



THE INTERNATIONAL ASSOCIATION FOR
SHELL & SPATIAL STRUCTURES

REPORT ON THE IASS TECHNICAL ACTIVITIES, 2016–2017

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1. INTRODUCTION

The annual report of the Technical Activities Committee (TAC) summarizes the main activities, results and news related to the IASS Working Groups (WGs).

If you are a member of the Association, you will be familiar with the IASS policy on Technical Activities, which includes the organization of Working Group sessions during IASS annual Symposia and the reporting of WG activities in the website of the Association.

Besides the organization of sessions in the annual Symposia, Working Groups carry out diverse technical activities ranging from the organization of scientific meetings to the preparation of guidelines, reports or scientific papers, as well as the edition of special issues of the Journal of the IASS. You may find more detailed information about WG membership, organization and activities in the IASS website, and in previous TAC reports available under the Technical Activities menu tag.

All IASS members have full access to the Working Group webpages. An abridged presentation of Working Group activities for non-members is available on the public part of the website. WG webpages include information about mission, objectives, activities and membership of each group, as well as links to relevant related documentation.

2. ACTIVITIES DURING 2016-2017

2.1. News related to the Working Groups

The IASS Executive Council (EC), during the September 2017 meeting in Hamburg, approved the following decisions related to Working Groups:

- **WG 8 – Metal Spatial Structures.** Prof. Shiro Kato has stepped down as WG 8 chair. The IASS President has appointed Prof. Toru Takeuchi as new chair. Prof. Su-Duo Xue remains as co-chair, together with Prof. Kato.
- **WG 17 – Historical Spatial Structures.** Prof. Görün Arun has stepped down as WG 17 chair. The IASS president has appointed Prof. Edmond Saliklis as new chair, and Dr. Romuald Tarczewski as co-chair.

The IASS President and the EC members expressed their gratitude to Prof. Kato and Prof. Arun for their commitment and achievements as past chairs of their groups, and wished the best success to the new chairs.

The EC approved the creation of a new **Working Group 21 on “Advanced Manufacturing and Materials”**. Sergio Pellegrino appointed Eng. Arno Pronk as chair and Dr. John Orr as co-chair. With this new group, the IASS recognizes the growing interest that new modelling software, fabrication techniques and smart materials arise among the members of the Association.

2.2. Summary of Working Group activities

A summary of the main activities of each of the active Working Groups is included in the following pages. Further details may be found on the corresponding WG website.

<p>WG 3 Cooling and Solar Updraft Towers Prof. Reinhard HARTE (Chair)</p> <ul style="list-style-type: none"> Organized <i>ICCT2016 International Conference on Industrial Chimneys and Cooling Towers</i> in Rotterdam, 5-8 October 2016 Has performed several research projects on the WG topics. Organizes a session at IASS 2017 Hamburg and collaborates in symposium organization. Will co-organize <i>ICCT2018 International Conference on Industrial Chimneys and Cooling Towers in Edinburgh</i>, Sept-Oct. 2018 Current membership: 19 IASS Members
<p>WG 4 Technical Expert Group on Masts and Towers Eng. Mogens G. NIELSEN (Chair), Eng. Thomas LAURSEN (Secretary)</p> <ul style="list-style-type: none"> Organized the bi-annual group meeting in Beijing in September 2017. Current membership: 45 IASS Members
<p>WG 5 Concrete Shell Roofs Prof. Sigrid ADRIAENSENS, Prof. Philippe BLOCK (Chairs)</p> <ul style="list-style-type: none"> Coordinated, contributed and edited a special issue of the Journal of the IASS on <i>New Directions for Shell Structures</i>. Organizes a session at IASS 2017 Hamburg. Current membership: 34 IASS Members
<p>WG 6 Tension and Membrane Structures Prof. Ken'ichi KAWAGUCHI (Chair), Prof. Marijke MOLLAERT, Prof. Ronald SCHAEFFER (Co- Chairs)</p> <ul style="list-style-type: none"> Organized the <i>TENSINET - COST ACTION TU1303 SYMPOSIUM 2016 at the University of Newcastle</i>, 26-29 October 2016 Chairs of the WG participated in SEWC Colloquium in Bangalore, July 2017 Designed a membrane-tensegrity structure at Kashiwa campus, Univ. of Tokyo Current membership: 28 IASS Members
<p>WG 8 Metal Spatial Structures Prof. Toru TAKEUCHI (Chair), Prof. Su-Duo XUE (Co-chair), Prof. Shiro KATO, (Co- Chair)</p> <ul style="list-style-type: none"> Organizes a session at IASS 2017 Hamburg. Continues collecting suggestions to the <i>Guide to Buckling Load Evaluation of Metal Roof Spatial Structures</i>. Continues the preparation of a <i>Guide to Earthquake Response Evaluation of Metal Roof Spatial Structures</i>. Current membership: 26 IASS members.
<p>WG 12 Timber Spatial Structures Dr. Andreas FALK (Chair), Prof. Minjuan HE (Co- Chair)</p> <ul style="list-style-type: none"> Organizes two sessions at IASS 2017 Hamburg. Plans to organize a second joint colloquium of WG12 and WG18 on <i>Bio-based and Bio-Inspired Environmentally Compatible Structures</i> in 2018. Current membership: 24 IASS members.
<p>WG 13 Computational Methods Prof. Makoto OHSAKI, Prof. Kai-Uwe BLETZINGER, Dr. Carlos LÁZARO (Co- Chairs)</p> <ul style="list-style-type: none"> Organizes two sessions at IASS 2017 Hamburg. Organizes Structural Membranes 2017, 9-11 October, Munich, and two specific sessions at this conference. Current membership: 25 IASS Members.

<p>WG 15 Structural Morphology Prof. Niels DE TEMMERMAN (Chair)</p> <ul style="list-style-type: none"> • Designed ReciPlyDome, a transformable reciprocal frame with bending-active elements. • Organized an exhibition on Structural Origami in Tokyo, Sept.-Oct. 2016 • Organizes four sessions at IASS 2017 Hamburg. • Plans to review the current study group plan, and the mission and objectives of the group. • Current membership: 71 IASS Members.
<p>WG 17 Historical Spatial Structures Prof. Edmond SALIKLIS (Chair), Dr. Romuald TARCZEWSKI (Co- Chair), Prof. Görün ARUN (Past Chair)</p> <ul style="list-style-type: none"> • The group is currently discussing its mission and objectives. • Organized the <i>4th International Conference on Structural Health Assessment of Timber Structures (SHATIS'17)</i> in Istanbul, 13-17 September 2017 • Organizes two sessions at IASS 2017 Hamburg. • Current membership: 28 IASS Members.
<p>WG 18 Environmentally Compatible Structures Dr. Petr VEGH (Chair)</p> <ul style="list-style-type: none"> • Organizes a session at IASS 2017 Hamburg. • Plans to organize a second joint colloquium of WG12 and WG18 on <i>Bio-based and Bio-Inspired Environmentally Compatible Structures</i> in 2018. • Current membership: 5 IASS Members.
<p>WG 20 Teaching of Shell and Spatial Structures Prof. Olga POPOVIC LARSEN (Chair), Eng. Alireza BEHNEJAD (Co-Chair)</p> <ul style="list-style-type: none"> • Organizes two sessions at IASS 2017 Hamburg. • Current membership: 31 IASS Members.
<p>WG 21 Advanced Manufacturing and Materials Eng. Arno PRONK (Chair), Dr. John ORR (Co-Chair)</p> <ul style="list-style-type: none"> • WG 21 has been created at the EC meeting in Hamburg. • Mission of the group is the construction of lightweight structures by cutting-edge techniques and smart materials for the built environment. • Current membership: 24 IASS Members.

3. FINAL REMARKS

IASS Working Groups are the center of the technical and scientific activities of the association. They evolve and adapt to new fields of interest and action of IASS members.

I would like to acknowledge the efforts of all Working Group chairs in coordinating the WG activities, recruiting members, preparing reports and technical documentation, and contributing the Organized Sessions at the various recent Symposia. I also stress the gratitude of the association to the Chairs who are leaving their

office. **I encourage all IASS members to participate in the groups, and all Working Groups to progress in their activities.**