



Dear colleagues and colleagues to be,

As President of our Association, I would like to begin this second up-date with information about the activities of the Governing Board (GB) in the last semester of 2005. I wish all members of DYMAT a Merry Christmas and a Happy Year. I would wish too, that 2006 will be a year full of profitable activities for DYMAT.

During the period between the last newsletter and this one, the 16th DYMAT Technical Meeting was held in Brussels and the Governing Board of DYMAT assisted in promotion of the activities of the sub-groups that have been created. During the Technical Meeting, as is usual, there was an annual General Assembly of the Association. These activities will be detailed below.

Best Regards,

José Cirne

16th DYMAT TECHNICAL MEETING

The 16th DYMAT Technical Meeting occurred between the 27th and the 28th of October in Brussels and was organized by the Royal Military Academy of Belgium (Departments of Weapons Systems and Ballistics, Chemistry and Construction). The goal was to present and discuss subjects related to the *dynamic material behaviour related to security applications: material and structural response to blast*. There were about 40 participants from 7 countries present at the meeting.

Eleven communications were presented and discussed. The meeting was a great success which was due to the local organizing committee supervised by our colleague Gunther Dyckmans.

8th INTERNATIONAL CONFERENCE DYMAT

As is widely known, the 8th International Conference on Mechanical and Physical Behaviour of Materials under Dynamic Loading will be held between the 11th and the 15th of September 2006 in Dijon close to CEA-Valduc. The Chairman of the Conference, Richard Dorneval, has received 222 abstracts, from 24 countries, of which the Selection Committee decided to consider 83 as oral communications, 133 as posters with 6 being rejected. The final papers must be received by the 1st of March 2006 for submission to the referees. All the information about this Conference can be obtained from: <http://www-dymat2006.cea.fr>.

SUB-GROUPS

There are two sub-groups at the moment developing their activities: the **Light-Weight Armour Group (LWAG)** and the **Group of Transport Security (CRASH)**. But DYMAT is keen to see others. Each of these two groups has organized their own workshops in the last few months. These workshops, 1-2 days long, are, in my opinion, accepted enthusiastically by industrial researchers who cannot normally attend long conferences. Such workshops are also a way of attracting new members to DYMAT. We think too that it can be important to organize these events in countries where DYMAT is not well-known. For this reason it is valuable if DYMAT members can suggest Institutions where these events can occur or senior researchers are able to organize them.

The first of the 2 workshops was organized by Philippe Viot in Bordeaux France, last June on behalf of the Crash Group. The event had 50 participants and 9 invited communications in the field of Transport Security (CRASH). The crash studies involved collaboration between researchers in both dynamic materials and structural behaviour. The first workshop brought together academics in structural mechanics, human research, and industry. A meeting will be held in a few weeks time to discuss future workshops.

The second workshop was organized by Filipe Teixeira-Dias in Aveiro, Portugal, on the behalf of the LWAG. The theme of the event was *Design and Use of Light-Weight Materials* and about 45 people participated. The next workshop is planned to be held in Bordeaux on the 8th of September 2006.

LWAG has at the moment about 50 members and the election for its Governing Board was held recently. Erhardt Lach was elected as president and Stephen Walley as secretary. Please remember that LWAG has a website (www.lightarmour.com). An electronic journal is planned to start in the next few months. If you are interested to collaborate, please send papers for inclusion to Bradley Dodd (brad@dymat.org) or Stephen Walley (smw14@phy.cam.ac.uk).

THESIS AWARD

To finish this newsletter, I must remind everyone that the DYMAT Association will confer prizes for original and good thesis work in the field of mechanical behaviour of materials at high rates of strain. As is usual, at the 8th International Conference organized in Dijon, the Governing Board will bestow a prize for the best Ph.D. thesis completed between June 2003 and May 2006. The theses can come from any country and, to be considered, the candidate must



send, by the end of February 2006, an extended abstract (3-4 pages maximum) in English only by email to the official DYMAT address. After an initial selection process, the Governing Board may ask the short listed candidates for supplementary information (e.g. a complete copy of their thesis). The award itself consists of free attendance at the conference together with a prize of 1000 Euros. The successful candidate will give a presentation based on the thesis to the delegates at the International Conference. The conditions to compete are on the DYMAT website.

17th DYMAT TECHNICAL MEETING

Stephen Walley has offered to arrange the Technical Meeting in 2007 at Cambridge. Because this city is a popular conference and tourist venue, it is necessary to make reservations immediately. Also the Cavendish Laboratory can only host conferences in either the first two weeks of July or the first two weeks of September. Stephen Walley will discuss with the staff of the laboratory and make a provisional booking. More information about this event will be sent as soon as possible.

MISCELLANEOUS

Please find below information collected by the members of the Governing Board (mainly by Stephen Walley) that can be useful for the members of DYMAT.

Books

W.M. Isbell "*Shock Waves: Measuring the Dynamic Response of Materials*", Imperial College Press, 2005, ISBN 1 86094 471 X

Theses

N. R. Peixinho "*Study of Visco-Plasticity Models for the Provision of Mechanical Behaviour of High Strength Steels Subjected to Impact*", Minho University, Portugal 2004, www.dem.uminho.pt/Portugues/Teses/Peixinho_PhD.pdf

C.R. Siviour, "*High strain rate properties of materials using Hopkinson bar techniques*", Cambridge University, 2005

T. Phillipson, "*Temporal and spatial studies of embedded triboluminescent crystals*", Cambridge University, 2005

- P. Chwalik, "*Themomechanical behaviour of TA6V under quasi-static shearing and impact adiabatic shearing; numerical analysis*", University of Metz (France), October 2005

M. Lambert, "*Experimental study of the mechanical sensitivity of aluminium alloys subjected to*

cumulative fatigue and shock loadings", University of Bordeaux (France), November 2005

S. Amélio, "*Evolution microstructurale d'un alliage à base TiAl. Sollicitation mécanique par compression dynamique et stabilité thermique*", Institut National Polytechnique de Lorraine, Nancy (France), Octobre 2005)

New Journal

Central European Journal of Energetic Materials (founded 2004).

www.ipo.waw.pl/pl/cejem-glowna.html

Conferences and Seminars

12th Int. Symp. on Plasticity, July 17-22, 2006, Halifax, Nova Scotia

2nd International Conference on High Speed Forming (ICHSF06) to be held March 20 – 21, 2006 in Dortmund, Germany.

web-site (<http://www.ichsf.iul.uni-dortmund.de>).

MINUTES OF THE DYMAT ASSOCIATION GENERAL ASSEMBLY HELD AT THE ROYAL MILITARY ACADEMY, BRUSSELS, OCTOBER 27, 2005

1. President's report

José Cirne first expressed thanks to Gunther Dyckmans and his colleagues at the RMA for organizing the technical meeting so expertly.

He went on to say that one year ago the Governing Board discussed sub-groups to work in specific areas. Some are working very well. They have held a number of workshops. One idea for improving this would be to hold workshops in new countries in order to make new contacts.

Industrial researchers cannot usually attend conferences that are 3-4 days long. But workshops that are 1-2 days long are OK for them. LWAG has held 4 such workshops.

Bradley Dodd then gave a brief history of LWAG. He said that 6 years ago, FEMS approached him to create a possible group concerning armour. He was helped by Prof. Degischer of the TUV, Austria. Some initial meetings were held. Annual workshops were then started. The next one is planned to be held in Bordeaux on the 8th of Dec. 2006. He is trying to keep the costs to around 50€ per delegate. Such workshops are also a way of attracting new members to DYMAT. LWAG has a website. An electronic journal is planned to start in the next few months. Please send papers for inclusion to Bradley Dodd or Stephen Walley. Elections were held recently for various officers: Erhardt Lach was elected president and Stephen Walley as secretary. LWAG is driven by its members (numbering 50-60).

José Cirne commented that it is important to have forums where doctoral students can meet senior researchers. One other sub-group is Transport Security (CRASH) which recently met in Bordeaux. This is headed by Philippe Viot.

Philippe Viot said that crash studies involve collaboration between researchers in both dynamic material and structural behaviour. Comparatively little is known of the dynamic



mechanical behaviour of the human body and its components. The first workshop brought together academics in structural mechanics, human research, and industry. A meeting will be held in a few weeks time to discuss future workshops.

Bradley Dodd said he hopes to finish in one year's time the subgroup on Dynamic Failure Modes by publishing a review report for consideration by the GB of DYMAT.

José Cirne then asked Richard Dormeval to speak about DYMAT 2006 in Dijon. Richard Dormeval said he hoped everyone present knew it would take place between the 11-16 September 2006. 222 abstracts had been received from 23 countries. Half of these had come from Europe, the rest from the USA, Japan, etc. His impression was that the quality was high.

José Cirne then reminded the General Assembly about the thesis prize (details on the DYMAT website).

2. Vote to accept the President's report

The President's report was accepted by the Assembly with no objections.

3. Treasurer's report

André Lichtenberger presented the accounts of the DYMAT Association which had been audited by M. Chabotier. A summary of the accounts are presented as an appendix to these minutes.

4. Vote to accept the Treasurer's report

The Treasurer's report was accepted by the Assembly with no objections.

5. Election of the Board

José Cirne, Bradley Dodd, Richard Dormeval, Gérard Gary, André Lichtenberger, Hugh MacGillivray, Philippe Viot, and Stephen Walley stood for election to the 8 vacant places. 10 proxies had been received. All the candidates received 21 votes apart from Hugh MacGillivray who received 20 votes. All the candidates were therefore duly declared elected to the Governing Board.

The DYMAT Governing Board for 2005/6 therefore consists of the following people:

José Cirne (Portugal), Hervé Couque (France), Bradley Dodd (UK), Richard Dormeval (France), Gunther Dyckmans (Belgium), Gérard Gary (France), Erhardt Lach (Germany), André Lichtenberger (France), Fabrice Llorca (France), Hugh MacGillivray (UK), Wojciech Nowacki (Poland), Alexis Rusinek (France), Thierry Thomas (France), Philippe Viot (France), Stephen Walley (UK), Raman Zaera (Spain).

6. Miscellaneous

José Cirne said that the next DYMAT newsletter would be sent to members at the end of the year. Two issues per year seemed at present to be the right number.

DYMAT TREASURER'S REPORT PRESENTED TO THE GENERAL ASSEMBLY