.

The best papers will be selected for plenary presentation by the Organizing Committee, on the basis of the reviewers' comments. In addition, authors whose papers are selected will be invited to submit an extended version for a Special Issue of the Structural Concrete Journal. Thorough revision and extension of content is expected in order to meet the standards of the journal. Publication of the papers will be subject to a second technical peer review. In addition to being included in the Symposium Proceedings, the other accepted papers will be presented as posters and displayed on screens during the symposium. Participation certifications will be given to those attending the workshops and willing to acquire university credits or professional recognition.

Both rooted in tradition and forward-looking, the International $\hat{h}b$ Symposium on Conceptual Design is dedicated to offer a unique and invigorating exchange of experience and expertise on creative processes in structural engineering.

TIMELINE

March 15, 2019 | Deadline for submission of abstract
April 1, 2019 | Notification of acceptance of abstract
June 1, 2019 | Deadline for submission of full papers
August 1, 2019 | Notification of acceptance of papers

REGISTRATION FEES

Before August 1, 2019: 130€ fib/ACHE members | 150€ general public After August 1, 2019: 150€ fib/ACHE members | 170€ general public

ORGANIZATION COMMITTEE

Conference chair Hugo Corres Scientific co-chair Leonardo Todisco Scientific co-chair Corentin Fivet Workshop chair Abraham Sanchez Secretary Borja Regúlez Héctor Bernardo Accounting Isabel Lorenzo Media relations Technical tours Alejandro Yustres



