

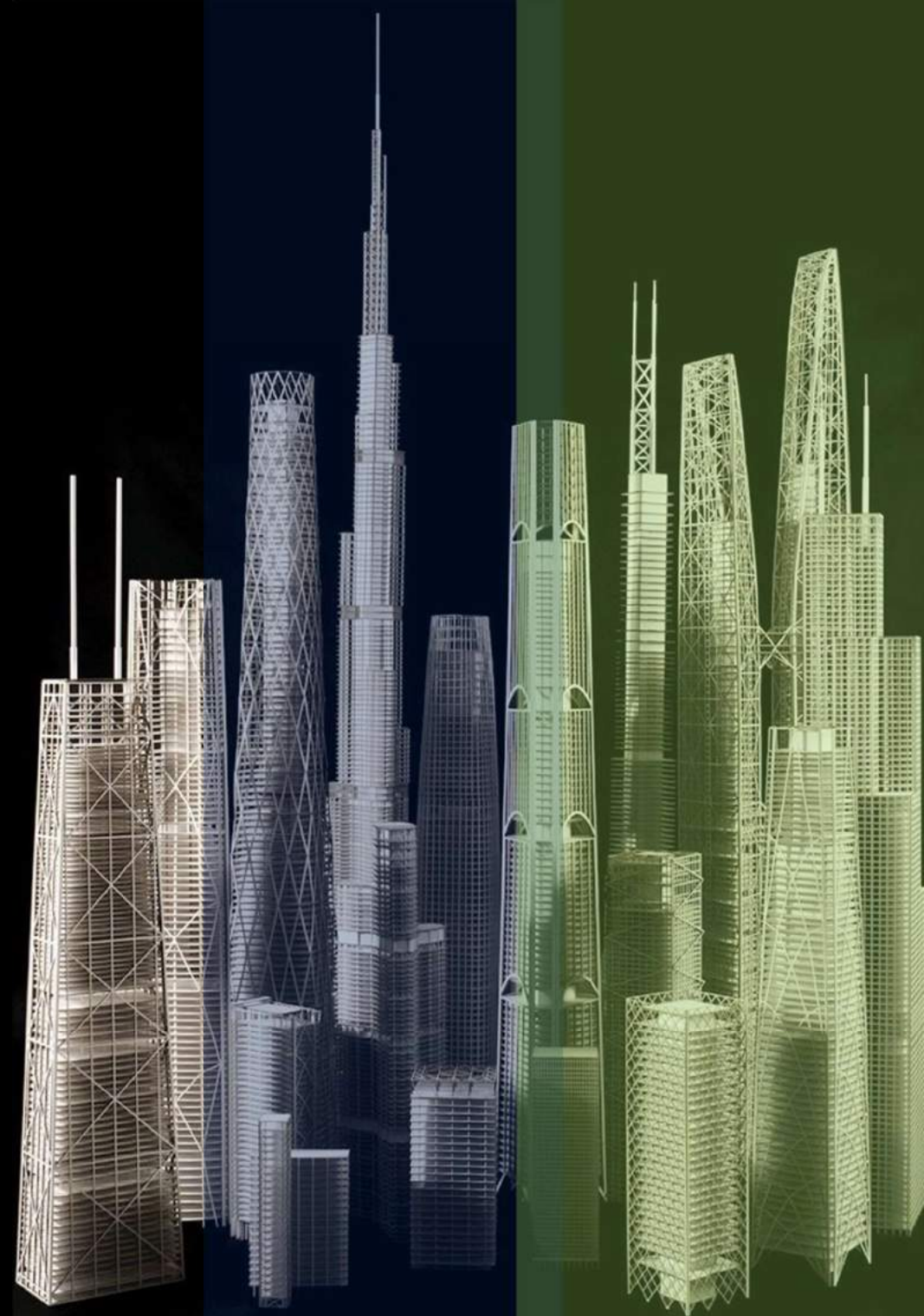
# THE BIG BUILD

## Vertical Urbanism and Green Skyscrapers

*Seminar-Workshop,  
Lecture & Round Table*

October, 24-25-26  
Madrid 2022

Organizers



A tall, slender skyscraper under construction, featuring a distinctive tiered, tapering top. Several yellow cranes are visible against the building's steel framework. The building is situated in an urban area with a bridge and a river in the foreground.

# EVENT OVERVIEW

## Organizing Committee

The Spanish Group of IABSE (*International Association for Bridge and Structural Engineering*), the Escuela de Ingenieros de Caminos, Canales y Puertos of the Technical University of Madrid (UPM), the Escuela de Arquitectura of the University of Alcalá (UAH), the Madrid World Capital of Engineering, Construction, and Architecture Association (MWCC), and the Profesional Association of Civil Engineers in Madrid organize the Seminar – Workshop, Lecture and Round Table ***The Big Build. Vertical Urbanism and Green Skyscrapers.***

The aim of this event consists of promoting a dialogue in tall building design where Architecture meets Structure and Academics meet Practice, with a special emphasis on an approach to high-rise construction to develop innovative vertical structures, achieving the minimum CO<sub>2</sub> emission.

M. Dolores G. Pulido, Rosa Cervera Sardá, Jorge Bernabéu Larena

Mohamed VI Tower, Rabat  
Rafael de la Hoz, Hakim Benjelloun – Bernabéu Ingenieros, Besix, Ney & Partners  
Picture courtesy Wijdane Jouhari

# SEMINAR – WORKSHOP PROGRAM

When?

*Seminar* will promote a dialogue in tall building design where Architecture meets Structure and Academics meet Practice. The *workshop* will give students an approach to high-rise construction with quick exercises to develop innovative vertical structures. The objective will be to achieve the most effective and interesting model with the minimum CO<sub>2</sub> emission. The work will be carried out in teams based on materials provided by the organizers.

Monday 24 & Tuesday 25 October, 2022.

*Monday 24 October 2022*

**09:00**

**PRESENTATION**

**09:15**

**IMAGINING TALL  
BUILDINGS  
THROUGH  
STRUCTURE**

**10:15**

**BUILDING GREEN:  
ENVISIONING A  
SUSTAINABLE FUTURE  
THROUGH INNOVATION**

**11:15**

**BREAK**

MARK SARKISIAN  
Partner SOM

ROSA CERVERA  
Alcala University & Cervera Arquitectos

**11:45**

**THE BIG BUILDING  
WORKSHOP. Part I: Digital  
design, model making**

**13:45**

**BREAK**

**15:00 - 17:00**

**THE BIG BUILDING  
WORKSHOP. Part I: Digital  
design, model making**

Where?

Escuela de Ingenieros de Caminos, Canales y Puertos, UPM  
Calle del Profesor Aranguren, 3, 28040 Madrid – Room Torres Quevedo



# SEMINAR – WORKSHOP PROGRAM

*Tuesday 25 October 2022*

**09:00**

**ENVIRONMENTALLY  
RESPONSIBLE TALL  
BUILDING STRUCTURES**

MARK SARKISIAN  
Partner SOM

**09:50**

**FOLLOW THE FORM**

JORGE BERNABÉU LARENA  
School for Civil Engineering UPM

**10:40**

**BREAK**

**11:10**

**CALEIDO: TOWER AND PLINT.  
DESIGNING A VERTICAL CAMPUS  
IN THE HEART OF MADRID**

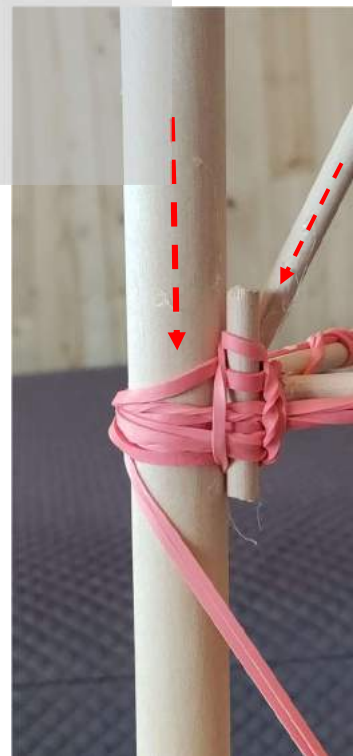
JOSÉ ANTONIO MARTÍN-CARO  
INES Consultant Engineers

**12:00 – 14:00**

**THE BIG BUILDING WORKSHOP.  
*Part II: Final presentation  
and critique***

**Where?**

Escuela de Ingenieros de Caminos, Canales y Puertos, UPM  
Calle del Profesor Aranguren, 3, 28040 Madrid  
Room Torres Quevedo





# SEMINAR – WORKSHOP SPEAKERS



## *Mark P. Sarkisian*

**PE, SE, NAE, LEED BD+C**, Partner of Seismic and Structural Engineering in the San Francisco office of Skidmore, Owings & Merrill LLP, has developed innovative engineering solutions for over 100 major building projects around the world including some of the tallest and most complex. Mark holds ten U.S. Patents and five International Patents for high-performance seismic structural mechanisms designed to protect buildings in areas of high seismicity and for seismic and environmentally responsible structural systems. He is the author of “Designing Tall Buildings – Structure as Architecture,” and teaches at UC Berkeley, California College of the Arts, Stanford University, Cal Poly, Northeastern University, NC State University, the Pratt Institute, and Alcala University in Madrid. He has a BS-CE Degree from the University of Connecticut and is a Fellow of the Academy of Distinguished Engineers, an MS-SE Degree from Lehigh University, an Honorary Doctorate Degree from Clarkson University, and an Honorary Master’s Degree from the Politecnico di Milano.

## *Rosa Cervera*

Ph D. Architect, Professor and former Dean of the School of Architecture of the University of Alcalá. Current director of the Master's Degree in Advanced Architecture and City Projects. She is the author of writings and books on architecture, among which we highlight: "Bionics, Biomimetics and Architecture" (2019); "Space and Time in Architectural Composition" (2018); Recycling Mumbai. Re-imagining the slum" (2012). "Madrid, Recycled City" (2011), "Iron in 19th century Madrid architecture" (2006). A regular speaker in professional and academic circles, she has given lectures in Spain, China, India, USA, Bolivia, Peru, El Salvador, Venezuela, Romania, Italy, etc. As an architect, Rosa Cervera has received several awards -the "Antonio Maura" award, the COAM award, the "Transfer of Knowledge" award- and has won several international architecture competitions, including the following: Embassy Complex of the People's Republic of China in Spain; Feng Cheng Administrative Center, Shanghai, China; National Water Museum in Hangzhou; Tai Da Square in Chengdu; Bridge over the Hai He in Tianjin. Rosa Cervera is a pioneer in research into Bionics, Biomimetics and the application of biological structures to innovative and efficient architecture and urban design. A direct result of these studies is the Self-Sustainable Vertical Garden City, Bionic Tower. She is a founding member and current president of Cátedra China.



# SEMINAR – WORKSHOP SPEAKERS



## ***Jorge Bernabéu Larena***

Ph.D. Civil Engineer, Associate Professor at the School for Civil Engineering of the Technical University of Madrid (UPM) in the subjects of landscape, construction history, and creative design. He is recognized with the UPM Educational Innovation Award. He works in two lines of research: design and innovation in structural engineering; public works heritage, landscape and construction history. He has 25 years of professional experience in projects of singular structures and bridges during which he has been awarded in 7 international competitions with a jury. He is partner of Bernabéu Ingenieros.



## ***José Antonio Martín-Caro***

Over his nearly 30 years of experience, José A. Martín-Caro has combined teaching and research activities with an unrivalled track record on engineering projects. Based in a global approach, he has performed his professional activity in structures, geotechnics, including monitoring, rehabilitation, repair and new construction projects. His strong research background in infrastructure maintenance and cultural heritage puts him in the best position to lead innovation in these fields and play an active role in national and international technological projects. In the building field, the projects for shopping malls, hospital, offices, sports complexes and buildings and skyscraper stand out, highlighting among the current projects, the Santiago Bernabeu stadium, the new BBVA Headquarters, the Caleido tower. In the area of civil engineering, he has designed numerous road and railway bridges as well as footbridges. He is associate professor at UPM and CEO of INES consultant.

# SEMINAR – WORKSHOP REGISTRATION

Registration for the seminar-workshop is free for all students (undergraduate, master and doctorate) belonging to the School of Civil Engineering of the Technical University of Madrid, UPM, and to the School of Architecture of the University of Alcalá, UAH.

For all other participants, the fee is 50 €.

To register, send an e-mail to the IABSE Spanish Group email ([geiabse@ceu.es](mailto:geiabse@ceu.es)) specifying the participant's given name and surnames, affiliation, and e-mail address.

The email must include a copy of the bank transfer receipt (if applicable), to be sent by October 24, 2022, indicating in the concept of the transfer the full name of the participant.

|                 |                                 |
|-----------------|---------------------------------|
| Bank:           | CaixaBank                       |
| Bank address:   | c/ Ríos Rosas, 44, 28003 Madrid |
| Account Number: | ES49 2100 3226 0213 0011 2627   |
| Swift code:     | CAIXESBBXXX                     |
| Beneficiary:    | Grupo Español de IABSE          |

Caleido, Madrid  
Fenwick Iribarren architects - INES Ingenieros  
*Picture courtesy Alfonso Quiroga*



# LECTURE

## Inventing New Architecture Through Structure

By Mark Sarkisian, Partner SOM

**When?**

Wednesday 26 October 2022

13:00 h

**Where?**

School of Architecture  
Alcala University, UAH

c/ Santa Úrsula, 8

28801 Alcalá de Henares, Madrid

**Registration**

Free admission. To register, send an e-mail to the IABSE Spanish Group ([geiabse@ceu.es](mailto:geiabse@ceu.es)) indicating the attendee's given name and surnames, affiliation, and e-mail address.





# ROUND TABLE

**Presentation**

**Moderator  
Panelists**

**When?**

**Where?**

**Registration**

## A Dialogue in Tall Building Design: Where Architecture Meets Structure and Academics Meet Practice

*M. Dolores Esteban Pérez* – Dean of Colegio ICCP in Madrid

*M. Dolores G. Pulido* – Chair of the Spanish Group of IABSE

*Mark Sarkisian* - SOM

*Rosa M. Cervera Sardá* - University of Alcalá

*Jorge Bernabéu Larena* - UPM & Bernabéu Ingenieros

*David García Núñez* - President of MWCC

*José A. Martín-Caro* - INES Consultant Engineers & UPM

Wednesday 26 October 2022, 19:00 h - 20:30 h

Colegio de Ingenieros de Caminos, Canales y Puertos,  
Room Auditorio, c/ Almagro, 42, 28010 Madrid

Free admission. To register, send an e-mail to *Madrid World Capital of Construction, Engineering & Architecture* ([redes@madridwcc.com](mailto:redes@madridwcc.com)) indicating the attendee's given name and surnames, affiliation, and e-mail address.

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