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Guest Editorial

CompTest2008

The fourth international conference on “Composites Testing and Model Identification” was held in Dayton, Ohio (USA) from 20 to 22nd October 2008. The venue was the National Composite Center (<http://www.compositecenter.org/>) in Kettering, a suburb of Dayton. The three day meeting attracted about 80 attendees representing 17 countries worldwide. The proceedings, list of attendees and some photographs can be found at <http://academic.udayton.edu/StevenDonaldson/comptest2008.html>. The previous editions were held in Châlons-en-Champagne (France) in January 2003, in Bristol (UK) in September 2004 and in Porto (Portugal) in April 2006.

As for the other editions, the objectives of the conference were twofold.

It was intended firstly not only to be a forum for the scientific community working on testing of composite materials and structures, but also to *promote interaction between modelling and experimentation* in so far as very often, testing is performed to measure the parameters of a model, hence the “model identification” term in the title of the conference. Therefore, CompTest aimed at covering the full range of testing activities including the parts where models are identified and/or validated.

The second essential motivation that triggered CompTest was that very powerful experimental tools are now beginning to be available, such as optical full-field measurements, optical fibres, infrared cameras, 3D tomography etc., with the common feature that they provide very extensive experimental data. As a consequence, the idea was to put forward *new and innovative experimental procedures* taking full advantage of such techniques to improve testing methodologies.

The conference technical programme included 48 oral presentations organized into 12 sessions of 4 papers, and 20 poster presentations spread over 4 specific sessions. In addition, three invited lectures aimed at giving the flavour of the conference. As is now customary for the CompTest conference series, one of the invited lectures was given by an industry-based researcher. Dr. Gerald Mabson from The Boeing Company (USA) gave the invited lecture entitled “*Fracture analysis for bondlines and interfaces of composite structures*”.

The second invited lecture entitled “*Experimental methodology and FEA for damage studies in textile composites*” was given by Professor Stepan Lomov, from the Katholieke Universiteit Leuven, Belgium. Finally, Professor Adrian Mouritz from the Royal Melbourne Institute of Technology, Australia, presented a lecture entitled “*New fire models & test methods for polymer matrix composites*”.

The range of applications of composites testing proved very wide, with sessions on “fracture”, “damage models”, “inverse identification”, “textile composites”, “fatigue and durability”, “scaling

effects and joints”, “structures”, “full-field techniques” and “testing”, as well as very lively poster sessions.

According to a large number of participants, CompTest2008 was a success. Very good technical discussions took place in the sessions but also during the breaks and around the posters. The social programme was also very good with a visit of the National Composite Center, a reception at the Engineers Club of Dayton and a superb visit of the National Museum of the US Air Force (<http://www.nationalmuseum.af.mil/>) where the conference dinner was held.

We would like to take the opportunity here to thank all the people who made CompTest2008 possible, and in particular the three organizers Dr. Steven Donaldson (University of Dayton), Dr. David Mollenhauer and Ms. Barbara Hager (US Air Force Research Laboratory) who made a great job of it. We would also like to acknowledge the help of the scientific committee who dedicated their time and efforts to review the abstracts and promote the event.

The selection of the papers that appear in this special issue has been performed according to the reviews of the extended abstracts and the presentation. The authors concerned have then been asked if they would like to submit a full-length paper and this procedure led to the acceptance of 16 papers after the normal review process with two reviewers. The papers cover the whole range of themes that appeared at the conference and give a very good flavour of the spirit of CompTest2008. CompTest will be back to Europe with the next edition (CompTest2011) that will be held at Ecole Polytechnique Fédérale de Lausanne (EPFL, Switzerland), 14–16 February 2011.

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