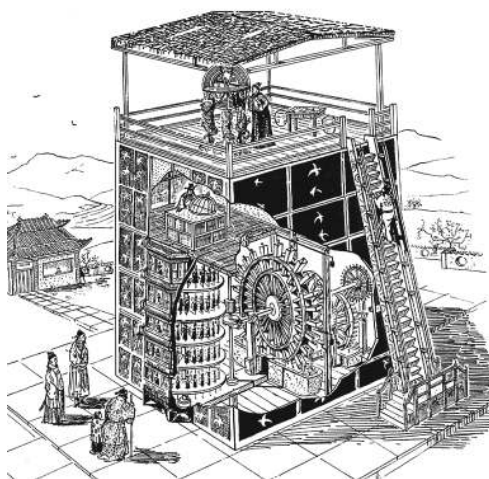


INTERNATIONAL ASTRONOMICAL UNION

HIGHLIGHTS OF ASTRONOMY  
VOLUME 16

AS PRESENTED AT THE  
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BEIJING 20–31 AUGUST 2012



*COVER ILLUSTRATION:*

A pictorial reconstruction of the astronomical clock-tower built by Su Sung and his collaborators at Kaifeng in 1090. Original drawing by John Cristiansen in Needham *et al.* (1960) *Heavenly Clockwork. The Great Astronomical Clocks of Medieval China*. Cambridge University Press, Cambridge.

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held at the XXVIII General Assembly 2012

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JD2: Jorick S. Vink  
JD3: Lidia van Driel-Gesztelyi  
JD4: Sugata Kaviraj, Suyoung Yi & Martin Bureau  
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## Preface

*Highlights of Astronomy*, vol. 16, contains the papers presented during the XXVIIIth IAU General Assembly, which took place in the new China National Convention Centre, situated in the Olympic Park, north of Beijing, from 20 to 31 August, 2012.

This General Assembly was attended by 2710 astronomers, coming from 75 IAU member countries. The science program was established after a severe selection of proposals - for instance, no less than 23 Symposia were proposed, along with 18 Joint Discussions and 14 Special Sessions - in all 55 meetings! The Symposia, in particular, were of exceptional quality, which led the Selection Committee (composed of the Vice-Presidents and Division Presidents, and chaired by the General Secretary) to recommend to the Executive Committee holding 8 Symposia, in lieu of the usual six. In parallel, seven Joint Discussions and 17 Special Sessions were organized. While this large number of meetings did cause some logistical and scheduling problems, and daily scientific headaches for the participants to decide which sessions to attend, thanks to the good will, organization, and dedication of our hosts, the resulting scientific program was extremely broad, offering everyone, confirmed researchers and students alike, a fantastic forum to exchange news, discoveries, and ideas.

As usual, the Symposia have been published separately by Cambridge University Press (*IAU Symposium Proceedings Series*, vols. 288 to 295). The present volume contains the proceedings of the Joint Discussions and Special Sessions, along with four Invited Discourses that were delivered in plenary sessions. With only a few exceptions, all the texts are published here. As the attentive reader will notice, the format of each of these contributions varies, from one single, large synthetic paper, to shorter “highlights”, down to more focused, short 2-page papers. Whatever the format chosen, it was a hard work to produce and I thank all the editors and meeting organizers for their dedication in assembling their respective Proceedings.

A companion volume, the Transactions of the International Union XXVIII A/B (also published by Cambridge University Press), contains the Proceedings of the General Assembly, including discourses, business meetings and reports by Commissions and Working Groups.

Financial support of a limited number of participants was provided by the IAU, and additional support from sponsors is gratefully acknowledged.

My deepest thanks go to Ian Corbett, my predecessor (and mentor in many ways), and to our Executive Secretary Vivien Reuter, who spent countless hours preparing and checking all the details of the organization of the XXVIIIth General Assembly, and other countless hours looking after the participants and handling grants.

Last but not least, our hearty thanks go also to our Chinese colleagues of the National Organizing Committee, and of the Local Organizing Committee who, under the leadership of Gang Zhao, offered us a very modern illustration of their traditional hospitality in all respects, either in the scientific organization, or in daily life. Thanks to the GA, we made many new friends.

*Thierry Montmerle*  
*IAU General Secretary*  
*Paris, October 2014*