

SUMMARY OF TECHNICAL ACTIVITIES, 2005-06

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The technical activities of 2005-06 focused mainly into the following categories, which were realized through the activities of the IASS Working Groups, Sub-Working Groups and Chapters:

- Organizing special seminar, meeting or colloquium
- Participating in Colloquia or Conferences
- Preparation for special technical publications
- Issuing newsletters
- Creating and maintaining web sites
- Updating recommendations or state-of-the-art reports, which may be published in the IASS Journal
- Publication of special issues of the IASS journal
- Forming research groups.

Since the beginning of the IASS, there was a total of 19 Working Groups, of which 7 have accomplished their tasks and 12 are presently active. Members of the Working Groups consist of

experts around the world in the respective field, generally members of the IASS.

During the Executive Council meetings of the IASS in 2006, the following suggestions were made: (1) Recruitment of Working Group members should be made mainly, but not restricted, to members of the IASS. (2) Some adjustments will be made by WG13 and WG15 concerning their sharing of the domain of morphology. (3) Prof. M. Balz is encouraged to make a written proposal for the new working group on Spatial Towns of Tomorrow, which will be reviewed by the Executive Council.

A brief apercu of the activities of the Working Groups in 2005-06 is given in the table A below, followed by another table B showing their planned future activities. It is anticipated that the communication within and among the Working Groups, as well as within the society and beyond, will be made more efficient and vital next year after implementation of the new website, which will provide a new platform for release of information on Working Group activities, in addition to the others.

A: IASS- Working Groups Activities 2005-06

Working Groups	Chairs	Activities
WG 1 Tanks and Silos	Prof. B. V. Popovsky (Russia) Prof. M. Rotter (U.K.)	-
WG 3 Cooling Towers	Prof. U. Wittek (Germany) <u>Number of members:</u> IASS: 18 members Non IASS: 0 members	<ul style="list-style-type: none"> • Annual group meetings: Oct. 20, 2005, Apr. 25, 2006, Sep. 12, 2006 in Germany, together with experts outside the IASS. • New VGB Power Tech Guideline: In spring 2006 the new VGB Technical Guideline was published in English language.
WG 4 Masts and Towers	Dr. U. Støttrup-Andersen (Denmark) <u>Number of members:</u> IASS: 38 members Non IASS: 67 members	<ul style="list-style-type: none"> • Group meetings and small subgroup meetings • Prof. Brian Smith's book on Communication Structures is the equivalent of the State-of-the Art report on masts and towers. • A web page was established.

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Working Groups	Chairs	Activities
WG 5 Concrete Shell Roofs	Prof. J. F. Abel (USA) Prof. T. Tarnai (Hungary) <u>Number of members:</u> IASS: 24 members Non IASS: 0 members	<ul style="list-style-type: none"> Organized a session on concrete shell roofs for the IASS Symposium 2006 in Beijing. Work on the state-of-the-art report has continued but at a rather slow pace – Chapter 6 on Construction is currently under revision.
WG 6 Tension and Membrane Structures	Prof. M. Saitoh (Japan) Prof. K. Kawaguchi (Japan) <u>Number of members:</u> IASS: 20 members Non IASS: 0 members	<ul style="list-style-type: none"> Main themes of the group were pointed out in the article “Recent Special Structures in Japan” published in the special issue of the IASS Journal in 2001. Many examples of large scale structures built recently in Japan are introduced. Main subject of the WG is limited to tension (cable) structures with focus on: <ol style="list-style-type: none"> 1) Materials (cable, rod, etc.), 2) The role of strings and structural system, 3) Details and prestressing methods, and 4) Structural expression.
WG 8 Metal Spatial Structures	Prof. S. Kato (Japan) Prof. H. Nooshin (UK) Prof. V. Gioncu (Romania) <u>Number of members:</u> IASS: 34 members Non IASS: 0 members	<ul style="list-style-type: none"> Discussions for a State-of-the-Art paper on buckling of steel reticulated shells. Preparation of a paper on Buckling load of steel single-layer reticulated domes of circular plan Discussions for a State-of-the-Art paper on buckling of steel reticulated cylindrical shells (carried out under the leadership of Prof. S Yamada, Japan.) Discussions for a State-of-the-Art paper on buckling of steel reticulated shells of rectangular plan (The work is carried out under the leadership of Prof. T. Ogawa) Organization of No. 8 Sub-WG for Dynamic Aspects of Metal Spatial Structures
WG 12 Timber Spatial Structures	Prof. J. C. Chilton (UK) <u>Number of members:</u> IASS: 11 members Non IASS: 0 members	<ul style="list-style-type: none"> Work continues on the WG 12 website, which will relocate to the WG area of the IASS website when it comes on-line in early 2007. Seeking new members interested in timber grids (single layer, double layer, reciprocal frame, lamella); shells; grid shells; domes and vaults; bridges; innovative timber-based materials; engineered timber; joints; bamboo structures; historic timber structures.
WG 13 Computational Methods in Shell and Spatial Structures	Prof. A. Samartin (Spain) Prof. H. Ohmori (Japan) <u>Number of members:</u> IASS: 19 members Non IASS: 0 members	<ul style="list-style-type: none"> Hold in conjunction with Sub WG of WG13 on Computational Morphogenesis a Special session in the IASS-APCS 2006 Beijing (canceled). <p>Sub WG:</p> <ul style="list-style-type: none"> Organization of IWCM 2006 (International Workshop on Computational Morphogenesis) to be held at Nagoya, Japan, Oct. 10-12, 2006

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Working Groups	Chairs	Activities
WG 15 Structural Morphology	Prof. R. Motro (France) Prof. P. Huybers (Netherlands) Prof. A. Borgart (Netherlands) <u>Number of members:</u> IASS: 35 members Non IASS: 15 members	<ul style="list-style-type: none"> • Publication of the newsletter number 14 (normally October 2006) • Organization of “Structural morphology” session in IASS Symposium, Beijing • Sponsoring and participation to Adaptables’06 in Eindhoven (June 2006) • Organization of a workshop on Free Form Design in Delft (September 2006) – Free Form Design subgroup
WG 17 Historical Structures	Prof. G. Arun (Turkey) <u>Number of members:</u> IASS: 23 members Non IASS: 13 members	<ul style="list-style-type: none"> • The grouped had planned to learn the present situation of the first concrete shells in Mexico and US, but the contact to make collaboration with the colleagues from these countries was unsuccessful. • Preparation of an international symposium on historical heritage
WG 18 Environmentally Compatible Structures and Structural Materials (ECS)	Prof. L. Végh (Czech) Dr. P. Végh (Czech) <u>Number of members:</u> IASS: 100 members Non IASS: 6 members	<ul style="list-style-type: none"> • Continue with organizing International Seminars on ECS with two years interval
WG 19 Temporary Spatial Structures	Mr. T. Murota (Japan) <u>Number of members:</u> IASS: 6 members Non IASS: 6 members	<ul style="list-style-type: none"> • Subgroup meetings were held nine times. Principal contents of Structural Design Guide for Temporary Spatial Structures were discussed. • Participation of three new working group members.

B. IASS Working Groups: Future activities		
Working Group	Future Activities	Contact
WG 1: Tanks and Silos	-	Prof. B. V. Popovsky Prof. M. Rotter
WG 3: Cooling Towers	<ul style="list-style-type: none"> • Publication of the VGB Power Tech Guideline in journals • Collection of background information for an appendix 	Prof. U. Wittek
WG 4: Masts and Towers	<ul style="list-style-type: none"> • To hold 23rd meeting in Sep. 2007 at Montreal, Canada with 50-60 participants and normally 22-24 presentations. • The delegates come from four groups: scientists, owners of masts and towers, tower manufacturers and consultants. 	Prof. U. Støttrup-Andersen

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WG 5: Concrete Shell Roofs	<ul style="list-style-type: none"> Continue to seek opportunities to organize sessions on concrete shell roofs for IASS Symposia and Colloquia. Continue to work on Chapter 3 (Computer Analysis) & Chapter 6 (Construction) of the state-of-the-art report and submit them for review for the Journal. Revise accordingly and publish. 	Prof. J. F. Abel & T. Tarnai
WG 6: Tension and Membrane Structures	<ul style="list-style-type: none"> Some examples of structures of large and small scales will be analyzed and included as part of the state-of-the-art report 	Prof. M. Saitoh Prof. K. Kawaguchi
WG 8: Metal Spatial Structures	<ul style="list-style-type: none"> Similar to those of previous years with emphasis on preparation of the state-of-the-art reports for different aspects of metal spatial structures 	Prof. S. Kato, H. Nooshin, & V. Gioncu
WG 12: Timber Spatial Structures	<ul style="list-style-type: none"> Work on "state-of-the-art" report Session dedicated to Timber Spatial Structures at the IASS Symposium in Milano, December 2007 Possible colloquium on Timber Spatial Structures in 2008. 	Prof. J. C. Chilton
WG 13: Computational Methods in Shell and Spatial Structures	<ul style="list-style-type: none"> Participate in organization of the IASS-IACM Conference in Ithaca, New York, May 28-31, 2008. <p><u>Sub-WG:</u></p> <ul style="list-style-type: none"> Joint Colloquium with WG13 after that at Ithaca in 2008 will be planned 	Prof. A. Samartín & H. Ohmori
WG 15: Structural morphology	<ul style="list-style-type: none"> Organization of the next international seminar on structural morphology in Mexico Publication of "An anthology of Structural Morphology", World Scientific. Publication of the proceedings for the workshop on Free Form Design. 	Prof. R. Motro, P. Huybers, & A. Borgart
WG 17: Historical Structures	<ul style="list-style-type: none"> The group is discussing on working on rehabilitation of historic concrete structures. <i>International Symposium on Studies on Historical Heritage</i> will be held in Antalya, Turkey on Sep. 17-21, 2007. 	Prof. G. Arun
WG 18: Environmentally Compatible Structures and Structural Materials (ECS)	<ul style="list-style-type: none"> Completion of a text book on ECS (2007). Printing of the Proceedings of the 6th ECS Seminar (2006) 	Prof. L. Végh & Dr. P. Végh
WG 19: Temporary Spatial Structures	<ul style="list-style-type: none"> Making the first draft of the guide in a year to start final discussions 	Mr. T. Murota