



LSAA 2011 Conference and Design Awards Collaborative Design of Lightweight Structures

A two day Conference which will highlight the benefits of close collaboration between designers, fabricators, installers and clients to ensure the best outcome for a lightweight structure project.

Sydney, October 13 and 14 2011 (Thursday, Friday)

Venue - Novotel Hotel
Sydney Olympic Park

Phone: (02) 8762 1111 Web: www.novotelsydneyolympicpark.com.au

In conjunction with a Technical Workshop at the same venue on the

Design of Tensioned Shadecloth Structures

Novotel Sydney Olympic Park, Wednesday October 12 2011

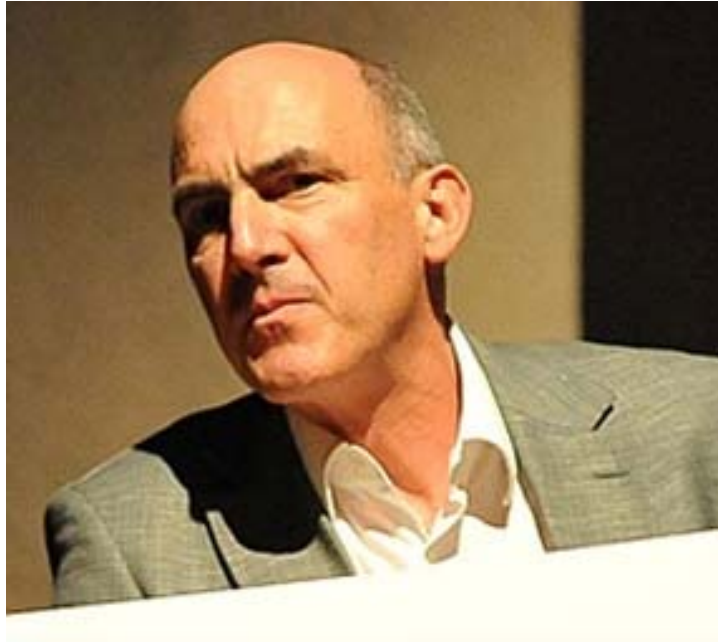
LSAA 2011 is supported by Engineers Australia with CPD Credits

Websites: www.LSAA.org



Conference Details

Our invited International Speaker is Professor Mike Schlaich.



Mike is Professor for Structural Engineering chairing the Department of Conceptual and Structural Design at Technische Universität Berlin (TU Berlin). He is also the Managing Director of Schlaich Bergermann und Partner, Consulting Structural Engineers, Germany. He studied civil engineering at the University of Stuttgart and ETH Zurich, and received PhD in civil engineering from ETH Zurich in 1989.

Mike worked in Spain as a structural engineer before joining in the firm of Schlaich Bergermann and Partner in Stuttgart which specializes in lightweight and long-span structures. He became Managing Director of the firm in 2002, which has been active in the field of renewable energies for more than 20 years. Systems for solar thermal energy production including dish-stirling concentrators, trough collectors and the solar updraft tower were successfully developed by the office.

We are also privileged to have Chris Paterson as a keynote speaker.

Chris is a Principal at the Brisbane office of Populous, with over 15 years experience as an architect. Chris has led a number of high profile sports projects in Australia and New Zealand, and has been involved in design competitions for sports and entertainment projects in China. He was the Project leader on the award-winning Suncorp Stadium completed in 2003.



The Lightweight Structures Association of Australasia (LSAA) is a not for profit Association for members with a passion for designing, fabricating, constructing and supplying materials and components for a range of lightweight structures. Projects cover tensioned membranes, cablenets, cable supported roofs, steel arches, high tech glazing wall facades and roofs. Typically they are large clear spans over public spaces and require a deep understanding of structural behaviour and form to create exciting 3D curved spaces where often the structure is the main load supporting system as well as the environmental barrier.

The unique characteristics of such applications – stadia, transport hubs, exhibition spaces, clear span environmental protection – requires an added degree of collaborative design input to be successful. It is also a feature of these structures that the design details are exposed, very variable in 3D geometry and visible which in turn demands an extra level of design input. There is normally specialized expertise needed for the erection or assembly of such delicate but graceful structures.

Iconic Lightweight Structures will only be deemed successful if there is a truly collaborative design team that includes the end client, project managers, architects, engineers (structural and for services in particular), specialized suppliers of high tech fabrics, cables, anchorages, glazing and other components.

Many solutions – particularly those involving architectural fabrics and cable supporting systems – will be prestressed and as such skilled installers are needed and their input is critical early in the design process.

More and more, these team members will need to communicate and build up a 3D virtual structure from which all members can both visualize the details, determine stresses and erection sequencing as well as provide costings and assurances that there are no clashes when constructed. This requires the different software systems to adhere to interoperability standards to reduce errors. The current Building Information Model software concepts and various related standards for information storage are seen to be central to the efficient working of the design team and the final realization of the project. This virtual model should be capable of simulating erection and be available for ongoing asset management of the facility.

CONFERENCE PROGRAM – DAY 1, Thursday October 13 2011

| | | Thursday – 13 th October 2011 |
|-------|-------|--|
| 8.30 | 9.00 | Registrations |
| | | S1 Conference Welcome, Opening, Keynote |
| 9.00 | 10.00 | Keynote Address Mike Schlaich (SBP) |
| 10.00 | 10.30 | Morning Tea / Networking |
| | | S2 Collaborative Design |
| 10.30 | 10.50 | Building Physics (Haico Schepers – Arups) |
| 10.55 | 11.15 | Lighting (Paul Beale – Electrolight) |
| 11.20 | 11.40 | Acoustics (Alastair Bavage -Marshall Day) |
| 11.45 | 12.05 | Wind Engineering (GS Wood CPP) |
| 12.05 | 13.00 | Lunch / Networking |
| | | S3 Collaborative Design |
| 13.00 | 13.20 | Digital architecture (Paul Minifie/Jan van Schaik) |
| 13.25 | 13.45 | Tensile engineering (P Lim Tensys) |
| 13.50 | 14.10 | Collaboration in transparent enclosures (D Murphy Aurecon) |
| 14.15 | 14.35 | Adelaide Oval Western Grandstand Redevelopment (G Rowlands Aurecon) |
| 14.40 | 15.00 | Pfeifer – Johannesburg Stadium |
| | | Afternoon Tea / Registration |
| | | S4 Public Lectures: Lightweight Structures |
| 16.15 | 16.30 | LSAA Introduction |
| 16.30 | 17.30 | Public Lecture: Mike Schlaich – Leicht Weit |
| | | Pre Dinner Drinks & Design Awards |

DRAFT CONFERENCE PROGRAM – DAY 2, Friday October 14 2011

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| | | S5 Keynote |
| 9.00 | 10.00 | Keynote Address – Chris Paterson (Populous) |
| 10.00 | 10.30 | Morning Tea / Networking |
| | | S6 New Projects/ Material |
| 10.30 | 10.50 | Taronga Zoo Chimpanzee Enclosure Cable net grid application in aviaries – Ronstan |
| 10.55 | 11.15 | TiO2 developments – Mike Lester (Birdair) or Talisman Centre Project – Tensotherm – Birdair |
| 11.20 | 11.40 | Glen Eira Aquatic Centre tensile canopy – a case study of insulated tension structure (Oasis) |
| 11.45 | 12.05 | Interior architecture & textile facades (Fournier Ferrari) |
| 12.05 | 13.00 | Lunch / Networking |
| | | S7 Technology & Tools |
| 13.00 | 13.20 | BIM as a means of adding value to construction projects – J Mitchell/J MacDonald UTS) |
| 13.25 | 13.45 | BIM, Rhino And Grasshopper – J Mirtschin |
| 13.50 | 14.10 | Production drawing modelling perspective – P Cocciardi |
| 14.15 | 14.35 | BIM – where to next? J Mitchell |
| 14.40 | 15.00 | |
| 15.00 | 15.30 | Afternoon Tea / Networking |
| | | S8 LSAA Member Project Reports |
| 15.30 | 16.15 | LSAA Member Project Reports |
| 16.15 | 17.00 | Panel: Industry Issues; Closure |