

Foreword

DYMAT, the European Association for research into the dynamic behaviour of materials and its applications, celebrates in 2018 its XXXV anniversary. This represents an important milestone for our association that groups leading research institutions in Europe and worldwide. Since 1983 DYMAT organizes every three years a five days single sessions conference of oral presentations and poster exhibitions, it represents the platform to present the most recent scientific achievements on dynamic behaviour of materials.

The 12th DYMAT International Conference, programmed between September 9th and 14th 2018, was organized by the French Alternative Energies and Atomic Energy Commission (CEA), in Arcachon, France. Specific emphasis was set to the following key topics: Experimental Techniques, Microstructural Effects, Modeling and Numerical Simulation, and Industrial Applications. As in the past two editions held in Freiburg and Lugano, the Conference offered two types of publications. The contributions in this current issue of “European Physical Journal Web of Conferences” (EPJ-WoC) were submitted as proceeding papers while, alternatively, other authors chosen to submit their manuscripts to a peer review process for the publication in the issue of the “European Physical Journal Special Topics” (EPJ-ST), entitled “Advances in the Characterization, Modeling and Simulation of Materials subjected to High Strain Rates”.

As written in the statute the principal aim of the Association is to bring together engineers and scientists who are working in the general field of impact with a particular focus on the study of the mechanical properties of materials at high rates of strain, their modelling and associated numerical simulations as well as the applications of this work. For this purpose, DYMAT organizes International Conferences, Technical Meetings, several Working Groups and Student Camps. Since 2015, two Technical Meetings have been organized: the 22nd TM on experimental techniques and modelling of brittle materials at high strain-rates held in October 2016, Grenoble, France, and the 23rd TM on dynamic fracture of ductile materials, held in September 2017, Trondheim, Norway. Our gratitude goes to Prof. Pascal Forquin and Prof. Magnus Langseth for the excellent organization of these two events.

DYMAT 2018 will have the honour of being the fourth DYMAT International Conference to give the John S. Rinehart’s Award. This distinction, established in 1990 to recognize outstanding effort and creative work in the science and technology of dynamic processes in materials, has been awarded every five years on the occasion of several EXPLOMET International Conferences. Since 2009, DYMAT is the Custodian of the Award. A special jury, composed of the members of the DYMAT International Advisory Committee and members of the DYMAT Governing Board, voted and selected two winners. Our sincere congratulations go to George T. (Rusty) Gray III and to Gordon R. Johnson, the two recipients of the John S. Rinehart Award 2018.

My sincere gratefulness goes to Dr. Antonio Cosculluela and Dr. Eric Buzaud, chairmen of the Conference and co-editors of the 2018 EPJ-ST issue. Antonio and Eric have completed a remarkable work in the organization and the success of this conference. My thanks go to them and their colleagues, who greatly contributed to the success of DYMAT 2018.

Finally, I would also like to thank the members of the International Advisory Committee and the Governing Board for their commitment in ensuring the high scientific level of the conference.

Lugano, May 21st 2018

Ezio Cadoni

DYMAT President

