

## 8th International Symposium on UHS/HPC, Tokyo



Tokyo, Japan: venue of the 8th edition of the International Symposium on Utilization of High-Strength and High Performance Concrete

The 8th edition of the International Symposium on Utilization of High-Strength and High Performance Concrete, was held at the Toshi Center Hotel in Tokyo, Japan, from Monday 27 to Wednesday 29 October 2008. The event was a clear success, with 35 countries represented, 241 full registrations, and 155 presentations given. The participants were from noticeably varied backgrounds, including consultants, researchers, and doctoral students.

During the opening session on Monday the participants were welcomed by Prof. Taketo Uomoto (president of JPCEA and chairman of the organising committee), Dr. Hans-Rudolf Ganz (president of *fib*), and Prof. Kenji Sakata (president of JCI).

Dr. Ganz commented that *fib* is honoured to be a co-sponsor of this symposium since 1987, and that HPC remains an important topic for *fib*. The joint organisation of this edition by JCI and JPCEA is much appreciated and their excellent work is to be congratulated.

During the course of the symposium a number of invited lectures were given by international experts: Prof. Shunsuke Sugano of Hiroshima University; Prof. Joost Walraven of the Technical University of Delft; Prof. John J. Myers of the Missouri University of Science and Technology; Dr. Tor A. Hammer of the SINTEF Concrete Innovation Centre; and Prof. Takum Shimomura of the Nagaoka University of Technology. Covering developments and

applications in different areas of the world, these presentations gave a broad, international perspective on the current trends and uses for HS/HP concrete.

Five keynote lectures were given by eminent Japanese experts: Prof. Minehiro Nishiyama, Kyoto University; Dr. Hiroshi Yokota, Port & Airport Research Inst.; Prof. Masahiro Ouchi, Kochi University of Technology; Prof. Yuichi Uchida, Gifu University; and Prof. Hiroshi Mutsuyoshi, Saitama University; presenting research and applications for HS/HPC in Japan.

The final keynote lecture, given by Dr. Stuart Matthews of BRE, UK (as proxy for Dr. Frank Dehn, chair of *fib* Commission 8), presented *fib* Bulletin 42, *Constitutive modelling for high strength / high performance concrete*, developed by Commission 8 and published in February of this year. This state-of-the-art report summarises the current available information on the material behaviour of HSC/HPC, and develops a set of code-type constitutive relations as an extension of CEB-FIP Model Code 1990 (for further information on this bulletin, see [www.fib-international.org/publications/fib/42](http://www.fib-international.org/publications/fib/42), or the March 2008 issue of *fib-news*).

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doi: 10.1680/stco.2008.9.4.225



From left to right: Stuart Matthews, Milan Kalný, Jun Yamazaki, György Balázs, Yoshiko Yamazaki, Katalin Kopeckó, Giuseppe Mancini, Joost Walraven, Michael Fardis, Rüdiger Tewes



From left to right: Frank Dehn, Shoji Ikeda, Jason Ingham



The banquet dinner featured a musical performance on the traditional Japanese instrument the *koto*.



From left to right: Stuart Matthews, Yoshiko Yamazaki, Jun Yamazaki, Stephen Foster

Technical sessions were held in three parallel sessions during the three days of the symposium, on topics ranging from materials, structural performance, mechanical properties, mixing & fresh concrete, fire resistance and specific HS/HPC applications.

The extensive technical exhibition comprised approximately 30 companies presenting advanced concrete technologies and recent developments. Participants had ample opportunities during the coffee breaks to visit the exhibition and to make or renew contacts.

The banquet on Tuesday evening featured a sumptuous multi-course dinner and a musical performance using the traditional stringed Japanese instrument, the *koto*. This memorable evening was enjoyed by all, and Prof. Michael Fardis, currently *fib* deputy president, took advantage of it to thank the organisers for their excellent work and hospitality.

During the closing ceremony on Wednesday, the secretary of the organizing committee Prof. Shunsuka Sugano thanked the event's sponsors, including JCI, JPCEA, and *fib*, for their strong support which contributed to the success of the symposium. Finally, Dr. Fuminori Tomosawa drew attention to the fact that the venue, the Toshi Center Hotel, is in fact a steel construction, and that the next HPC symposium will be held in another seismic region: New Zealand, and encouraged participants to meet there in 2011.

Jason Ingham, newly appointed deputy for the New Zealand national member group of *fib*, announced the next International Symposium on High Performance Concrete – Design, Verification and Utilization to be held in Christchurch, New Zealand, in August 2011. This 9th edition will again bring together engineers, designers, researchers and scientists from around the world to promote better understandings on common interests

ranging from the most recent researches to the latest applications of high-strength and high performance concrete for construction. The deadline for submission of abstracts is 1st September 2010.

The published proceedings of the Tokyo symposium can be obtained from the event's organisers; for further information, contact [8hsc-hpc@jci-web.jp](mailto:8hsc-hpc@jci-web.jp).

## Technical Council and SAG 5 meetings

The Tokyo symposium provided the opportunity for the *fib* Technical Council to meet prior to the event. In addition to the usual business of commission updates, upcoming events and budgetary approval, the Technical Council discussed the ongoing progress of the new Model Code, currently under development by Special Activity Group (SAG) 5, which itself met following the TC meeting.

The publication of the first draft of the new Model Code is currently targeted for 2010. The authors are aiming to make the models as transparent as possible, for easier understanding and proper use of the models.

The generous hospitality of JCI in hosting both meetings at their headquarters was greatly appreciated. Special thanks go to Dr. Takafumi Noguchi, Mrs. Yoshiko Aoto and Mrs. Nobuko Sato for their invaluable efforts.

# 7th *fib* International PhD Symposium, Stuttgart



**Key persons behind the 2008 PhD symposium: (from left to right) György L. Balázs (founder of the event), Anna Bösche (*fib* Secretary General), Simone Stumpp (Organizing Committee secretary), Rolf Eligehausen (SC chairman), Christoph Gehlen (OC chairman)**

The 7th edition of the *fib* International PhD Symposium in Civil Engineering took place from 11 to 13 September 2008 at the University of Stuttgart, Germany, continuing a now well-established biennial tradition which has been held so far in Budapest (1996, 1998), Vienna (2000), Munich (2002), Delft (2004) and Zurich (2006).

On Thursday 11 September the 160 participants, representing 25 countries, were warmly welcomed by the organisers Prof. Rolf Eligehausen (chairman of scientific committee) and Prof. Christoph Gehlen (chairman of the organising committee), who explained the programme for the coming days and organizational aspects. The university's rector, Prof. Wolfram Ressler, and dean, Prof. Christian Miehe, also extended their greetings to the participants, remarking on the honour of hosting a sort "PhD Olympics", in which only the best candidates participate.

Prof. György L. Balázs, who initiated the first editions of the symposium in 1996 and 1998, talked about the objectives of the symposium as to provide a forum for

PhD candidates to present and discuss their research results, support future work, opportunities to establish international contacts within the research community, and to compare PhD programs of various countries.

This year's edition was very successful, with 170 abstracts submitted and 100 papers accepted for presentation. The participants gave 20-minute presentations of their work, followed by ten minutes of discussion, in three parallel sessions organised by following themes (session chairs given in parentheses):

- Structural analysis and design (Zilch, Vogel, Mancini, Bischoff)
- Durability (Schießl)
- Fatigue (Kuhlmann)
- Hazard Behaviour (Reinhardt, Ajdukiewicz)
- Reinforcement, corrosion (Balázs)
- Prestressed concrete (Silfwerbrand)
- Non-destructive testing (Vogel)
- Strengthening (Sigrist) / Textile-reinforced concrete (Reinhardt)
- Fastening (Rao)
- Microstructures (Reinhardt, Schießl)
- Composites, Masonry, UHPC, UPC, SCC, Lightweight materials (Kuhlmann,

Brühwiler, Vitek, Hrasnica, Fontana, Novák)

The social events - an ice-breaker party on Thursday evening and dinner on Friday evening - were much appreciated for their excellent preparation and generosity. The friendly, welcoming atmosphere encouraged many exchanges and good conversation among participants of all different nationalities; the ambience was further enhanced by the local band, "sound extract", who were making their live-performance debut!

The prize winners were established by a jury comprised of members of the scientific committee. The following awards were presented by Prof. Eligehausen on the last day of the symposium:

- First prize ("Gold paper"): 1.000 € prize, plus the Ernst & Sohn best newcomer award, attributed to **Bong-Gu Kang**, RWTH Aachen, for his work on textile reinforced concrete.

- Second prize ("Silver paper"): 750 € prize, plus the Ernst & Sohn best newcomer award, attributed to **Fiammata Venuti**, Politecnico di Torino, for her work on structural design.

- Third prize ("Bronze paper"): 500 € prize, plus



**Bong-Gu Kang**



**Fiammetta Venuti**



**Edgar Bohner**



**New fib members Michael Horstmann and Sabine Rauscher**

the Ernst & Sohn best newcomer award, attributed to **Edgar Bohner**, University of Karlsruhe, for his work on reinforcement and corrosion.

A special offer was extended to all of the participants for a free one-year ordinary membership in *fib*; this initiative was very successful, with about 30 new members registered.

The symposium proceedings are available as one printed volume (250 pages) of summaries and one CD of the full proceedings. Price: 15 Euros. To order the proceedings, contact:

PhD Symposium Secretariat  
IWB Universität Stuttgart  
Pfaffenwaldring 4  
70569 Stuttgart  
Tel. +49 711 685 63320  
Fax +49 711 685 67681  
sekretariat@iwb.fib08.uni-stuttgart.de



*Hint: a web site with pictures from the event can be accessed from the proceedings CD by clicking on the dot of the "i" in "Symposium" on the main proceedings page.*

## Next edition of the PhD symposium

On the final day of the symposium, Prof. Eligehausen passed the 'burden' of organising the next PhD symposium to the next organisers. The 'burden' is symbolised by a natural stone, shown above; engraved on the back are the



**Above: the hard work of the symposium staff members, including (l to r) Silvia Choyacki, Simone Stumpp, Frank Brühl, and Manuela Brüggeboes, contributed to the success of the event.**

**Right: Mette Geiker and Henrik Stang received the 'burden' of the next PhD symposium from Prof. Eligehausen**



dates and names of the hosting institutes since 1996. The 8th edition of the *fib* International PhD Symposium in Civil Engineering will be held at the Technical University of Denmark from 20 to 23 June 2010. Abstracts will be accepted until

30 June 2009. Further information can be obtained from the symposium website: <http://conferences.dtu.dk/conferenceDisplay.py?confId=21>

## fib's new Secretary General assumes office

As of 1st October 2008, *fib*'s incoming Secretary General Dr. Anna Bösche has officially taken over the operational responsibilities of the outgoing Secretary General, Mr. Rüdiger Tewes.

Dr. Bösche joined the *fib* secretariat in April of this year. "I am very pleased to be working for *fib*, which I have found is like a family of very involved individuals sharing a common goal: to make the most out of concrete, to support its development and adaptation to new needs - and furthermore many friendships develop out of the working relationships," says Dr. Bösche.

Regarding her outlook on the future of the association, she says: "I am committed to continuing the improvement of symbiosis between research and practice. I see it as my role to connect both sides, to establish good relationships between them. I also think it is very important to introduce *fib* to the younger generation. I realised that many young engineers don't know about *fib*, they don't know about the possibilities for international networking - which these days, in the era of globalisation, is invaluable."

A native of Germany, Dr. Bösche earned her undergraduate and doctoral degrees in



### A transitional period for the *fib* secretariat: incoming and outgoing Secretary Generals Anna Bösche and Rüdiger Tewes at the May 2008 symposium in Amsterdam.

Technology, specialising in strengthening of concrete structures by textile reinforcement. She has been working in research since 1998, supervising students in the field of concrete structures and giving lectures about various topics concerning concrete. She also worked part-time for several bridge construction planning offices during the last 12 years.

Mr. Tewes, who was a Technical Director for CEB from 1982 to 1985, and Secretary General of CEB and later *fib* since 1989, continues to work for *fib* until his retirement in March 2009, thus ensuring a smooth transition.

The purpose of *fib* Bulletin 47 is to provide the principles and procedures for designing concrete structures that integrate environmental aspects. It establishes general principles concerning the integration of environmental impacts in the design, construction, use, maintenance/management, demolition, disposal and re-use after demolition of a concrete structure.

Although the operation of buildings consumes the greatest energy through heating and cooling equipment, this is not covered in Bulletin 47, nor are the environmental impacts related to land use and general ecological systems. This report is applicable to both new and existing concrete structures.

#### Contents

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  - 10 Records
- Appendix A: Laws and specifications  
 Appendix B: Environmental aspects and indicators  
 Appendix C: Tools for environmental impact evaluation  
 Appendix D: Environmental risk management

### Directory 2008



- *fib* Directory 2008, Format approx. A4 (210 x 297 mm), 120 pages
- Included in the membership fee of *fib* members

civil engineering from the Dresden University of Technology, and a Master's degree from California State University in Los Angeles.

Prior to joining *fib*, she was a Research Associate at the Institute of Concrete Construction at the Dresden University of

## New bulletins

The series of *fib* Bulletins for the subscription year 2008 continued with number 47, *Environmental design of concrete structures - general principles*, and the 2008 edition of the *fib* Directory, both dispatched to members in November. Brief descriptions are given below. Non-members and non-subscribing members may order these or any other publication via the *fib* website, [www.fib-international.org/publications](http://www.fib-international.org/publications).

Considering the current state of global environmental issues, the construction industry is expected to contribute to the realization of a sustainable society by establishing environmental design systems for concrete structures and by developing the necessary technologies.

The goal of sustainable environmental design is to reduce impacts on nature,

### Environmental design of concrete structures - general principles



- *fib* Bulletin 47, Format approx. A4 (210 x 297 mm), 48 pages, ISBN 978-2-88394-087-1
- Non-member price 60 CHF, surface mail included; for airmail add 20% extra charge

society and humans by evaluating and verifying the environmental performance of the design. Environmental performance can be evaluated using indices such as resources, waste, energy, emissions, etc. The performance requirements for the verification of environmental performance are determined based on legislative regulations or on the particular objectives of specifiers, designers or owners.

As in previous editions, the 2008 *fib* Directory provides an overview of the current state of the association, taking into account the numerous changes that have occurred since the last edition. These include the results of the elections by the General Assembly, as well as many updates to the Commission Working Programmes and membership lists.

Contrary to past editions, the printed Directory no longer provides full address details as this information is available to *fib* members on the *fib* website – with the advantage of being always up-to-date. Associate members have been given a higher profile by adding their website address (URL), where available. The large group of individual members of all kinds is presented by country, giving also their (main) affiliation, activity and exact membership status. Especially acknowledged is the support given by *fib*'s sponsoring and supporting members in general, and through advertising.

The working programmes ('green pages') have been updated to the best of the secretariat's knowledge. Unchanged is the format of the 'blue pages', providing an alphabetical list of active *fib* participants and the working bodies in which they are involved.

As usual, the information given in the Directory is continually updated and available to *fib* members on the *fib* website, [www.fib-international.org](http://www.fib-international.org).

*Bulletins can be ordered via the internet (www.fib-international.org) or by mail, email or fax. They are sent regularly to all individual subscribing and corporate members of fib as part of their annual subscription. Ordinary members receive the Directory and Journal only, however they are entitled to order one Bulletin once per year at a discount rate.*

## Short notes

The deadline for submissions for the ***fib* Diplomas to Younger Engineers** has been extended until mid-December. Interested candidates should contact the *fib* secretariat at [fib@epfl.ch](mailto:fib@epfl.ch) for further details.

**Early registration for 2009 London Symposium:** Take advantage of the *fib* London symposium's early bird registration fee by registering before 1st January 2009. Visit [www.fiblondon09.com](http://www.fiblondon09.com).

Abstracts for the **2010 *fib* Congress and Exhibition** in Washington DC (29 May - 2 June 2010) are being accepted until 15 April 2009. For more information, see [www.fib2010washington.com](http://www.fib2010washington.com).

*The fib secretariat wishes you a very happy holiday season, and all the best for 2009.*

## Congresses and symposia

The calendar lists *fib* congresses and symposia, co-sponsored events and, if space permits, events supported by *fib* or organised by one of its National Groups. It reflects the state of information available to the Secretariat at the time of printing; the information given may be subject to change.

Date and location	Event	Main organiser	Contact
10-12 February 2009 Neu-Ulm, Germany	53rd BetonTage	FBF Betondienst GmbH	info@betontage.de www.betontage.com
<b>22-24 June 2009</b> <b>London, UK</b>	<b><i>fib</i> Symposium: Concrete: 21st Century Superhero</b>	<b><i>fib</i> group UK</b>	<b>fiblondon09@emap.com</b> <b>www.fiblondon09.com</b>
2009, July 13-15 Sydney, Australia	FRPRCS-9	ICE Australia	frprcs9@iceaustralia.com www.iceaustralia.com/frprcs9
3-5 May 2010 Cavtat, Croatia	COPRA - Codes of Practice in Structural Engineering	Croatian group in IABSE and <i>fib</i>	To be announced.
<b>29 May - 1 June 2010</b> <b>Washington D.C., USA</b>	<b>Third <i>fib</i> Congress and Exhibition</b>	<b><i>fib</i> group USA PCI</b>	<b>Precast/Prestressed Concrete Institute</b> <b>info@fib2010washington.com</b> <b>www.fib2010washington.com</b>
<b>Deadline for abstracts: 15 April 2009</b>			
20-23 June 2010 Copenhagen, Denmark	8th <i>fib</i> International PhD Symposium in Civil Engineering	Technical University of Denmark - DTU Byg	Judith Selk Albsertsen, Symposium secretary fib_symposium_2010@byg.dtu.dk <a href="http://conferences.dtu.dk/conferenceDisplay.py?confId=21">http://conferences.dtu.dk/conference Display.py?confId=21</a>
<b>Deadline for abstracts: 30 June 2009</b>			
<b>May-June 2011</b> <b>Prague, Czech Republic</b>	<b><i>fib</i> Symposium: "Concrete engineering for excellence and efficiency" (tentative)</b>	<b><i>fib</i> group Czech Republic</b>	<b>fib@cbsservis.eu</b> <b>www.fibprague2011.com</b> (available soon)
7-11 August 2011 Christchurch, New Zealand	9th Symposium on High- Performance Concrete	New Zealand Concrete Society	www.hpc-2011.com/nz
<b>Deadline for abstracts: 1st September 2010</b>			

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## fib membership benefits

*fib* has 39 National Member Groups as statutory members, and about 900 individual or corporate members in about 60 countries. The objectives of *fib* are to develop at an international level the study of scientific and practical matters capable of advancing the technical, economic, aesthetic and environmental performance of concrete construction. These objectives shall be achieved by the stimulation of research, the synthesis of findings from research and practice, and the dissemination of the results by way of publications, guidance documents and the organisation of international congresses and symposia. The production of recommendations for the design and construction of concrete structures, and the information of members on the latest developments also belong to these objectives.

*Individual membership* is offered in two categories with the following benefits: *Ordinary members* receive the quarterly journal *Structural Concrete* and one technical publication ('Bulletin') of their choice per year at a discount rate. Students (persons under 30 years of age) receive the same benefits as ordinary members for the reduced fee of 90 CHF/year instead of 190 CHF/year. *Subscribing members* receive one copy of all technical publications (on average six Bulletins/year, plus the journal) and may order any quantity of publications at a discount rate (including former CEB or FIP publications). Furthermore, individual members who attend official *fib* congresses or symposia will receive reduced subscription fees for the following year.

*Corporate membership* is available in three categories with the following benefits: *Associate members* (libraries, companies, engineering offices, etc.) may nominate up to two representatives to be registered as individual members of *fib*, and, in addition to the benefits described above for subscribing members, may request two copies of all technical publications at no extra charge. In addition to this, *supporting members* are entitled to nominate up to three representatives to be registered as individual members. They are also entitled to a special mention in the Directory and receive discount rates when advertising in the journal *Structural Concrete*. In addition to this, *sponsoring members* receive special mention on the *fib* website, including a link to their homepage. They may use *fib*'s logo by stating 'Sponsoring member of *fib*' in their letterhead, and may nominate up to five representatives to be registered as individual members. They may nominate a member of a task group in one particular field or interest and may send a representative to the General Assembly.

In addition, all members receive the latest Directory free of charge and free access to the online services on the *fib* website.

### Application Form

I/my company want(s) to join *fib* as a:

- Ordinary Member (190 (90) CHF/year)  
  Subscribing Member (465 CHF/year)  
  Associate Member (870 CHF/year)  
  Supporting Member (1350 CHF/year)  
  Sponsoring Member (2700 CHF/year)

.....  
Last name

.....  
First name or initials

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Title

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Date of birth

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Company

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Address

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Phone

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Fax

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Email

I/We will pay by

Eurocard/Mastercard

Visa card

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No.

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Expiry date

- remittance, free of charge for the receiver, to: *fib*—fédération internationale du béton, 1015 Lausanne, Switzerland, account No. 710.250.00 V, at the Union Bank of Switzerland (UBS), Case Postale 2950, CH-1211 Geneva 2, Dépôt (Swiftcode UBSWCHZH12A, IBAN: CH19 0024 0240 7102 5000 V, BIC: UBSWCHZH80A)

.....  
Signature

.....  
Date

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