

# 50 Years INTER/CIB W18

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Keyword: History

## History and background of INTER and CIB W18

2023 marks 50 years of regular meetings of INTER, the “International Network on Timber Engineering Research” and its predecessor CIB W18, the working commission 18 “Timber Structures” of CIB. This is a good opportunity to look back to the history of this group of timber engineering experts after 50 years of its existence.

In March 1973 a group of scientists from 11 countries (8 countries from Europe, and in addition delegates from Canada, Brazil, and the United States of America) came to Princes Risborough, UK to establish a working group. A special correspondence to Australia was already effective at that time.

Before, a Study Group on Timber Structures, called CIB W18, existed since 1959 under the leadership of Mr. Ezra Levin from TRADA (Timber Research and Development Association). It was a small corresponding group having no regular meetings. This group, however, supported two international conferences on timber engineering in Southampton (1961) and in London (1965). CIB W18 was founded as a working commission under CIB – “Commission International du Bâtiment” now called “International Council for Research and Innovation in Building and Construction”.

The aim of CIB W18 was and the aim of INTER still is to promote the exchange of scientific findings related to timber engineering to create a uniform basis for guidelines for the design of timber structures. The first chairman, John Sunley from TRADA, defined the scope of CIB W18 as:

“The terms of reference of CIB-W18 are to study and highlight the major differences between the relevant national design codes and standards and to suggest ways in which the future development of these codes and standards might take place in order to minimize or even to eliminate these differences.”

50 years ago, the desired harmonisation of timber design codes was based on the harmonisation of national codes. A common European or worldwide timber design code was not yet on the agenda.



*Figure 1. Participants of the 1973 meeting in Princes Risborough, UK: Standing from left to right: Karl Möhler, Germany, Bill Curry, UK, Marius Johansen, Denmark, Ezra Levin, UK, Bengt Norén, Sweden, George Stern, USA, Philip Reece, UK, H.R.W. Kyhne, UK, Odd Brynildsen Norway, John Sunley, UK, Gerry Grainger, UK, Geoffrey Booth, UK, Jan Kuipers, The Netherlands. Front row from left to right: Hans Larsen, Denmark, A.R. De Freitas, Brazil, Alan Mayo, UK, B. Hochart, France.*

Other international organisations already existed at that time, e.g., the working group S 5.02 “Timber Engineering” of IUFRO, the “International Union of Forest Research Organisations” or RILEM, the “International Union of Laboratories and Experts in Construction Materials, Systems and Structures” mainly dealing with test methods. In addition, there were Standardisation Organisations as ISO, The “International Organization for Standardization”, CEN, the “European Committee for Standardization” or ASTM International, the “American Society for Testing and Materials”.

According to John Sunley, CIB-W18 had two main roles:

- CIB W18 is an independent group of timber engineering experts which should publish its own recommendations through CIB, so that the rest of the world is

aware of their views and of recommended ways in dealing with timber in structural codes.

- CIB W18 must ensure that their recommendations are dealt with in a proper way by the appropriate organisations which wish to use them.

The delegates of CIB W18 were hence encouraged to take part in the activities of other international organisations to ensure that the recommendations of CIB-W18 were correctly used. Many active members of CIB W18 supported groups as IUFRO as a research forum or RILEM as a forum for adequate test methods for timber and timber products. A Joint committee of RILEM – 3TT and CIB W18 e.g. took care of the introduction of test methods for timber, plywood and joints with mechanical fasteners.

A very important task of W18 was the elaboration of the so-called CIB Code. This proposal of a harmonised international design code for timber structures was the basis for the draft of an ISO-Standard of ISO/TC 165 – Timber Structures and of the first version of Eurocode 5: ENV 1987. A first draft of the CIB Code was discussed in 1976 and 1977, resulting in four consecutive drafts. Then, a code drafting Sub-Committee was founded with members of CIB W18 and representatives from CEI-Bois (Confédération Européen des Industries du Bois). This group drafted the final version and considered comments from ISO/TC165 - Timber Structures.

Meanwhile, Eurocode 5 is used to design timber structures in many European countries and a new version is on its way.

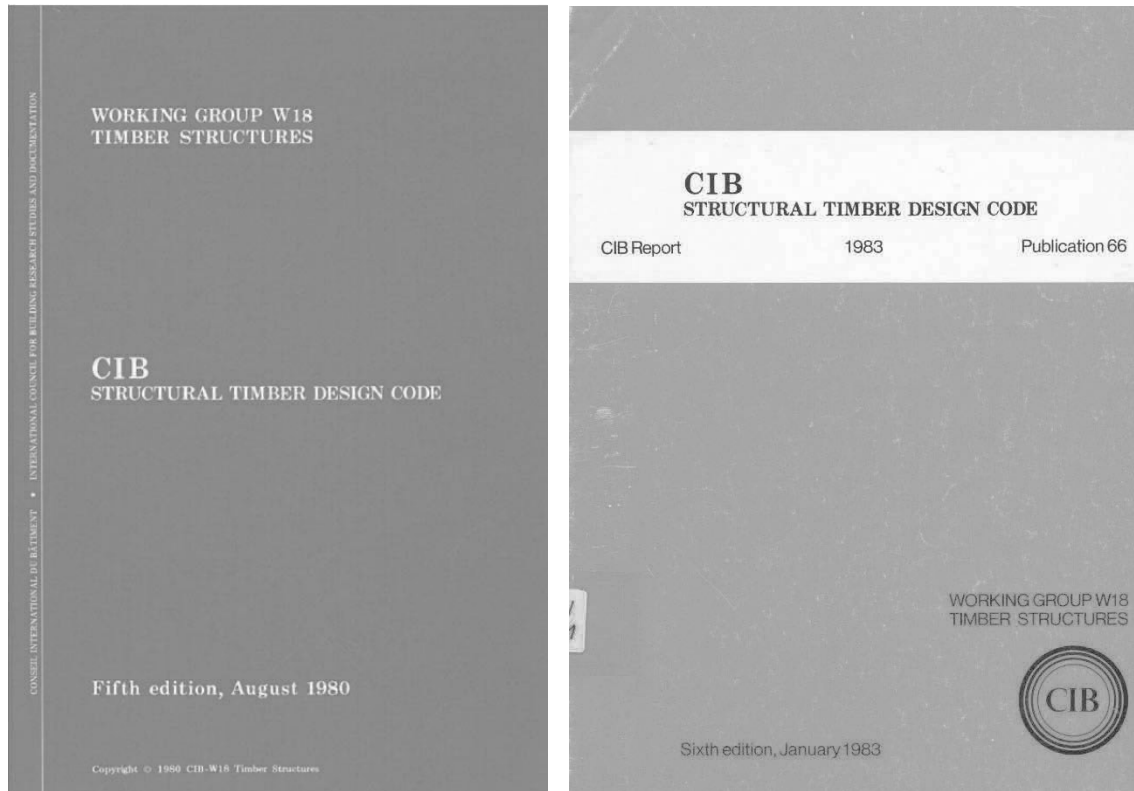


Figure 2. Fifth and sixth edition of the CIB Structural Timber Design Code.

Over the years, CIB as a professional organisation insisted more and more that all meeting participants be CIB members – either Organisational Membership (€ 9000

per year) or Associate membership (€ 2600 per year) or Individual Membership (€ 270 per year). As a result, participation would no longer have been possible for many especially younger meeting participants of CIB W18. Consequently, the members of meeting 46 in Vancouver, Canada decided in 2013 to leave CIB and establish a new group INTER. Consequently, from the 2014 meeting in Bath, the name of the group is INTER. There is no membership fee in INTER.

The scope and approach of the group has not changed: INTER encourages the presentation, discussion, and documentation of research results with the aim of the development of application rules for timber design codes or standards related to timber engineering.

This is achieved by:

- Annual meetings in different countries/places hosted by meeting participants,
- Presentation and discussion of papers,
- Peer review of the abstracts by a well-defined review process before the meeting and of the papers during the meeting,
- Acceptance of the papers for the proceedings during the meeting, and
- Publication of the papers and of the discussion in proceedings.

All decisions including the appointment of the chairperson, or the location of annual meetings are made by the participants attending a meeting. The membership is open to persons contributing to or being interested in research related to timber engineering. There is no general membership fee but a registration fee for each meeting. The amount of the registration fee is decided by the meeting host in consultation with the chairperson.

During INTER meetings, very different topics are addressed:

- 1 Limit State Design
- 2 Timber Columns
- 3 Symbols
- 4 Plywood
- 5 Stress Grading
- 6 Stresses for Solid Timber
- 7 Timber Joints and Fasteners
- 8 Load Sharing
- 9 Duration of Load
- 10 Timber Beams
- 11 Environmental Conditions
- 12 Laminated Members
- 13 Particle and Fibre Building Boards
- 14 Trussed Rafters
- 15 Structural Stability
- 16 Fire

- 17 Statistics and Data Analysis
- 18 Glued Joints
- 19 Fracture Mechanics
- 20 Serviceability
- 21 Test Methods
- 22 Robustness
- 23 CIB Timber Code
- 24 Loading Codes
- 25 Structural Design Codes
- 26 International Standards Organisation
- 27 Joint Committee on Structural Safety
- 28 CIB Programme, Policy, and Meetings
- 29 International Union of Forestry Research Organisations

The main topics discussed during the 55 meetings so far were:

- Joints and Fasteners with 338 papers
- Structural Stability with 171 papers
- Laminated Members with 141 papers.

Altogether more than 1300 papers were presented in 55 meetings of CIB-W18 and INTER. A complete list of these papers as well as the meeting proceedings are available under <https://holz.vaka.kit.edu/392.php>.

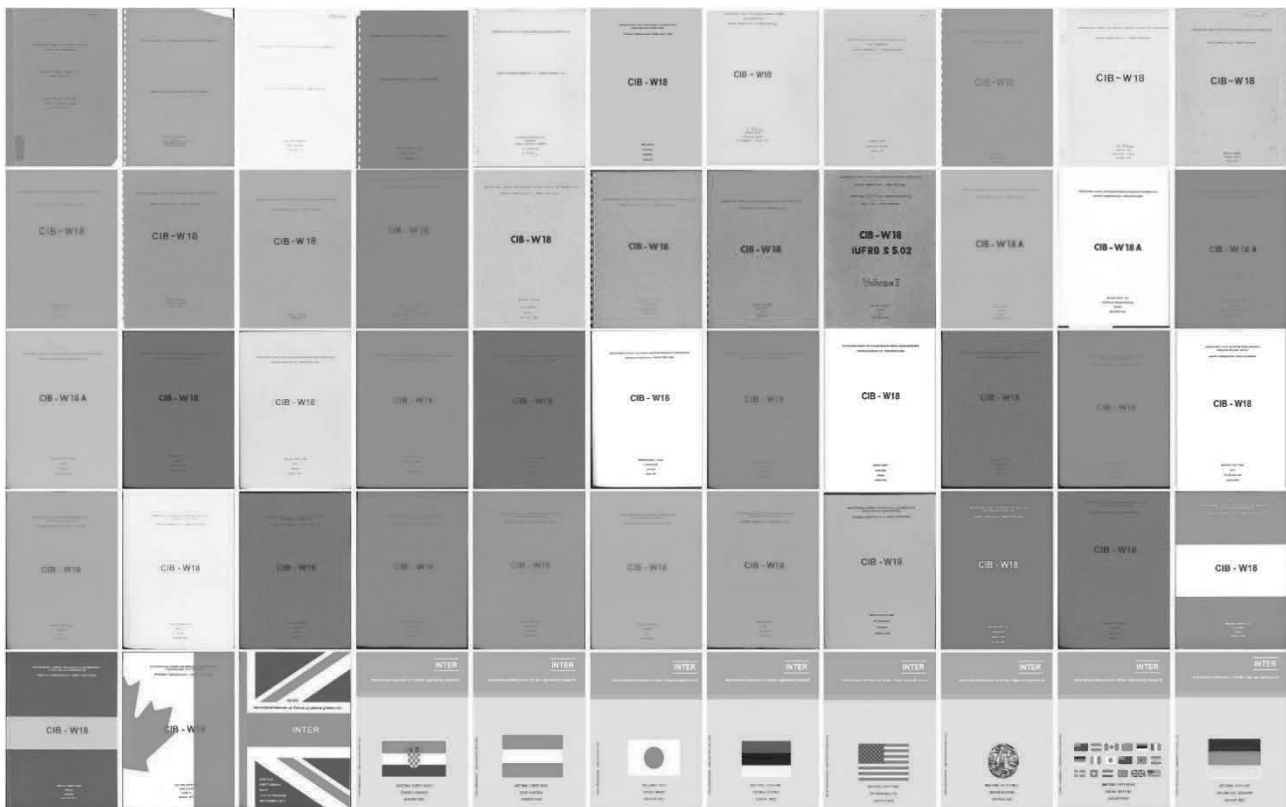


Figure 3. Front pages of CIB W18 and INTER meeting proceedings.

Over the years, delegates of this group represented many countries from all over the world, from Europe and America, from Japan and Israel, from Australia and New Zealand. The meeting places were:

- 1 Princes Risborough, England; March 1973
- 2 Copenhagen, Denmark; October 1973
- 3 Delft, Netherlands; June 1974
- 4 Paris, France; February 1975
- 5 Karlsruhe, Federal Republic of Germany; October 1975
- 6 Aalborg, Denmark; June 1976
- 7 Stockholm, Sweden; February/March 1977
- 8 Brussels, Belgium; October 1977
- 9 Perth, Scotland; June 1978
- 10 Vancouver, Canada; August 1978
- 11 Vienna, Austria; March 1979
- 12 Bordeaux, France; October 1979
- 13 Otaniemi, Finland; June 1980
- 14 Warsaw, Poland; May 1981
- 15 Karlsruhe, Federal Republic of Germany; June 1982
- 16 Lillehammer, Norway; May/June 1983
- 17 Rapperswil, Switzerland; May 1984
- 18 Beit Oren, Israel; June 1985
- 19 Florence, Italy; September 1986
- 20 Dublin, Ireland; September 1987
- 21 Parksville, Canada; September 1988
- 22 Berlin, German Democratic Republic; September 1989
- 23 Lisbon, Portugal; September 1990
- 24 Oxford, United Kingdom; September 1991
- 25 Åhus, Sweden; August 1992
- 26 Athens, USA; August 1993
- 27 Sydney, Australia; July 1994
- 28 Copenhagen, Denmark; April 1995
- 29 Bordeaux, France; August 1996
- 30 Vancouver, Canada; August 1997
- 31 Savonlinna, Finland; August 1998
- 32 Graz, Austria, August 1999
- 33 Delft, The Netherlands; August 2000
- 34 Venice, Italy; August 2001
- 35 Kyoto, Japan; September 2002
- 36 Estes Park, Colorado, USA; August 2003
- 37 Edinburgh, Scotland; August 2004
- 38 Karlsruhe, Germany; August 2005
- 39 Florence, Italy; August 2006

- 40 Bled, Slovenia; August 2007
- 41 St. Andrews, Canada; August 2008
- 42 Dübendorf, Switzerland; August 2009
- 43 Nelson, New Zealand; August 2010
- 44 Alghero, Italy; August 2011
- 45 Växjö, Sweden; August 2012
- 46 Vancouver, Canada; August 2013
- 47 Bath, United Kingdom; August 2014
- 48 Šibenik, Croatia; August 2015
- 49 Graz, Austria; August 2016
- 50 Kyoto, Japan, August 2017
- 51 Tallinn, Estonia, August 2018
- 52 Tacoma, Washington, USA, August 2019
- 53 Online Meeting, August 2020
- 54 Online Meeting, August 2021
- 55 Bad Aibling, Germany, August 2022

The number of participants per meeting increased over the years, see Figure 4. Altogether 2,700 meeting participants (many of them multiple times) contributed to the presentation of papers and their discussion.

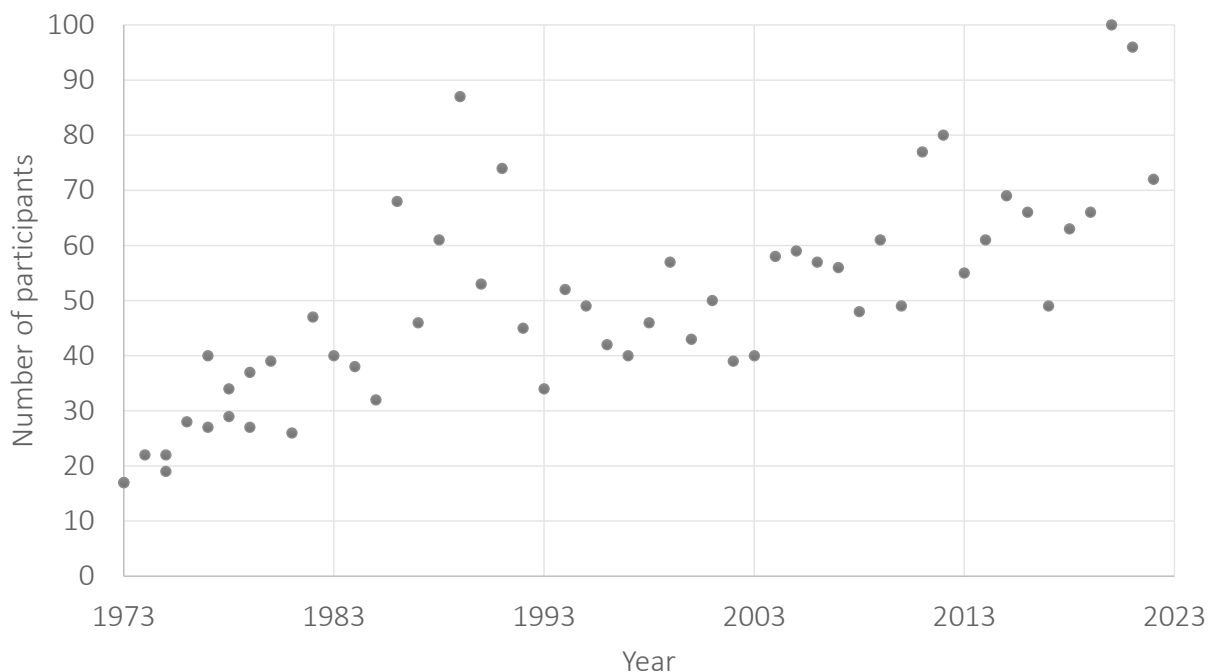


Figure 4. Number of meeting participants of CIB W18 and INTER between 1973 and 2022.

CIB W18 and INTER were chaired by the following persons:

- John Sunley      1973 – 1984      CIB-W18
- Chris Stieda      1985 – 1991      CIB-W18
- Hans Blass      1992 – 2018      CIB-W18/INTER
- Philipp Dietsch      2019 – present      INTER

Papers are always distributed before the meeting. From the beginning in 1973, the organisation of the abstracts and the papers and the production of the proceedings was administered in Karlsruhe, since more than 30 years under the responsibility of Rainer Görlacher.

Another very important task is the minutes of the meeting documenting the discussion after the presentation of the papers. Here, Frank Lam from UBC in Canada has done a marvelous job over many years.

In addition to the contribution of CIB W18 and INTER to the harmonisation and development of timber engineering codes and related standards, the activities of this group have deepened the understanding and knowledge of most meeting participants and, finally, led to many personal friendships.



## DISCUSSION

**The paper was presented by H Blass**

*A Salenikovich commented about having the website for paper storage. G Hochreiner asked about availability of CIB model code for download. H Blass said this is not available in electronic form but they could look into this. /holz.vaka.kit.edu/392.php*