



Sociedad Española de
Historia de la
Construcción

Instituto
Juan de Herrera
Escuela Técnica Superior
de Arquitectura de Madrid

historical perspectives on structural analysis

Simposio en
homenaje a Jacques Heyman

Madrid,

2 y 3 de diciembre de 2005

Friday, 2 December 2005

- 10,00 OPENING
10,15 *Presentation of the Conference*
Ricardo Aroca Hernández-Ros (Decano del Colegio Oficial de Arquitectos de Madrid)
10,30 Inaugural Lecture: *The history of the theory of structures*
Jacques Heyman (University of Cambridge)
11,00 Coffee break

11,30–13,30 SESSION 1

- *Preliminary structural analysis of a Guastavino spiral staircase shell*
Christopher R. Calladine (University of Cambridge)
- *Grace and law: The spatial framework from Föppl to Mengerhausen*
Karl-Eugen Kurrer (Chefredakteur Stahlbau)
- *Practice before theory: The use of the Lower Bound Theorem in structural design from 1850 to 1950*
John A. Ochsendorf (Massachusetts Institute of Technology)
- *Non-smooth formulation for the ancient strongly non-linear problem of block dynamics*
Anna Sinopoli (Università degli Studi di Roma "La Sapienza")
Alessio Ageno (Università degli Studi di Roma "La Sapienza")

13,30 Lunch

15,00–17,00 SESSION 2

- *Vaults in the air: The Signor Fabritio's English Theory*
Antonio Becchi (Università di Genova. Max-Planck-Institut. Berlin)
- *On the safety of the masonry arch. Different formulations from the History of Structural Mechanics*
Federico Focè (Università di Genova)
- *Thomas Young's theory of the arch: His analysis of Telford's design for an arch of 600 feet span*
Santiago Huerta (Universidad Politécnica de Madrid)
- *Boscovich's contribution to the theory of domes: the expertise for the Tiburio in Milan Cathedral*
Gema López Manzanares (Universidad de Alcalá de Henares)

17,00 Coffee break

17,30–19,30 SESSION 3

- *A history of using models to inform the design and construction of structures*
Bill Addis (Buro Happold Consulting Engineers)
- *The mechanical sciences in Antiquity*
Massimo Corradi (Università di Genova)
- *Theory, industry, and practice: Carnegie's Pocket Companion and the development of skyscraper construction in Chicago*
Tom F. Peters (Lehigh University)
- *Gustaaf Magnel (1889–1955), a scientific biography*
Patricia Radelet-Grave (Université Catholique de Louvain)

Saturday, 3 December 2005

9,30–11,30 SESSION 4

- *Analysis of continuous prestressed concrete beams*
Christopher J. Burgoyne (University of Cambridge)
- *Nondeterministic structural analyses: Insights on static behavior of hyperstatic structures*
Dario Gasparini (Case Western Reserve University)
Stephen G. Buonopane (Bucknell University)
- *New lamps for old. Should computers provide engineers with answers or help us think?*
Bill Harvey (Consultant Engineer. OBVIS Ltd. Bill Harvey Associates Ltd.)
- *Towards equilibrium in Finite Element Analysis*
Edward A. W. Maunder (University of Exeter)
- *Analysis of flat concrete slabs on columns*
Christopher T. Morley (University of Cambridge)

11,30 Coffee break

12,00 Delivery of the *Edoardo Benvenuto Prize* (Fourth Edition: year 2005)

13,00 CLOSING