Preface

Recent progress in research and development of ferromagnetic shape memory alloys, accompanied by an exponential publication record, proves the enormous interest of scientists and engineers in such smart materials, which show outstanding performances as sensors and actuators alongside other capabilities. Recent results obtained in this rapidly evolving interdisciplinary field have been extensively presented during the Second International Conference on Ferromagnetic Shape Memory Alloys (ICFSMA2009) held on 1–3 July 2009 in Bilbao, Spain. The conference was organized by the University of Basque Country and Actimat Consortium, Bilbao, Spain. The topics for discussions were tentatively divided into six groups:

A. Basic phenomena and theory
B. Structure and magnetic properties
C. Magnetomechanics and magnetocaloric effect
D. Thin films and composites
E. Modeling and simulations
F. Processing and engineering

These topics have been covered in nearly one hundred invited, oral and poster regular contributions.

This volume contains a selection of peer-reviewed papers presented at ICFSMA’09, which are grouped according to the conference topics. The volume bears the same title as the Proceedings of the first ICFSMA’07 held in Kolkata, India, symbolizing the continuity of a new chain of international scientific meetings dedicated to the aforementioned research field and topics.

We hope this volume will be a useful guide for physicists, materials scientists, engineers and materials producers engaged in the field of the ferromagnetic shape memory alloys and smart materials.

The conference was attended by over 85 participants from 17 countries. The very large attendance to oral and poster sessions and the long and deep informal discussions were clear manifestations of a successful event that deserved very positive feedback from the delegates.

We are thankful to all authors and reviewers who made possible the present volume. We thank the members of the International Scientific Committee for their help and active contributions and to the Local Organizing Committee, who managed the well-coordinated course of the conference. We also wish to thank all sponsors and exhibitors.

V.A. Chernenko
Conference Chairman

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Conference Co-Chairman