



Interview with Pedro Pacheco, Chair, IABSE Commission 4:Construction Methods and Processes

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Interview with Pedro Pacheco, Chair, IABSE Commission 4: Construction Methods and Processes



Pedro Pacheco, Chair, Commission 4

Please introduce yourself and your role in IABSE

My name is Pedro Álvares Ribeiro do Carmo Pacheco, better known as Pedro Pacheco. I am from Portugal and I joined IABSE, as a member, in 1996. Since then I have participated in a plethora of IABSE events worldwide and in 2015 I was the Chairman of the International Conference “Multi-span Large Bridges”, held in Porto and co-sponsored by IABSE. In 2017, I joined the Technical Committee (TC) of IABSE and became Chairman of Commission 4, on Construction Methods and Processes. Since then, and within the scope of Commission 4 (C4), we have been coordinating 18 active Task Groups (TGs) which cooperate with the C4 mission.

As the Chair of Commission 4, please state your goals and what you are planning to achieve in the next 3 years

Since the very beginning of C4’s foundation, all colleagues involved at Commission level and at TG level have mainly been focused on one single goal: to produce a Guideline—“Recommendations on Bridge Construction Methods”.

This Guideline will make an important contribution to the bridge engineering

community worldwide, with critical knowledge on bridge construction. Once we have achieved that goal, we are sure that several opportunities will naturally arise, including workshops, symposia, and other participatory events and documents.

We will, of course, support any spontaneous activity that may be suggested by peers within the universe of construction methods and processes, but until we conclude our main goal our active efforts will remain with it.

There is one exception, related to TG4.1, Bearings and Joints, which is particularly active, with possible sideways activities. We will strongly encourage and support TG4.1 in these activities. The TG was a former Working Group in a previous IABSE organisation.

Please tell us something about the activities which Commission 4 is trying to facilitate for the deeper understanding of and best practices in construction methods and processes for all structures

It is possible to observe a global tendency which consists, with some exceptions, in the fact that a great many of the documents written by the structural and bridge engineering community worldwide are developed by peers from academia, from design companies, from software companies and from specialist component suppliers (and, in some cases, from others). Therefore, in a first step, we made strong efforts to involve at least some peers from the construction world who, with some exceptions, are not in the continuous habit of writing papers.

Saying this, we did make a strong effort to include within C4 a wide range of skills, with complementary visions and experiences on different angles of construction. That is, we tried to involve specialised peers with experience in design for

construction and different types of bridge construction challenges, with diverse views on planning risk analysis and monitoring, thus enabling a deeper understanding of and best practices in bridge construction methods and processes.

The systematic approach is essentially based on the observation of new opportunities (methods, approaches, processes) of bridge construction, identified risks and challenges, and, when possible and adequate, frequent mistakes made during construction.

From this, we expect to generate a coherent text with simple, clear and useful recommendations for the Guideline.

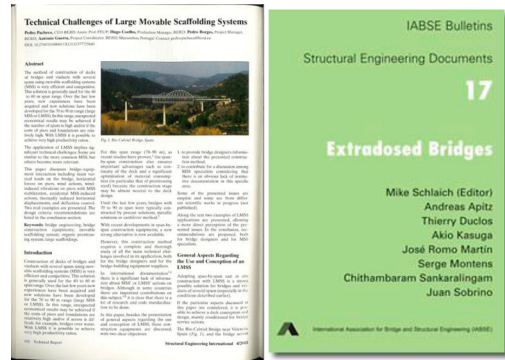
Please elaborate on Commission 4 plans to contribute with the 18 different Task Groups

Except for TG4.1, with a wider range of activity, all the remaining 17 active TGs (from a total of 18) were created with the very clear and narrow objective of developing a chapter for the above-mentioned Guideline. Indeed, the designation of each TG matches the chapter that they are to develop.

We have the ambitious target to try to summarise critical knowledge on TG4.19 (Bridge Construction Methods and Processes), TG4.15 (Essentials on Foundation Construction), TG4.3 (Essentials on Construction Methods State of Art), TG4.6 (Specific Constructive Challenges in Cable Stayed and Extradosed Bridges), TG4.16 (Suspension Bridges), TG4.18 (Arch Bridges), TG4.12 (Floating Bridges Construction), TG4.17 (Modular Bridges), TG4.13 (Construction Methods with New Materials), including TG4.2 (Applicable Standards and Actions During Construction Stage), TG4.1 (Bearings and Joints), TG4.9 (Cost Efficient Design), TG4.8 (Building Equipment Specifications), TG4.14 (Special Heavy Lifting Equipment), TG4.7



Construction of Pumarejo Bridge in Barranquilla, Colombia



Paper published by P. Pacheco in SEI; and recently published SED 17 on Extradosed Bridges



Technical Committee Meeting in Zurich, March 2018: X. Ruan, R. Vergoossen, N. P. Høj, D. Zwicky, R. Hajdin, B. Hesselink, E. Brühwiler, H. Subbarao, P. Pacheco, A. Lampropoulos (from left to right)

(Scheduling in Different Construction Methods), TG4.10 (Logistics for Bridge Construction), TG4.4 (Risk, Accidents and Incidents During Construction) and TG4.5 (Monitoring in Construction).

Any message to our members or non-members who wish to join your Commission? How can they join or contribute to any of these Task Groups?

Since I joined IABSE in 1996, I have continued to learn every year, through the different kinds of activities and documents that IABSE offers. I have also met uncountable interesting peers who have greatly increased my network. Finally, as could be expected in a prestigious worldwide association, in several IABSE communications I could and can observe a “recognised voice” with an impact in society and sometimes even in politics. And, yes, it is important that the bridge engineering community maintains active flows of communication out of the technical world.

For these reasons, I strongly recommend that colleagues who are

already members should try to increase their participation, and I would also encourage colleagues who are not yet members of IABSE to join and become active members.

What do you feel is IABSE’s role in bringing a change in the global structural engineering community? How can we do it for the betterment of the profession?

I have observed several important changes and steps in IABSE in the past few years, looking towards having a deeper role in supporting a global structural engineering community. I have seen this in the choice of the heads who manage the Association, but also in the way that the Association is now organised and the way in which it communicates.

I believe that if we all do small things, well, and with simple and clear incremental benefits, our service to society will be better. That is what I can observe in several actions and activities of IABSE. I believe that is our way for the future too.

IABSE is in its last decade to be a 100 years old. With this approach, I am sure that its mission will be followed increasingly in the future.

IABSE Commission 4:

Chair: Pedro Pacheco, Portugal

Vice Chair: Javier Muñoz-Rojas, Spain

If you are interested in joining or contributing, please contact: secretariat@iabse.org

Current Task Groups:

TG4.1 Bearings and Joints

Chair: Alp Caner, Turkey

TG4.2 Applicable Standards and Actions During Construction Stage

Chair: Javier Muñoz-Rojas, Spain

TG4.3 Essentials on Construction Methods State of Art

Chair: Renato Bastos, Portugal

TG4.4 Risk, Accidents and Incidents During Construction

Chair: Hugo Coelho, Portugal

TG4.5 Monitoring in Construction

Chair: Filipe Magalhães, Portugal

TG4.6 Specific Constructive Challenges in Cable Stayed and Extradosed Bridges

Chair: Miguel Angel Astiz, Spain

TG4.7 Scheduling in Different Construction Methods

Chair: Thierry Duclos, France

TG4.8 Building Equipment Specifications

Chair: Pedro Borges, Portugal

TG4.9 Cost Efficient Design

Chair: Carlos Bajo, Spain

TG4.10 Logistics for Bridge Construction

Chair: António Luiz Souza, Brazil

TG4.11 Accelerated Bridge Construction

Chair: Jose Benjumea Royero, Spain

TG4.12 Floating Bridges Construction

Chair: Arianna Minoretti, Norway

TG4.13 Construction Methods with New Materials

Chair: Tomasz Siwowski, Poland

TG4.14 Special Heavy Lifting Equipment

Chair: Javier Martinez, Spain

TG4.15 Essentials on Foundation Construction

Chair: Paulo Lopes Pinto, Portugal

TG4.16 Suspension Bridges

Chair: Torben Forsberg, Denmark

TG4.17 Modular Bridges

Chair: José Matos Fernandes, Portugal

TG4.18 Arch Bridges

Chair: António Adão da Fonseca, Portugal

TG4.19 Summary on Critical Recommendations on Bridge Construction Methods and Processes

Chair: Pedro Pacheco, Portugal

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Extradosed Bridges

Mike Schlaich (Editor)

Andreas Apitz

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Chithambaram Sankaralingam

Juan Sobrino



International Association for Bridge and Structural Engineering (IABSE)

While the term “Extradosed” was coined in France in the 1980s, the first extradosed bridges were all built in Japan and today more than 200 of them can be found all over the world. Commonly agreed principles or helpful design guidelines about these bridges, however, do not exist in publications.

In 2014 an international group of engineers, all of them experienced in the field of cablesupported bridges were inducted into Working Commission 3 of IABSE to address this information gap. **SED 17** is a state-of-the-art report and the collective experience of the group. All aspects that specifically refer to extradosed bridges are covered here. Typical values and, with equal weight, exceptions will be presented. The reader will find helpful information about all aspects that are relevant for designing and constructing such bridges.

The report is aimed at not just practicing bridge engineers but also teachers and researchers in the field of extradosed bridges. First the general aspects and the history of this bridge type are presented. Conceptual and Structural Design, Analysis, Cable Technology, Construction issues and Cost Considerations are presented in separate chapters.

Numerous documents on specific subjects which relate to extradosed bridges have been published world-wide. At the end of this document, all the literature known to the group on all subjects that relate to extradosed bridges are summarised. It is a collection of codes, regulations, books, dissertations and technical papers published at IABSE, fib as well as other institutions and journals.

Members: Download SED 17 (free) in the online Members Area, buy hardcover copy at the onlineshop.

www.iabse.org/onlineshop

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