

# Preface

At the XXIV General Assembly of the International Union of Geodesy and Geophysics (IUGG), held July 2–13, 2007 in Perugia, Italy, the International Association of Geodesy (IAG) also had its quadrennial General Assembly. The IAG co-organized and contributed to several Union Symposia, as well as to Joint Symposia with other Associations. It also organized five Symposia of its own, one dedicated to each of its four Commissions and a fifth one dedicated to the Global Geodetic Observing System (GGOS). This volume contains the proceedings of these five Symposia, which are listed below:

Symposium GS001: Reference Frames

Convener: H. Drewes

Co-convener: A. Dermanis

Symposium GS002: Gravity Field

Convener: C. Jekeli

Co-conveners: U. Marti, S. Okubo, N. Sneeuw, I. Tziavos, G. Vergos, M. Vermeer, P. Visser

Symposium GS003: Earth Rotation and Geodynamics

Convener: V. Dehant

Co-convener: Chengli Huang

Symposium GS004: Positioning and Applications

Convener: C. Rizos

Co-convener: S. Verhagen

Symposium GS005: The Global Geodetic Observing System (GGOS)

Conveners: M. Rothacher

Co-conveners: R. Neilan, H.-P. Plag

The Symposia were organized based on the structure of the IAG (i.e., one per Commission) and covered the three pillars of geodesy, namely geometry, Earth rotation, and gravity field, plus their applications. The inclusion of the Symposium on GGOS – which is no longer a project but a major component of the IAG – integrated all geodetic areas and highlighted the importance of multidisciplinary in, and for, geodetic research. It is fair to say that this was probably the first time that the breadth of the presented papers demonstrated without a doubt how vital geodesy has become in contributing to the solution of current pressing needs of society, such as monitoring

our environment and understanding global change. For example, the number and quality of the papers on GRACE and its applications illustrated clearly geodesy's valuable contribution to the monitoring of temporal phenomena. It is evident that the era of neglecting time variations has past and that four-dimensional geodesy is now at the forefront. For this reason, we named these proceedings "Observing our Changing Earth", which also aligns well with the general theme chosen for the IUGG General Assembly ("Earth: Our Changing Planet").

The 2007 Assembly attracted over 400 geodesists from 49 countries, including 120 students. There were 225 oral and 474 poster presentations made at the IAG Symposia. Approximately 20% of those were submitted as full papers for review and inclusion in these Proceedings. The 99 papers that were accepted are contained in this volume, each allocated to one of the five Symposia sections.

There are several colleagues who contributed to the success of the IAG General Assembly and should be acknowledged here. We are grateful to Christian Tscherning, the long-serving past Secretary General of the IAG, who coordinated together with the IUGG and IAG Executive Committees and the Local Organizing Committee the venue selection, as well as the scheduling and organization of the Symposia which IAG led or partially contributed to. The Symposia conveners, Herman Drewes, Chris Jekeli, Veronique Dehant, Chris Rizos and Markus Rothacher, as well as their co-conveners from the IAG Commissions, Services, GGOS and the Inter-commission Committee on Theory listed on the previous page, are gratefully acknowledged for the selection and organization of the exciting and stimulating scientific content of the Symposia.

These quality Proceedings would not have been possible without the tireless work of the Presidents of the four IAG Commission and the Chair of GGOS who acted as conveners and editors for their individual Symposia. Herman Drewes, Chris Jekeli, Veronique Dehant, Chris Rizos and Markus Rothacher guided the reviews of the submitted papers, selected and communicated with the reviewers, and finally accepted the papers that comprise this volume. I am personally indebted to them, as I could have not put this volume together without their invaluable assistance. The contributing authors are also gratefully acknowledged. Finally, I would also like to thank Dr. Elena Rangelova, postdoctoral fellow at the University of Calgary, for her help with the preparation of the camera-ready copy of this volume.

Last, but definitely not least, I want to sincerely thank all participating scientists and graduate students, and in particular those who made oral and poster presentations, who came to beautiful Perugia and made our General Assembly an unqualified success.

Calgary, May 20, 2008

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