



Its Scope Is Truly International – 1300 Papers from 50 Countries

Welcome to Euromat 2003 in Lausanne



Alan Morrell

On behalf of the Federation I am very pleased to welcome you to Euromat 2003.

Our Federation was established 16 years ago and covers now most of the member states of the Council of Europe

servicing through the 24 member societies a total of more than 20000 materials experts. This is a huge network, and it is the general goal of FEMS to strengthen the networking opportunities and to extend them to all materials scientists and engineers in Europe.

Our objective is well served by the Euromat conference series. Euromat has become one of the most comprehensive European events covering the wide range of materi-

als, their development, properties and use. Its scope is truly international, and Euromat 2003 will have some 1300 papers originating from 50 countries to be presented by more than 1000 speakers among which are a Nobel Prize Winner and further renowned personalities. I would like to extend my gratitude to the scientists, chairpersons and coordinators as well as to the various organisations who have made this success possible. An exhibition

running alongside the conference will demonstrate the FEMS commitment to industry and professional services. The exhibition will for the first time include a Jobmarket aimed at linking industry and other employers with people seeking job opportunities.

The congress will take place at the sites of the Swiss Federal Institute of Technology and the University of Lausanne on the banks of Lake Geneva that provide an excellent

environment for hosting this major international congress. We are very indebted particularly to the EPFL administration and the catering facilities for their excellent logistic support.

Thank you for being with us at the conference. The members of the FEMS Executive Committee join me in hoping that you all have a satisfying and rewarding Euromat 2003.

*Alan Morrell
President of FEMS*

Euromat on the Move

The ambition of Euromat is to focus on innovative fundamental approaches and processing related aspects for unconventional materials.

Progress in science keeps moving the development of innovative materials and opens new routes to use them. In this respect, the comparison of the programme of Euromat 2003 with that of Euromat 1999 is quite illustrative. Bearing witness to the global achievements



Jacques Jupille

in materials science, “Nanostructured materials” represent one of the main topics of the event, while symposia devoted to nanomaterials can even be found in topics as diverse

as “Building materials” and “Information technology”.

Phase transformation is a basic phenomenon for materials science, and a current subject for Euromat conferences, but has become a big issue this year in the light of modelling and quantitative prediction. Newly appearing concerns such as light design, rapid prototyping, joining and adhesion will undoubtedly grow in future conferences. Hardly triggered four years ago, “Biomimetic materials”

and “Biofunctional materials” are now strongly contributing to the programme.

The emergence of simulation is indicative of another fundamental trend, as the convergence between modelling and experimentation is increasingly used as a tool to open new vistas for materials synthesis and processing.

I would like to acknowledge the excellent work that the topic coordinators and symposium

chairs contributed to the scientific programme of the conference. Euromat 2003 was jointly run by the French, German and Swiss materials societies. In this respect, I am very indebted to my colleagues Wilfried Kurz of the SVMT and Manfred Rühle of the DGM for actively co-chairing the conference. I thank one and all for making Euromat 2003 an unforgettable scientific event.

*Jacques Jupille
Euromat 2003
Conference Chair*

FEMS Awards 2003 for Wegner and Boccaccini

This year the Federation of European Materials Societies decorated Prof. Dr. Gerhard Wegner from Mainz, Germany, with the European Materials Gold Medal in recognition of his distinguished services to material science and engineering and to the materials engineering professions. FEMS also honoured Dr. Aldo R. Boccaccini from London, UK, with the Materials Science and Technology Prize for his contribution as a most promising and talented young materials scientist.

Gerhard Wegner is a Director at the Max Planck Institute for Polymer Research (MPI-P) in Mainz, FRG. He received his Degree from the University of Mainz in 1965. After postdoctoral work in the USA and further research work at the University of Mainz he joined the University of Freiburg in 1974 as a professor of polymer chemistry and Director of the Institute for Macromolecular Chemistry, before moving to his present position in 1984 as one of



Prof. Dr. Gerhard Wegner

the founders of the MPI-P. 1996-2002 he has been Vice President of the Max Planck Society.

His contributions to the field of polymers, solid-state organic chemistry and polymer materials science, have been recognized by many awards, including the Otto Bayer Prize (1984); the Hermann Staudinger Prize of the German Chemical Society (1990); the Baker Lectureship, Cornell University Ithaca, New York (1994); the ACS Award in Polymer Chemistry (1998); the Award of the Society of Polymer Science, Japan (1998), Doctor of Humane Letters, Univ. of Massachusetts at Lowell, USA (2000).

His main research interest is currently centered on the design of novel polymer materials in the context of advanced technologies.

Aldo R. Boccaccini is Reader in Materials Science at the Department of Materials, Imperial College London, UK. He holds an MSc (Nuclear Engineering) from Instituto Balseiro (Argentina), PhD (Dr.-Ing.) from Aachen University of Technology (Germany) and habilitation from Ilmenau University of Technology (Germany).

Before joining Imperial College in 2000, he had post-doctoral appointments at the University of Birmingham (UK), the University of California at San Diego (USA) and the Ilmenau University of Technology, Germany. Boccaccini is the author or co-author of more than 120 papers on ceramic and glass matrix composites, ceramic processing and porous ceramics. He has a keen interest in the development of glasses, ceramics and glass-ceramic composites and has specialised in the study of processing-microstructure-property relationships.

His interest in ceramics is very wide ranging and he has made significant contributions to areas of both traditional and ad-



Dr. Aldo R. Boccaccini

vanced ceramics. More recently he has been developing new areas of research, particularly the electrophoretic deposition of oxide materials where he is now regarded as one of the leaders in the field, and he is also developing an interest in the use of ceramic materials and composites as scaffolds for use in the rapidly developing area of tissue engineering.

FEMS Lecturers 2003

Each year a few promising young materials scientists – up to 40 years old – are chosen as FEMS Lecturers, which provides the lecturers with an opportunity to publicise their work by stimulating invitations for presenting their work at various science centres across Europe. This year's FEMS Lecturers are: Dr. Benoit Devincré (38), Châtillon, France, Dr. Paul Midgley (37), Cambridge, UK, and Dr. Paul Weaver (37), Bristol, UK.

Benoit Devincré graduated from the Formation d'Ingénieur de l'Université Paris Sud Orsay, and did his PhD in Université d'Orsay. After a Post-Doc in the material department of Oxford University, he joined the Centre National de la Recherche Scientifique (CNRS) in 1994. He is currently at the Laboratoire d'Etude des Microstructures jointly run by the Office National d'Etudes et de Recherches Aéropatiales (ONERA) and CNRS. He and his collaborators developed original simulations based on Dislocation Dynamics (DD) at the meso-scale. His main interests are in linking the dynamical properties of crystal defects and the mechanical properties of material. He has written over 40 articles.

Paul Midgley is a University Senior Lecturer and Director of the Electron Microscopy Facility at the Department of Materials Science and Metallurgy. He studied Physics at the H.H. Wills Physics Laboratory at the University of

Bristol, receiving his PhD in 1991 for electron microscopy studies of high Tc superconductors. He then held two Research Fellowships, the first funded by The Royal Commission for The Exhibition of 1851, the second by The Royal Society. He moved to Cambridge in 1997. He and his research group have developed new analytical techniques using EFTEM, STEM and electron holography and applied these to materials systems at the nanometer level. He has written over 100 articles.

Paul Weaver is Senior Lecturer in Aerospace Structures, and an EPSRC Advanced Research Fellow. He studied Materials Engineering at Newcastle University, UK where he obtained a First class degree for which the Institute of Materials awarded him its Royal Charter Prize. He worked on 3-D composites for his PhD before undertaking a postdoctoral role under Prof. MF Ashby at Cambridge University. For the last 5 years he has had a lecturing post at the Aerospace Department of Bristol University, UK. He is developing new predictive techniques for buckling of anisotropic plates and shells. This work has caught the interest of NASA Langley where Weaver has spent the last 3 summers consulting on structural design issues making use of the inherent anisotropic properties of composite materials. He has published in excess of 50 scientific papers in international journals and conferences.



From left: Benoit Devincré, Paul Midgley, Paul Weaver.

FEMS news

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