

Preface

The 5th European Conference on Silicon Carbide and Related Materials, ECSCRM2004, was held on August 31 to September 4, 2004 in Bologna, Italy. This conference continued the tradition from Crete, Greece (1996), Montpellier, France (1998), Kloster Banz, Germany (2000), and Linköping, Sweden (2002), to be the main European forum for presenting results and discussing progress, for university and industry researchers active in the field of SiC and Related Materials.

The number of participants has continuously increased and this time was 397 participants. 60% of these attendees were from Europe, 21% from Japan and 16% from USA.

Following the tradition from the previous conferences it was decided to have no parallel sessions. Consequently the majority of the presentations were posters. They were grouped in five different parallel poster sessions: material growth, devices, device technology and processing, characterisation, surface and interfaces. With the aim to enhance the interest and stress the importance of the poster sessions, they were scheduled immediately after lunch and before the last oral session of the day. A best poster award for each topic was attributed. Invited posters on a given selected topic were presented as proposed with success during the previous conference edition. The invited posters were focused on new achievements related to three main topics: materials growth — because of the great importance of this subject related to the realization of SiC devices — defects study in as grown, processed or irradiated SiC materials — because of the roles the defects play in the reliability of the SiC device performances — and finally on SiC devices like radiation detectors and sensors — that are a peculiar SiC application but minor with respect to the power and high frequency electronics that remains the main application field for the SiC devices. A special session on Industrial Applications was highly appreciated.

These proceedings document our present experimental and theoretical understanding of the growth of bulk and epitaxial layers, the properties of the grown materials, the development of suitable processes and electronic devices that utilize and benefit from the outstanding material properties of wide band gap materials. The papers in these proceedings represent the 88% of the 287 contributions discussed at the conference and are so grouped: 4 % SiC bulk growth, 19% SiC epitaxial growth, 3% porous SiC, 28% SiC characterization, 19% SiC technology, 24% SiC electronic devices, and 3% nitrides and related materials.

The success of the 5th European Conference on Silicon Carbide and Related Materials was due to the labour of many “behind the scene” organizers. The member of the International Steering Committee and of the Programme Committee made valuable suggestion concerning the scientific portion of the conference, carefully reviewed and selected the abstracts, organized the technical programme. The session chairpersons made sure that the meeting ran very smoothly and on time. The reviewers carefully read and evaluated the manuscripts in the effort to keep high the scientific standard of these proceedings. The manuscript authors respected the deadlines necessary for a rapid publication of this volume.

The secretary action of the conference was smooth and prompt thanks to the precise and patient work of Dr Annalisa Di Placido who joined Mrs Giorgia Giovannini and Mrs Teresa Tibaldi. Dr Marcella Tusa did a precious work for the set-up and the maintenance of the conference web page. The prompt and precise publication of these proceedings was possible only thanks to the huge work done by Dr Antonella Poggi and Prof. Andrea Scorzoni. I greatly appreciated the collaboration of my co-chairman Dr Vito Raineri and

that of the members of the Organizing Committee. I am grateful to all the SiC students and the technicians of the CNR-IMM Sezione di Bologna for the enthusiasm and the positive energy shown at the reception desk, during the preparations of the book of abstracts and of this proceedings volume, and while taking care of the audio and visual facilities during the oral sessions. They were Dr Barbara Benedetti, Dr Fabio Bergamini, Dr Marica Canino, Dr Camilla Coletti, Mr Stefano Cristiani, Dr Lucia Davalli, Dr Matteo Ferri, Dr Giovanni Marino, Mr Stefano Masini, Dr Francesco Moscatelli, Mr Paolo Negrini, Mr Alessandro Pancaldi and Mr Michele Sanmartin.

The generous support of the many industrial, government and European sponsors of ECSCRM2004, all of them listed on a separate sheet, enabled the organizers to keep the registration fee at a reasonable level, to provide social activities, beverages and meals, and to finance the best poster awards. The conference participations of several early stages researchers from all over the world and researchers from the European east countries was possible thanks to the financial support of the Office of Naval Research Global.

The next conference in this series will be held in New Castle in 2006. Prof. Mark Johnson and Prof. Nick Wright will chair the next conference edition. I wish the organizers of the next conference much success.

Roberta Nipoti