4th European Workshop on Inflatable Space Structures - 4EWISS

FINAL PROGRAMME

Day 1 - 16 June 2008

	ESA Presentations
14.00-14.30	ESA Inflatable Structures *Langlois, S.*
14:30-15:00	ESA Human Spaceflight *Hovland, S.*
15:00-15:30	Break
15:30-16:00	ESA Power Generation *Hodgetts, P.*
16:00-16:30	ESA Earth Observation *Aguirre, M.*

Day 2 - 17 June 2008

Session 1	**Balloons, Airbags** Chairmen: J.-M. Charbonnier (CNES), B. Laine (ESA)
09.15-09.45	Abstract Nonlinear Viscoelastic and Viscoplastic Behavior of Multi-Layer Polymeric Films Used in Super-Pressure Balloon Envelopes *M. Hirsekorn* *Centre National d'Etudes Spatiales (CNES)*
09.45-10.15	Abstract Inflation Test under Simulated Space Conditions of the 4 M Diameter Miriam Balloon *K. Bayler* *IAB GmbH*
10.15-10.45	Abstract ESA ExoMars Vented Airbag Control Logic *D. Ciambottini* *Aero Sekur S.p.A*
10.45-11.15	Abstract Breadboard Testing of the ESA ExoMars Airbag Landing Systems *N. Bown* *Vorticity Ltd.*
11.15-11.30	Break
Session 2	**Analysis 1** Chairman: L. Marraffa (ESA)
11.30-12.00	Abstract Direct Numerical Simulation and Modelling Techniques for Membrane Wrinkling F. Cirak University of Cambridge
12.00-12.30	Abstract Benefits and Limitations of Analysis in the Design of Pressure Restraint Structures for Inflatable Space Habitats *A. Lennon* *ABL Engineering Ltd*
12.30-13.00	Abstract Analysis of Thermally Induced Disturbances of a Gossamer Composite Boom *Ch. Sickinger* *German Aerospace Center*
13.00-14.30	Lunch
Session 3	**Analysis 2** Chairman: Ch. Sickinger (DLR)

14.30-15.00	Abstract Nonlinear Bending of Straight or Intially Curved Pressurised Thin-walled Sections *R. van Steen* *Delft University of Technology*
15.00-15.30	Abstract Optimal Dimensioning of Inflatable Antennas *R. Bouzidi* *Nantes University*
15.30-16.00	Abstract Geometrical Mechanics for Inflatable Structures *A. Lennon* *ABL Engineering Ltd*
16.00-16.15	Break
Session 4	**Habitat Modules 1** Chairmen: G. Guarrera (ASI), S. Hovland (ESA)
16.15-16.45	Abstract Unpressurized Orbital Hangars in Geolunar Space *M. Bernasconi* *MCB Consultants*
16.45-17.15	Abstract Lunar Inflatable Habitation System *G. Musso* *Thales Alenia Space*
17.15-17.45	Abstract Composite material for direct polymerization on Moon *A. Kondyurin* *University of Sydney*
17.15-17.45	Abstract Composite material for direct polymerization on Moon *A. Kondyurin* *University of Sydney*
18.00-19.00	**Welcome Cocktail**

Day 3 - 18 June 2008

Session 5	**Satellites Appendages and Aerobraking** Chairmen: Ch. Dupuy (CNES), P. Coste (ESA)
08.45-09.15	Abstract Lightweight Aerobrakes for Debris Mitigation *M. Bernasconi* *MCB Consultants*
09.15-09.45	Abstract Development of an Inflatable De-Orbit Device for Pico-Satellites and Application Scenarios *E. van Breukelen* *ISIS - Innovative Solutions In Space BV*
09.45-10.15	Abstract Polymerization of Composite Materials in Free Space Environment *B. Defoort* *Astrium Space Transportation*
10.15-10.45	Abstract Inflatable Capture Mechanism *P. Pellegrino* *Thales Alenia Space Italia*
10.45-11.15	Abstract SPLESA: Small Planetary-Surface Lightweight Solar Arrays *M. Bernasconi* *MCB Consultants*
11.15-11.30	Break
Session 6	**Habitat Modules 2** Chairman: S. Langlois (ESA)

11.30-12.00	Abstract Design & Manufacturing of a Subscale Inflatable Module (IMOD) for Manned Space Applications *M. Nebiolo* *Thales Alenia Space – Italia*
12.00-12.30	Abstract Inflation and Packaging Simulation of a Subscale Inflatable Module (IMOD) for Manned Space Applications *M. Nebiolo* *Thales Alenia Space – Italia*
12.30-13.00	Abstract Inflation and Packaging Simulation of IMOD with the Implicit Non Linear Code SAMCEF *C. Cruccas* *Samtech Italia*
13.00-14.00	Lunch
14.00-16.00	Round-table
	Posters
	Abstract Materials for Inflatable Aerobrake Deorbiting System *J.-M. Siguier* *ONERA* Abstract Nitrogen Pressurization Subsystem for an Inflatable Structure *P. Bravais* *Air Liquide* Abstract Gossamers, CRES et al: Where Are We Going? *M.C. Bernasconi* *MCB Consultants* Abstract High-Temperature-Capable Rigidizable Matrix Materials *M.C. Bernasconi* *MCB Consultants* Abstract Production and Properties of Shape Memory Polymer X-ray Lenses *G.A. Pavlov* *Institute of Problems of Chemical Physics* Abstract Asymptotically Accurate Non-linear Analysis of Inflatable Structures *Ramesh Gupta, B.* *Indian Institute of Science*