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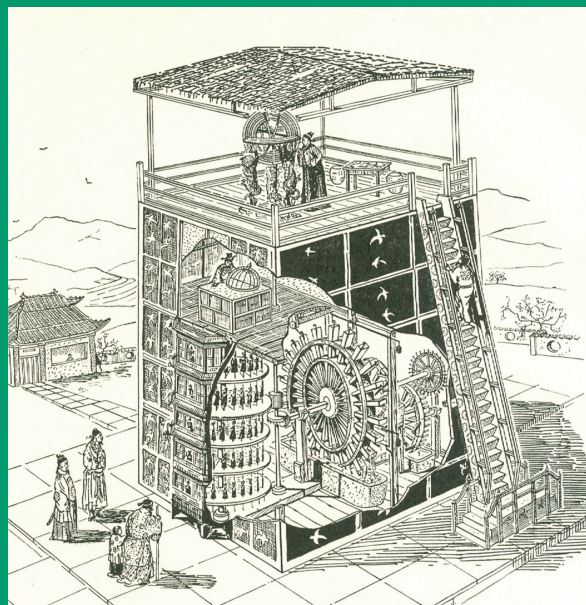
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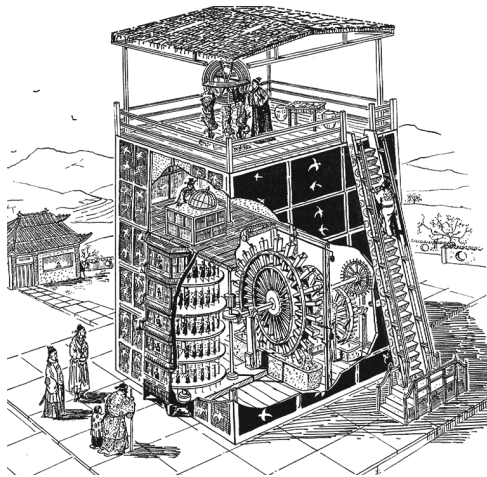
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VOLUME 16

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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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Editors of Joint Discussions and Special Sessions
held at the XXVIII General Assembly 2012

JD1: Diego F. Torres, Catherine Cesarsky, Helene Sol & Stefan Wagner

JD2: Jorick S. Vink

JD3: Lidia van Driel-Gesztelyi

JD4: Sugata Kaviraj, Sukyoung Yi & Martin Bureau

JD5: Junich Watanabe

JD6: Gabriele Giovannini, Teddy Cheung, Marcello Giroletti & Laura Maraschi

JD7: Nicole Capitaine, George Kaplan & Sergei Klioner

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SpS2: Jan Vrtilik & Laurence David

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**HIGHLIGHTS OF
ASTRONOMY
VOLUME 16**

**AS PRESENTED AT THE
XXVIII IAU GENERAL ASSEMBLY
BEIJING, CHINA, 2012**

Edited by

THIERRY MONTMERLE
Editor-in-Chief



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Table of Contents

Preface	xxviii
---------------	--------

CHAPTER I. INVITED DISCOURSES

ID1: A Zoo of Galaxies	1
<i>K. L. Masters</i>	
ID2: Supernovae, the Accelerating Cosmos, and Dark Energy	17
<i>B. Schmidt</i>	
ID3: Past, Present and Future of Chinese Astronomy	19
<i>C. Fang</i>	
ID4: The <i>Herschel</i> View of Star Formation	31
<i>P. André</i>	

CHAPTER II. JOINT DISCUSSIONS

JD1: THE HIGHEST-ENERGY GAMMA-RAY UNIVERSE OBSERVED WITH CHERENKOV TELESCOPE ARRAYS	49
<i>D. Torres & C. Cesarsky</i>	
JD2: VERY MASSIVE STARS IN THE LOCAL UNIVERSE	51
<i>J. S. Vink, A. Heger, M. R. Krumholz, J. Puls, S. Banerjee, N. Castro, K.-J. Chen, A.-N. Chenè, P. A. Crowther, A. Daminelli, G. Gräfener, J. H. Groh, W.-R. Hamann, S. Heap, A. Herrero, L. Kaper, F. Najarro, L. M. Oskinova, A. Roman-Lopes, A. Rosen, A. Sander, M. Shirazi, Y. Sugawara, F. Tramper, D. Vanbeveren, R. Voss, A. Wofford, Y. Zhang & the participants of JD2</i>	
JD3: 3D VIEWS OF THE CYCLING SUN IN STELLAR CONTEXT: Overview	81
<i>L. van Driel-Gesztelyi & C. J. Schrijver</i>	
The Evolution of the Solar Magnetic Field	86
<i>J. T. Hoeksema</i>	
Evolution of Stellar Magnetic Fields	90
<i>M. Güdel</i>	
Solar Convection and Mean Flows	92
<i>M. S. Miesch</i>	
Driving magnetic activity: differential rotation, flow structures, and surface patterns	94
<i>K. G. Strassmeier</i>	
Microflares to megafares: Solar observations and modeling	97
<i>L. Fletcher</i>	
State-of-the-Art Observations and Modeling of Stellar Flares	99
<i>A. F. Kowalski & S. L. Hawley</i>	

Simulating Solar Global Magnetism in 3-D	101
<i>A. S. Brun & A. Strugarek</i>	
3-D reconstructions of active stars	104
<i>H. Korhonen</i>	
3-D views of the expanding CME: from the Sun to 1AU	106
<i>A. P. Rouillard</i>	
3D Perspectives of Stellar Activity: Observation and Modelling	109
<i>M. Jardine</i>	
The Solar cycle: looking forward.	111
<i>R. H. Cameron</i>	
Theoretical Models of Stellar Activity Cycles	113
<i>E. Işık</i>	
Stellar Variability Observed with <i>Kepler</i>	115
<i>J. M. Jenkins, R. L. Gilliland, S. Meibom, L. Walkowicz, W. J. Borucki, D. A. Caldwell & the Kepler Science Team</i>	
JD4: ULTRAVIOLET EMISSION IN EARLY-TYPE GALAXIES	
Preface	117
<i>S. Kaviraj</i>	
Molecular gas properties in early-type galaxies	118
<i>E. Bayet, M. Bureau, T. Davis, L. Young, A. Crocker & the ATLAS 3D team</i>	
Tracing the evolution within nearby galaxy groups: a multi-wavelength approach	119
<i>D. Bettoni, A. Marino, R. Rampazzo, H. Plana, M. Rosado, G. Galletta, P. Mazzei, L. Bianchi, L. M. Buson, P. Ambrocio-Cruz & R. Gabbasov</i>	
Extreme Horizontal Branch Stars in Passively Evolving Early Type Galaxies . . .	120
<i>F. Hernández-Pérez & G. Bruzual</i>	
The effect of Helium-enhanced stellar populations on the ultraviolet upturn phenomenon of early-type galaxies	121
<i>C. Chung, S.-J. Yoon & Y.-W. Lee</i>	
Spatially resolved molecular gas in early-type galaxies	122
<i>T. A. Davis, K. Alatalo, M. Bureau, L. Young, L. Blitz, A. Crocker, E. Bayet, M. Bois, F. Bournaud, M. Cappellari, R. L. Davies, P.-A. Duc, P. T. de Zeeuw, E. Emsellem, J. Falcon-Barroso, S. Khochfar, D. Krajnovic, H. Kuntschner, P.-Y. Lablanche, R. M. McDermid, R. Morganti, T. Naab, M. Sarzi, N. Scott, P. Serra, & A. Weijmans</i>	
Far-UV radiation from hot subdwarf stars in early-type galaxies	124
<i>Z. Han & X. Chen</i>	
Young stars in nearby early-type galaxies: The GALEX-SAURON perspective. .	125
<i>H. Jeong, S. K. Yi, M. Bureau & R. L. Davies</i>	
Ultraviolet Emission from Star-formation in Selected Gas-rich Early-type Galaxies	126
<i>L. L. Leewu</i>	
The UV-upturn in brightest cluster galaxies	127
<i>S. I. Loubser & P. Sánchez-Blázquez</i>	

Evolution of Massive Galaxy Structural Properties and Sizes via Star Formation <i>J. R. Owersworth, C. J. Conzelice, A. Mortlock, W. G. Hartley & F. Buitrago</i>	128
Star Formation History of Early-Type Galaxies with Tidal Debris in the S^4G .. <i>B. H. F. Ramos, K. Menéndez-Delmestre, T. Kim, K. Sheth & S^4G team</i>	129
UV color-color relation of early-type galaxies	130
<i>C. H. Ree, H. Jeong, K. Oh, C. Chung, J. H. Lee, S. C. Kim & J. Kyeong</i>	
<i>Herschel-ATLAS: Dusty early-type galaxies</i>	131
<i>K. Rowlands, L. Dunne, S. Maddox & the Herschel-ATLAS and GAMA collaborations</i>	
Recent star formation in intermediate redshift ($0.35 < z < 1.5$) early-type galaxies	132
<i>M. J. Rutkowski, H. Jeong, S. Yi, S. Kaviraj, S. H. Cohen & R. A. Windhorst</i>	
Positive AGN feedback in Centaurus A	133
<i>S. Shabala, R. M. Crockett & S. Kaviraj</i>	
UV Emission in Type Ia Supernova Elliptical Host Galaxies	134
<i>B. E. Tucker</i>	
The Ionization of the Warm Gas in Early-type Galaxies and Its UV Upturn. . . .	135
<i>R. Yan & M. R. Blanton</i>	
Correlation of morphological fraction with redshift in galaxy clusters	136
<i>Q.-R. Yuan, Q.-Q. Dang, P.-F. Yan, W. Chen, Z.-L. Wen, J.-L. Han & X. Zhou</i>	
JD5: FROM METEORS AND METEORITES TO THEIR PARENT BODIES: CURRENT STATUS AND FUTURE DEVELOPMENTS	
Preface.	137
<i>J. Watanabe</i>	
Phaethon-Gemind complex by Pan-STARRS	138
<i>S. Abe</i>	
Puzzling Snowballs: Main Belt Comets	139
<i>B. Yang & K. Meech</i>	
The influx rate of long-period comets in the Earth's neighborhood and their debris contribution to the interplanetary medium	140
<i>J. A. Fernández</i>	
The Legacy of Brian G. Marsden (1937-2010)	141
<i>D. Green</i>	
Meteor Showers: which ones are real and where do they come from?	142
<i>P. Jenniskens</i>	
Stream and sporadic meteoroids associated with Near Earth Objects	143
<i>T. J. Jopek & I. P. Williams</i>	
Results from the EPOXI and StardustNExT Missions – A Changing View of Comet Volatiles and Activity.	146
<i>K. Meech, M. F. A'Hearn & J. Veverka</i>	
Meteorites – The Significance of Collection and Curation and Future Developments	147
<i>C. Smith</i>	

A list of historical comets observed at plural sites: the beginning of astronomy in Japan and Korea	148
<i>K. Tanikawa & M. Sôma</i>	
Analysis of Historical Meteor and Meteor shower Records: Korea, China and Japan	150
<i>H.-J. Yang, C. Park & M.-G. Park</i>	
Future Small Body Exploration after the Investigation of Asteroid Itokawa by Remote Sensing and Returned Sample Analyses	152
<i>H. Yano</i>	
Near-Earth objects from the cometary flux	153
<i>V. Emel'yanenko</i>	
The Possible Interrelation of TNO and Long-Period Comets by MOID Distribution	154
<i>A. S. Guliyev, Sh. A. Nabiyeu, R. A. Guliyev & A. S. Dadashov</i>	
Comets: extremal states and their observational manifestations	156
<i>I. Subhon & F. S. Ibodov</i>	
Location of the upper border of the cavity excavated after the <i>Deep Impact</i> collision	157
<i>S. I. Ipatov</i>	
Disk-Resolved Spectra of (25143) Itokawa with <i>Hayabusa</i> /AMICA observations.	158
<i>M. Ishiguro</i>	
C/2002 VQ94 (LINEAR) and 29P/Schwassmann- Wachmann 1 - CO^+ and N_2^+ rich comets	159
<i>A. Ivanova, P. Korsun & V. Afanasiev</i>	
Development of fully depleted CCD imager NCUcam-1 and follow-up observations for PS1 sky surveys	160
<i>D. Kimoshita</i>	
Chemical Enrichment of the Solar System by Stellar Ejecta	161
<i>S. Kwok</i>	
Temperature Shocks at the origin of regolith on asteroids	162
<i>P. Michel, M. Delbo, G. Libourel, C. Ganino, C. Verati & B. Rémy</i>	
<i>MarcoPolo-R</i> : Near Earth Asteroid Sample Return Mission candidate as ESA-M3 class mission	163
<i>P. Michel, L.-M. Lara, B. Marty, D. Koschny, M. A. Barucci, A. Cheng, H. Bohnhardt, J. R. Brucato, E. Dotto, P. Ehrenfreund, I. A. Franchi & S. F. Green</i>	
Supplemental ancient Chinese meteor, meteorite fall and comet records with Zhongguo gudai tianxiang jilu zongji (1)	164
<i>N. Nagatoshi</i>	
Brief Introduction of Promoting the Chinese Program For Exploring the Martian System.	165
<i>J. Ping, X. Shi, N. Jian, S. Zhang, M. Wang, K. Shang & Yinghuo-1 VLBI team</i>	
Jovian impact flashes and their implication to small bodies	166
<i>J. Watanabe</i>	

The quinquennial grand shrine festival with the Nogata meteorite	167
<i>H. Yamaoka</i>	
Micrometeoroid Detection in the Inner Planetary Region by the IKAROS-ALADDIN.	168
<i>H. Yano, T. Hirai, C. Okamoto, M. Fujii & M. Tanaka</i>	
Meteor Showers of the Earth-crossing Asteroids	169
<i>B. Pulat & K. Gulchekhra</i>	
New Outburst of Centaur Comet (60558) 174P/Echeclus	170
<i>Y.-J. Choi, M. Ishiguro & H.-K. Moon</i>	
The physical-chemical properties of substance of the bright fireball EN171101 Turyi Remety	171
<i>K. Churyumov, R. Belevtsev, E. Sobotovich, S. Spivak & T. Churyumova</i>	
Fireball on 6 July 2002 over the Mediterranean Sea is a fragment of the comet's nucleus.	172
<i>K. Churyumov, V. G. Kruchinenko, T. Churyumova & A. Mozgova</i>	
Influence of thermal models on the YORP effect	173
<i>O. Golubov & Y. N. Krugly</i>	
The comet disintegration and meteor streams.	174
<i>A. S. Guliyev & U. J. Poladova</i>	
Determination of the rotational period of the comet 29P/Schwassmann-Wachmann-1 using dynamics of the dust structures (jets) in the coma	176
<i>A. Ivanova, V. Afanasiev, P. Korsun, A. Baransky, M. Andreev & V. Ponomarenko</i>	
The activity of autumn meteor showers in 2006-2008.	177
<i>A. Kartashova</i>	
Identification of radiant of low-light-level meteors from double station TV observations during autumnal equinox of 2001 and 2003.	178
<i>P. M. Kozak, O. O. Rozhilo & Y. G. Taranukha</i>	
Photometric Properties of Vesta	179
<i>J.-Y. Li, L. Jorda, H. U. Keller, N. Mastrodemos, S. Mottola, A. Nathues, C. Pieters, V. Reddy, C. A. Raymond, T. Roatsch, C. T. Russell, B. J. Buratti, S. E. Schroder, M. V. Sykes, T. Titus, F. Capaccioni, M. T. Capria, L. Le Corre, B. W. Denevi, M. De Sanctis, M. Hoffmann & M. D. Hicks</i>	
Disk-Resolved Photometry of Cometary Nuclei: Results from DIXI and Stardust-NExT.	180
<i>J.-Y. Li, P. C. Thomas, J. Veverka, M. F. A'Hearn, S. Besse, M. J. S. Belton, T. L. Farnham, K. P. Klaasen, C. M. Lisse, L. A. McFadden & J. M. Sunshine</i>	
Meteor studies applying incoherent scatter radar instruments.	181
<i>I. Mann, A. Pellinen-Wannberg & A. Tjulin</i>	

Spectrophotometric properties of Moon's and Mars's surfaces exploration by shadow mechanism.	182
<i>A. Morozhenko, A. Vidmachenko & N. Kostogryz</i>	
The current state and prospects for meteors observations in RI NAO	183
<i>A. Shulga, N. Kulichenko, V. Vovk, Y. Kozyryev & Y. Sybiryakova</i>	
Present State and Prospects for the Meteor Research in Ukraine	184
<i>O. Shulga, Y. Voloshchuk, S. Kolomiyets, Y. Cherkas, I. Kimakovskay, S. Kimakovskiy, E. Knyazkova, Y. Kozyryev, Y. Sybiryakova, Y. Gorbanev, I. Stogneevea, V. Shestopalov, P. Kozak, O. Rozhilo & Y. Taranukha</i>	
Strategy for NEO follow-up observations.	185
<i>M. Tichy, M. Honkova, J. Ticha & M. Kocer</i>	
JD6: THE CONNECTION BETWEEN RADIO PROPERTIES AND HIGH ENERGY EMISSION IN AGNs	187
<i>G. Giovannini & T. Cheung</i>	
JD7: SPACE-TIME REFERENCE SYSTEMS FOR FUTURE RESEARCH	
Preface.	199
<i>N. Capitaine, G. Kaplan and S. Klioner</i>	
Relativity in fundamental astronomy	204
<i>M. Soffel</i>	
Celestial dynamics and astrometry in an expanding universe	206
<i>S. Kopeikin</i>	
Developing a pulsar-based time standard.	207
<i>G. Hobbs</i>	
Long term stability of atomic time scales	209
<i>G. Petit & F. Arias</i>	
Time and frequency transfer with the ESA/CNES ACES-PHARAO mission . . .	211
<i>P. Delva, C. Le Poncin-Lafitte, P. Laurent, F. Meynadier & P. Wolf</i>	
Celestial reference frames at multiple radio wavelengths	213
<i>C. S. Jacobs</i>	
<i>Gaia</i> promises for the reference frame	215
<i>F. Mignard</i>	
INPOP: evolution, applications, and perspectives.	217
<i>A. Fienga, J. Laskar, H. Manche, M. Gastineau & A. Verma</i>	
Linking the planetary ephemeris to the International Celestial Reference Frame.	219
<i>W. M. Folkner & J. S. Border</i>	
EPM — High-Precision Planetary Ephemerides of IAA RAS for Scientific Research and Astronavigation on the Earth and in Space	221
<i>E. V. Pitjeva</i>	
Connecting terrestrial to celestial reference frames	223
<i>Z. Malkin</i>	
SOFA—an IAU service fit for the future	225
<i>C. Hohenkerk</i>	

The IERS Conventions (2010): reference systems and new models	227
<i>B. Luzum & G. Petit</i>	
CHAPTER III. SPECIAL SESSIONS	
SpS1: ORIGIN AND COMPLEXITY OF MASSIVE STAR CLUSTERS	
Preface	229
<i>G. Piotto and E. Vesperini</i>	
Spectroscopic evidence of multiple populations in globular clusters	230
<i>R. Gratton, S. Lucatello, E. Carretta & A. Bragaglia</i>	
Multiple Populations in Globular Clusters – The Spectroscopic View	232
<i>J. G. Cohen</i>	
Multiple stellar populations in the massive clusters M22 and Omega Centauri . .	234
<i>A. F. Marino</i>	
Precision Chemical Abundance Measurements	237
<i>D. Yong, F. Grundahl, J. Meléndez & J. E. Norris</i>	
Photometric Techniques for Exploring Multiple Populations in Clusters	239
<i>J. Anderson</i>	
Multiple Sequences of M-dwarfs in NGC 2808 and ω Centauri	241
<i>A. P. Milone</i>	
Terzan 5: a pristine fragment of the Bulge.	243
<i>F. R. Ferraro</i>	
Multiple Stellar Populations: the evolutionary framework	245
<i>S. Cassisi</i>	
Population Models for Massive Globular Clusters.	247
<i>Y.-W. Lee, S.-J. Joo, S.-I. Han, C. Na, D. Lim & D.-G. Roh</i>	
The pollution of the interstellar medium from AGB stars in Globular Clusters. .	249
<i>P. Ventura & R. Carini</i>	
Dynamics of Multiple Stellar Populations in Globular Clusters.	251
<i>E. Vesperini, S. McMillan, F. D’Antona & A. D’Ercole</i>	
Physical processes for the origin of globular clusters with multiple stellar popula- tions.	253
<i>K. Bekki</i>	
How did globular clusters lose their gas?	255
<i>C. Charbonnel, M. Krause, T. Decressin, G. Meynet, N. Prantzos & R. Diehl</i>	
LAE Galaxies at High Redshift: Formation Sites for Low-Metal Globular Clusters	257
<i>B. G. Elmegreen, S. Malhotra & J. Rhoads</i>	
Rapid Mass Segregation in Massive Star Clusters.	259
<i>S. McMillan, E. Vesperini & N. Kruczek</i>	
Nuclear Star Clusters Structure and Stellar Populations	262
<i>N. Neumayer</i>	

Formation, Growth, and Destruction of Nuclear Star Clusters	265
<i>T. Böker</i>	
The Nuclear Star Cluster of the Milky Way	268
<i>R. Schödel</i>	
Dwarf Galaxies and Globular Clusters	271
<i>M. Bellazzini</i>	
Seeking footprints of the primeval Universe in dwarf galaxies	273
<i>S. L. Hidalgo & the LCID group</i>	
Connections between MWG Star Clusters and Dwarf Galaxies	275
<i>K. A. Venn</i>	
The Chemical Evolution of Milky Way Satellite Galaxies from Keck Spectroscopy	278
<i>E. N. Kirby</i>	
The Galactic halo: stellar populations and their chemical properties	280
<i>J. E. Norris</i>	
CN Anomalies in the Halo System	282
<i>D. Carollo</i>	
Extremely Metal Poor Stars in the Galaxy	284
<i>P. François</i>	
Globular cluster contributions to Galactic halo assembly	286
<i>S. L. Martell</i>	
SpS2: COSMIC EVOLUTION OF GROUPS AND CLUSTERS	289
<i>J. M. Vrtilek & L. P. David</i>	
SpS3: GALAXY EVOLUTION THROUGH SECULAR PROCESSES	
Preface	315
<i>R. J. Buta and D. Pfenniger</i>	
Internal and environmental secular evolution of disk galaxies	316
<i>J. Kormendy</i>	
Overview of dynamical mechanisms of secular evolution	318
<i>D. Pfenniger</i>	
The role of collective effects and secular mass migration on galactic transformation	319
<i>X. Zhang & R. J. Buta</i>	
The role of resonances in the evolution of galactic disks	320
<i>J. Lepine, S. Scarano Jr., S. Andrievsky, D. A. de Barros &</i> <i>T. C. Junqueira</i>	
The Lifetimes of Spirals and Bars	321
<i>J. A. Sellwood</i>	
Origin of structures in disc galaxies: internal or external processes?	322
<i>E. Athanassoula</i>	
Signatures of long-lived spiral patterns: The color gradient trend	323
<i>E. E. Martínez-García & R. A. González-Lópezlira</i>	

Revealing galactic scale bars with the help of Galaxy Zoo	324
<i>K. L. Masters & the Galaxy Zoo Team</i>	
Bar properties as seen in the <i>Spitzer</i> Survey of Stellar Structure in Galaxies . . .	325
<i>K. Sheth & The Spitzer Survey for Stellar Structure in Galaxies (S⁴G) Team</i>	
Galactic rings and secular evolution in barred galaxies	326
<i>J. H. Knapen</i>	
Multiple bars and secular evolution	327
<i>J. Shen</i>	
Kinematical evidence for secular evolution in <i>Spitzer</i> Survey of Stellar Structure in Galaxies (S ⁴ G) spirals	328
<i>S. Erroz-Ferrer, J. H. Knapen, J. Font, J. E. Beckman & the S⁴G team</i>	
Rotation of classical bulges during secular evolution of barred galaxies	329
<i>K. Saha & O. Gerhard</i>	
Parallel-sequencing of early-type and spiral galaxies	330
<i>M. Cappellari</i>	
NIRS0S: Observations of early-type galaxy secular evolution spanning the Sa/S0/disk-E boundaries	331
<i>E. Laurikainen, H. Salo, R. Buta & J. Knapen</i>	
Comparison of NIRS0S <i>K_s</i> -band and S ⁴ G 3.6 micron data: Fourier amplitudes, force profiles and color maps	332
<i>H. Salo, E. Laurikainen & the S⁴G Collaboration</i>	
Characterization of peculiar early-type galaxies in the local universe	333
<i>B. H. F. Ramos, K. Menéndez-Delmestre, T. Kim, K. Sheth & S⁴G team</i>	
3D view on Virgo and field dwarf elliptical galaxies: late-type origin and environmental transformations	334
<i>A. Ryś, J. Falcón-Barroso & G. van de Ven</i>	
Kinematic properties and dark matter fraction of Virgo dwarf early-type galaxies	335
<i>E. Toloba, A. Boselli, R. Peletier & J. Gorgas</i>	
Stellar populations in bulges and disks and the secular evolution connection . . .	336
<i>R. Peletier</i>	
The gas and star formation in bulges	337
<i>D. Fisher</i>	
The growth of mass and metallicity in bulges and disks: CALIFA perspective . .	338
<i>R. M. González Delgado, E. Pérez, R. Cid Fernandes, R. García-Benito, A. de Amorim, S. F. Sánchez, B. Husemann, R. López Fernández, C. Cortijo, E. Lacerda, D. Mast and the CALIFA collaboration</i>	
Rejuvenation of bulges by bars: evidence from stellar population analysis	339
<i>D. A. Gadotti & P. Coelho</i>	
Stellar populations of bulges in galaxies with a low surface-brightness disc	340
<i>L. Morelli, E. M. Corsini, A. Pizzella, E. Dalla Bontà, L. Coccatto, J. Méndez-Abreu & M. Cesetti</i>	

Evolution of the star formation efficiency in galaxies	341
<i>J. Braine</i>	
The origin of thick discs	342
<i>S. Comerón</i>	
Vertical structure of stellar populations in galaxy disks	343
<i>D. Streich, R. S. de Jong & the GHOSTS team</i>	
The downplayed role of secular processes in the co-evolution of galaxies and black holes.	344
<i>M. Cisternas & K. Jahnke</i>	
A longslit spectroscopic survey of bulges in disc galaxies	345
<i>M. Fabricius, R. Saglia, D. Fisher, N. Drory, R. Bender & U. Hopp</i>	
Tidal evolution of dwarf galaxies with shallow dark matter density profiles.	346
<i>E. L. Lokas</i>	
Secular Evolution in the Milky Way.	347
<i>V. Debattista</i>	
The Digital Sky Survey of the Galactic Anti-center (DSS-GAC).	348
<i>X.-W. Liu, H.-B. Yuan, Z.-Y. Huo, M.-S. Xiang, H.-H. Zhang, Y. Huang, H.-W. Zhang, H.-B. Zhao, J. S. Yao, H. Lu et al.</i>	
Frequency maps as a probe of secular evolution in the Milky Way	349
<i>M. Valluri</i>	
A new model for the Milky Way bar	350
<i>Y. Wang, H. Zhao, S. Mao & R. M. Rich</i>	
A secularly evolved model for the Milky Way bar and bulge	351
<i>I. Martínez-Valpuesta & O. Gerhard</i>	
Chemical fingerprinting of stellar populations in the Milky Way halo.	352
<i>M.-Y. Chou</i>	
Quantifying the mixing due to bars	353
<i>P. Sanchez-Blazquez</i>	
The outskirts of spiral galaxies: probing stellar migration theory	354
<i>J. Bakos & I. Trujillo</i>	
Radial migration in barred galaxies	355
<i>P. Di Matteo, M. Haywood, F. Combes, B. Semelin, C. Babusiaux & A. Gomez</i>	
Searching for observational evidence of radial mixing in the Milky Way disk.	356
<i>M. Haywood</i>	
A test for radial mixing using local star samples.	357
<i>J. Yu, J. Sellwood, C. Pryor, L. Chen & J. Hou</i>	
Disk structures in the CGS Survey.	358
<i>Z.-Y. Li, L. Ho, A. Barth & C. Peng</i>	

Dynamical evolution of star clusters in transient spiral arms.	359
<i>M. Fujii & J. Baba</i>	
How well can we identify pseudobulges?	360
<i>A. Graham</i>	
What Disc Brightness Profiles Can Tell us about Galaxy Evolution.	361
<i>J. Beckman, P. Erwin & L. Gutiérrez</i>	
Quantifying secular evolution through structural decomposition.	362
<i>L. Kelvin</i>	
Bar-driven evolution of fast rotators: the role and fate of bars in early and late-type galaxies	363
<i>E. Emsellem & R. Florent</i>	
Dissecting early-type dwarf galaxies into their multiple components.	364
<i>J. Janz, E. Laurikainen, T. Lisker & H. Salo</i>	
Galaxies driven only by secular evolution?	365
<i>L. Verdes-Montenegro on behalf of the AMIGA team</i>	
The role of external gas accretion on galaxy transformations, and evidence of such accretion	366
<i>F. Combes</i>	
Effects of secular evolution on the star formation history of galaxies	367
<i>M. Fernández Lorenzo, J. Sulentic, L. Verdes-Montenegro, M. Argudo-Fernández, J. E. Ruiz, J. Sabater & S. Sánchez-Expósito</i>	
Hoag's object: the quintessential ring galaxy.	368
<i>N. Brosch, I. Finkelman & A. Moiseev</i>	
The role of close pair interactions in triggering stellar bars and rings.	369
<i>P. Nair, S. Ellison & D. Patton</i>	
Role of massive stars in the evolution of primitive galaxies	370
<i>S. Heap</i>	
The influence of halo evolution on galaxy structure	371
<i>S. White</i>	
Shaping Disk Galaxy Stellar Populations via Internal and External Processes . .	372
<i>R. Roškar</i>	
Bars in a cosmological context	373
<i>M. Martig, K. Kraljic & F. Bournaud</i>	
Star formation history: secular processes in "main sequence" galaxies versus merger-driven starbursts.	374
<i>M. Bethermin</i>	
Secular evolution in young galaxies	375
<i>B. G. Elmegreen</i>	
Hydrodynamical simulations of the barred spiral galaxy NGC 1097.	376
<i>L.-H. Lin, H.-H. Wang, P.-Y. Hsieh, R. E. Taam, C.-C. Yang & D. C. C. Yen</i>	

Galaxies in most dense environments at $z \sim 1.4$	377
<i>V. Strazzullo</i>	
ALHAMBRA survey: morphological classification	378
<i>M. Pović, M. Huertas-Company, I. Márquez, J. Masegosa,</i> <i>J. A. López Aguerra, C. Husillos, A. Molino, D. Cristóbal-Hornillos &</i> <i>ALHAMBRA team</i>	
Testing galaxy formation models with the GHOSTS survey: The stellar halo of M81	379
<i>A. Monachesi, E. Bell, D. Radburn-Smith, M. Vlajić, R. de Jong, J. Bailin,</i> <i>J. Dalcanton, B. Holwerda & D. Streich</i>	
SpS4: NEW ERA FOR STUDYING INTERSTELLAR AND INTERGALACTIC MAGNETIC FIELDS	
Preface	381
<i>J. Han, R. Braun, and M. Haverkorn</i>	
The history of polarisation measurements: their role in studies of magnetic fields	383
<i>R. Wielebinski</i>	
Characterizing the correlation between column density structure and magnetic fields	384
<i>J. D. Soler, P. Hennebelle, P. G. Martin, M. A. Miville-Deschenes,</i> <i>B. Natterfield & The BLASTpol Collaboration</i>	
Dust properties and magnetic field geometry towards LDN 1570.	385
<i>C. Eswaraiah, G. Maheswar & A. K. Pandey</i>	
Structure and Dynamics of Magnetized Dark Molecular Clouds	386
<i>P. S. Li, C. F. McKee & R. I. Klein</i>	
Near-infrared Polarimetry and Interstellar Magnetic Fields in the Galactic Center	387
<i>S. Nishiyama, H. Hatano, T. Nagata & M. Tamura</i>	
Intense velocity-shears, magnetic fields and filaments in diffuse gas	388
<i>E. Falgarone, P. Hily-Blant, F. Levrier, M. Berthet, P. Bastien &</i> <i>D. Clemens</i>	
Effects of Magnetic Fields on Bar Substructures in Barred Galaxies	389
<i>W.-T. Kim</i>	
Magnetic Field Structure in Molecular Clouds by Polarization Measurements.	390
<i>W. P. Chen, B. H. Su, C. Eswaraiah, A. K. Pandey, C. W. Wang,</i> <i>S. P. Lai, M. Tamura & S. Sato</i>	
Magnetic field components analysis of the SCUPOL 850 microns polarization data catalog.	391
<i>F. Poidevin, D. Falceta-Gonçalves, G. Kowal, E. De Gouveia Dal Pino &</i> <i>A.-M. Magalhães</i>	
Magnetic field morphologies at mpc scale	392
<i>Y.-W. Tang, P. M. Koch, P. T. P. Ho, S. Guilloteau & A. Dutrey</i>	
CGPS studies of the Galactic Magnetic Field	393
<i>J. Geisbuesch, R. Kothés & T. L. Landecker</i>	

The Sino-German $\lambda 6\text{cm}$ polarization survey of the Galactic plane	394
<i>J. L. Han, W. Reich, X. H. Sun, X. Y. Gao, L. Xiao, P. Reich, W. B. Shi & R. Wielebinski</i>	
Probing Magnetic Fields With SNRs	395
<i>R. Kothes</i>	
Theoretical understanding of Galactic magnetic fields	396
<i>K. M. Ferrière</i>	
Detection of Linear Polarization from SNR Cassiopeia A at Low Radio Frequencies	397
<i>W. Raja & A. A. Deshpande</i>	
The modified equipartition calculation for supernova remnants with the spectral index $\alpha = 0.5$	398
<i>D. Urošević, M. Z. Pavlović, B. Arbutina & A. Dobardžić</i>	
Magnetic fields in spiral galaxies.	399
<i>M. Krause</i>	
Fluctuation dynamos and their Faraday rotation signatures	400
<i>P. Bhat & K. Subramanian</i>	
Multiwavelength Magnetic Field Modeling	401
<i>T. R. Jaffe</i>	
MAGMO: Mapping the Galactic Magnetic field through OH masers	402
<i>J. A. Green, N. M. McClure-Griffiths, J. L. Caswell, T. Robishaw, L. Harvey-Smith & S. A. Mao</i>	
Magnetic Fields in the Milky Way Halo.	403
<i>S. A. Mao, N. M. McClure-Griffiths, B. M. Gaensler, J. C. Brown, C. L. van Eck, M. Haverkorn, P. P. Kronberg, J. M. Stil, A. Shukurov & A. R. Taylor</i>	
Observations of magnetic fields in intracluster medium	404
<i>F. Govoni</i>	
MHD turbulence in the intracluster medium.	406
<i>D. Falceta-Gonçalves, G. Kowal, E. de Gouveia Dal Pino, R. Santos-Lima, S. Nakwacki & A. Lazarian</i>	
RM due to magnetic fields in the cosmic web and SKA observations	407
<i>T. Akahori & D. Ryu</i>	
The mystery of cosmic magnetogenesis	408
<i>C. G. Tsagas</i>	
SpS5: THE IR VIEW OF MASSIVE STARS: THE MAIN SEQUENCE AND BEYOND	
Preface.	409
<i>J. Borissova, M. Hanson, F. Martins, P. Najarro, Y. Nazé, B. Whitney</i>	
SpS5 - I. Obscured and distant clusters	410
<i>M. M. Hanson, D. Froebrich, F. Martins, A.-N. Chené, C. Rosslowe, A. Herrero & H.-J. Kim</i>	

SpS5 - II. Stellar and wind parameters	420
<i>F. Martins, M. Bergemann, J. M. Bestenlehner, P. A. Crowther, W. R. Hamann, F. Najarro, M. F. Nieva, N. Przybilla, J. Freimanis, W. Hou & L. Kaper</i>	
SpS5 - III. Matter ejection and feedback	429
<i>Y. Nazé, X. Che, N. L. J. Cox, J. H. Groh, M. Guerrero, P. Kervella, C.-D. Lee, M. Matsuura, M. S. Oey, G. S. Stringfellow & S. Wachter</i>	
SpS6: SCIENCE WITH LARGE SOLAR TELESCOPES	
Science with Large Solar Telescopes: Overview of SpS 6	439
<i>G. Cauzzi, A. Tritschler & Y. Deng</i>	
SpS7: THE IMPACT HAZARD: CURRENT ACTIVITIES AND FUTURE PLANS	
Preface.	471
<i>G. B. Valsecchi, A. Milani and W. Huebner</i>	
Near Earth Objects Research in Pulkovo Observatory	472
<i>A. V. Devyatkin, E. A. Bashakova, D. L. Gorshanov, A. V. Ivanov, S. V. Karashevich, V. V. Kouprianov, V. N. L'vov, K. N. Naumov, E. S. Romas, V. Yu. Slesarenko, N. A. Shakht, E. N. Sokov, S. D. Tsekmeister, O. O. Vasilkova & I. A. Vereschagina</i>	
The Near Earth Asteroid associations	474
<i>T. J. Jopek</i>	
The Role of Radar Astronomy in Assessing and Mitigating the Asteroid Impact Hazard.	476
<i>J.-L. Margot & J. D. Giorgini</i>	
NEOShield - A global approach to NEO Impact Threat Mitigation	478
<i>P. Michel & the NEOShield Consortium</i>	
AIDA: Asteroid Impact and Deflection Assessment	480
<i>P. Michel, A. Cheng, A. Galvez, C. Reed, I. Carnelli, P. Abell, S. Ulamec, A. Rivkin, J. Biele & N. Murdoch</i>	
Probing the interior of asteroid Apophis: a unique opportunity in 2029	481
<i>P. Michel, J. Y. Prado, M. A. Barucci, O. Groussin, A. Hérique, E. Hinglais, D. Mimoun, W. Thuillot & D. Hestroffer</i>	
MarcoPolo-R: Near Earth Asteroid Sample Return Mission candidate as ESA-M3 class mission	483
<i>P. Michel & the MarcoPolo-R Science Study Team</i>	
Whom should we call? Data policy for immediate impactors announcements . . .	484
<i>A. Milani & G. B. Valsecchi</i>	
NAO and SHAO participation in the near-Earth space observations	486
<i>A. Shulga, Y. Kozyryev, Y. Sybiryakova, Z. Tang, Y. Mao, Y. Li & Y. Yu</i>	
A space mission to detect imminent Earth impactors.	488
<i>G. B. Valsecchi, E. Perozzi & A. Rossi</i>	
Selection effects in the discovery of NEAs	490
<i>G. B. Valsecchi, G. D'Abamo & A. Boattini</i>	

The population of bright NEAs	492
<i>G. B. Valsecchi & G. F. Gronchi</i>	
SpS8: CALIBRATION OF STAR-FORMATION RATE MEASUREMENTS ACROSS THE ELECTROMAGNETIC SPECTRUM . . .	495
<i>V. Buat, J. Braine, D. A. Dale, A. Hornschemeier, B. Lehmer, P. Kroupa, J. Pflamm-Altenburg, C. C. Popescu, H. Wu & A. Zezas</i>	
SpS9: FUTURE LARGE SCALE FACILITIES	529
SpS10: DYNAMICS OF THE STAR-PLANET RELATIONS	531
SpS11: STRATEGIC PLAN AND THE GLOBAL OFFICE OF ASTRONOMY FOR DEVELOPMENT	
Preface	533
<i>K. Govender and G. Miley</i>	
The IAU Strategic Plan and its Implementation	535
<i>G. Miley</i>	
The IAU Office of Astronomy for Development	537
<i>K. Govender</i>	
Using Astronomy to shape a country's science and technology landscape	538
<i>K. Mokhele</i>	
Astronomy for a Better World: IAU OAD Task Force-1 Programs for Advancing Astronomy Education and Research in Universities in Developing Countries	540
<i>E. Guinan & K. Kolenberg</i>	
TWINNING between Institutions in developed and less developed countries: an ideal way to set-up an astrophysics program	542
<i>C. Carignan</i>	
Guideline Principles for Designing Astronomy Activities	543
<i>L. Strubbe</i>	
Status of astronomy in Rwanda and volunteer work at Kigali Institute of Education (KIE)	544
<i>M. Pović, P. Nkundabakura & J. Uwamahoro</i>	
IAU Office of Astronomy for Development: Task Force Children and School Education	545
<i>P. Russo & E. Gomez</i>	
The GTTP Movement: Engaging young minds to the beauty of science and space exploration	547
<i>R. Doran</i>	
Education for development under the skies of Chile	548
<i>C. Scorza & O. Fischer</i>	
The 'Astronomy for the Public' Task Force	550
<i>C. J. Ódman-Govender & I. E. Robson</i>	

Communicating Astronomy with the Public (Youth) as the Gateway to Development	552
<i>D. R. Crabtree</i>	
NAOJ's activities on Astronomy for Development: Aiding Astronomy Education in Developing Nations	553
<i>K. Sekiguchi & F. Yoshida</i>	
Touch the sky with your hands: a special Planetarium for blind, deaf, and motor disabled	554
<i>B. García, J. Maya, A. Mancilla, S. Pérez Álvarez, M. Videla, D. Yelós & A. Cancio</i>	
Global Astronomy Month - An Annual Celebration of the Universe.	555
<i>T. Heenatigala & M. Simmons</i>	
Amateur Astronomy Network Development in Indonesia.	556
<i>A. Yamani & H. L. Malasan</i>	
Astronomy development in Serbia in view of the IAU Strategic Plan.	557
<i>O. Atanacković</i>	
A project of a two meter telescope in North Africa	558
<i>Z. Benkhaldoun</i>	
In search of a viable IAU-OAD Regional Node: A case for Africa.	559
<i>B. I. Okere, D. C. Okoh, I. A. Obi, P. N. Okeke & F. E. Opara</i>	
Strategic Plan of Development of Astromomy in DPRK	560
<i>S. Jong</i>	
Armenia as a Regional Centre for Astronomy for Development activities	565
<i>A. Mickaelian</i>	
An exemplary developing astronomy movement in Nepal.	566
<i>S. Neupane</i>	
Astronomy in Mozambique	567
<i>V. A. R. M. Ribeiro & C. M. Paulo</i>	
Developing Astronomy Research and Education in the Philippines.	568
<i>R. M. D. Sese & M. B. N. (Thijs) Kouwenhoven</i>	
Some thoughts about the IAU Strategic Plan in Latin America and the Caribbean	569
<i>S. Torres-Peimbert</i>	
SpS12: MODERN VIEWS OF THE INTERSTELLAR MEDIUM	
Preface.	571
<i>Y.-H. Chu</i>	
The pre-modern era of the ISM	572
<i>J. M. Dickey</i>	
Modern view of the warm ionized medium	574
<i>A. Hill, R. Reynolds, L. Haffner, K. Wood & G. Madsen</i>	
On the origins of the diffuse H α emission: ionized gas or dust-scattered H α halos?	576
<i>K.-I. Seon & A. N. Witt</i>	

Galactic cold cores	577
<i>M. Juvela, on behalf of the Planck and Herschel projects on cold cores</i>	
A statistical view on the galactic cold ISM distribution	579
<i>L. V. Tóth, S. Zahorecz, G. Marton & E. Verebelyi</i>	
The coupled effects of protostellar outflows, radiation feedback, magnetic fields and turbulence on the formation of massive stars and Orion-like clusters	580
<i>R. I. Klein</i>	
Dust and Molecule Formation and Processing in Supernovae and their Remnants	583
<i>J. Rho, M. Andersen, A. Tappe, H. Gomez and M. Smith, J. P. Bernard, T. Onaka & J. Cami</i>	
Stellar wind and supernova feedback from massive stars	586
<i>J. M. Pittard & H. Rogers</i>	
HII radiative transfer revealed by ionization parameter mapping	587
<i>M. S. Oey, E. W. Pellegrini, P. F. Winkler, S. D. Points, R. C. Smith, A. E. Jaskot & J. Zastrow</i>	
Formation of structures around HII regions: ionization feedback from massive stars	590
<i>P. Tremblin, E. Audit, V. Minier, W. Schmidt & N. Schneider</i>	
Different structures formed at HII boundaries.	591
<i>J. Miao, P. Cornwall & T. Kinnear</i>	
Molecular cloud structure and star formation in the W43 complex.	592
<i>P. Carlhoff, P. Schilke, F. Motte & Q. N. Luong</i>	
Physics and chemistry of UV illuminated gas: the Horsehead case	593
<i>V. Guzmán, J. Pety, P. Gratier, J. R. Goicoechea, M. Gerin, E. Roueff & D. Teyssier</i>	
Origin of cosmic rays	594
<i>V. A. Dogiel</i>	
Gas in galactic halos	596
<i>R.-J. Dettmar</i>	
HVCs, infall and the Galactic Fountain	598
<i>B. P. Wakker</i>	
Observational constraints on the multiphase ISM.	600
<i>M. G. Wolfire</i>	
Molecular richness of the diffuse interstellar medium: a signpost of turbulent dissipation	603
<i>E. Falgarone, B. Godard, G. P. des Forêts & M. Gerin</i>	
ISM simulations: an overview of models.	606
<i>M. A. de Avillez, D. Breitschwerdt, A. Asgekar & E. Spitoni</i>	
Numerical modeling of multiphase, turbulent galactic disks with star formation feedback.	609
<i>C.-G. Kim, E. C. Ostriker & W.-T. Kim</i>	

Stability properties of phase transition layers in the diffuse ISM revisited	611
<i>J. M. Stone S. Inutsuka & E. G. Zweibel</i>	
Planck's view of the interstellar medium	612
<i>Planck Collaboration, presented by J. A. Tauber</i>	
Gravitational fragmentation of the Carina Flare supershell	614
<i>R. Wünsch</i>	
The resolved magnetic fields of the quiescent cloud GRSMC 45.60+0.30	615
<i>M. D. Pavel, R. C. Marchwinski & D. P. Clemens</i>	
Size distribution of SNRs and the ISM	616
<i>A. I. Asvarov</i>	
Dust emission from the atomic and molecular gas in M 33: a changing β	617
<i>J. Braine, F. Tabatabaei & M. Xilouris</i>	
The cool and warm molecular gas in M82 with <i>Herschel</i> -SPIRE	618
<i>J. Kamenetzky, J. Glenn, N. Rangwala, P. Maloney, M. Bradford, C. D. Wilson, G. J. Bendo, M. Baes A. Boselli, A. Cooray, K. G. Isaak, V. Lebouteiller, S. Madden, P. Panuzzo, M. R. P. Schirm, L. Spinoglio & R. Wu</i>	
Gas density histograms of galaxies: the observational density probability function of the interstellar gas density	619
<i>H. Toshihiro, Y. Takahiro & K. Nario</i>	
Statistical study of the ISM of GRB hosts.	620
<i>A. de Ugarte Postigo, J. P. U. Fynbo, C. C. Thöne, L. Christensen, J. Gorosabel & R. Sánchez-Ramírez</i>	
A kinematical catalogue of HII regions and superbubbles in the LMC	621
<i>P. Ambrocio-Cruz, E. Le Coarer, M. Rosado, D. Russeil, P. Amram, A. Laval, B. Epinat, M. Ramírez, M. Odonne & G. Golde</i>	
Very deep spectroscopy of NGC 7009	622
<i>X. Fang, X. Liu & P. J. Storey</i>	
Chemical enrichment of the ISM by stellar ejecta	623
<i>S. Kwok</i>	
Modeling deuterium chemistry of interstellar space with large chemical networks	624
<i>T. Albertsson, D. A. Semenov, A. I. Vasyunin, Th. Henning & E. Herbst</i>	
Commemorating John Dyson	626
<i>J. M. Pittard</i>	
SpS13: HIGH-PRECISION TESTS OF STELLAR PHYSICS FROM HIGH-PRECISION PHOTOMETRY	629
SpS14: COMMUNICATING ASTRONOMY WITH THE PUBLIC FOR SCIENTISTS	
Preface	631
<i>D. Crabtree and L. L. Christensen</i>	
The IAU Office of Astronomy for Development	632
<i>K. Govender</i>	

Communicating Astronomy in a Metropolis and Disaster Area – Activities of the Tenpla Project	634
<i>K. Kamegai, N. Takanashi, M. Hiramatsu & S. Naito</i>	
School Workshops on Astronomy	635
<i>J. Molenda-Żakowicz & G. Żakowicz</i>	
The Inflativerse - The University of Nottingham’s inflatable planetarium	636
<i>J. R. Ownsworth, B. Haeussler, E. Johnston & N. Hatch</i>	
Strategies for the public communication of eclipses	637
<i>P. S. Bretones</i>	
Communicating the science of the 11-year sunspot cycle to the general public . .	638
<i>A. R. Choudhuri</i>	
Communicating ALMA with the Public in Japan	639
<i>M. Hiramatsu</i>	
Knowing the people who come to public astronomical observatories: The case of Akita prefecture, Japan	640
<i>N. Kawamura</i>	
Communicating astronomy with the public for scientists	641
<i>R. Girola</i>	
Working with Journalists: Media Access and Why You May Need It	643
<i>R. T. Fienberg & S. P. Maran</i>	
The challengers of an astronomer being a journalist	645
<i>N. Podorvanyuk,</i>	
Las Cumbres Observatory: Building a global telescope network from the ground up.	646
<i>E. L. Gomez</i>	
Exploring science and technology through the <i>Herschel</i> space observatory	647
<i>V. Minier & M. Rouzé</i>	
The Venus Transit, the Mayan Calendar and Astronomy Education in Guanajuato, Mexico	648
<i>H. Bravo-Alfaro, C. A. Caretta, E. M. S. Brito, P. Campos & F. Macias</i>	
<i>Hinode</i> and public outreach	649
<i>K. Yaji, H. Tonooka, M. Shimojo, N. Tokimasa, D. Suzuki, A. Nakamichi & I. Shimoikura</i>	
Mitaka “Taiyo-kei” (solar system) walk; a collaborative science outreach program by institutes, local government, and shopping stores	650
<i>T. Handa, H. Agata, S. Ooasa, K. Karasaki, N. Kitahori, M. Arai, A. Ohta, K. Nishino, T. Ishii, C. Yoshida, T. Taguchi, E. Totsuka, S. Watanabe, H. Fukaya, Y. Kakihana, A. Inoue, K. Itabashi, E. Yoshida, K. Ikeda, K. Saito & T. Kamoshita</i>	
A Global view of the Eclipse over the Earth (GEE) in 2009 and 2012	651
<i>T. Handa, K. Hata, T. Hara, T. Horaguchi, M. Hiramatsu, T. Arai, Y. Sato & K. Ohnishi</i>	

Communicating through Vernacular Media: Scope and Challenges	652
<i>A. Sule</i>	
Astro Talk in Social Media - Indonesia	654
<i>A. Yamani & W. Soegijoko</i>	
Communicating astronomy by the Unizul Science Centre	655
<i>A. Beesham & N. Beesham</i>	
One World, One Sky: Outreach in a Multicultural, Multilingual Metropolis	656
<i>M. Reid</i>	
Astronomy Outreach Adventures in Rural Guatemala	657
<i>L. Strubbe</i>	
Astronomical Education for public and its future development in Mongolia	658
<i>R. Tsolmon, V. Oyudari & A. Dulmaa</i>	
Australian sites of astronomical heritage	659
<i>T. Stevenson & N. Lomb</i>	
SpS15: DATA INTENSIVE ASTRONOMY	
Summary	661
<i>R. J Hanisch and M. Ohishi</i>	
Optical Surveys of Galaxies: Past, Present, and Future	665
<i>S. Okamura</i>	
Radio Surveys: an Overview	667
<i>R. Morganti</i>	
The Role of Wide Field X-ray Surveys in Astronomy	669
<i>R. D. Saxton</i>	
LAMOST and China-VO	671
<i>Y. Zhao</i>	
Taming the ALMA Data Avalanche	673
<i>F. Stoehr</i>	
LSST Data Management: Entering the Era of Petascale Optical Astronomy	675
<i>M. Juric & T. Tyson</i>	
Data Intensive Radio Astronomy en route to the SKA: The Rise of Big Radio Data	677
<i>A. R. Taylor</i>	
Real-time Visualisation and Analysis of Tera-scale Datasets	679
<i>C. J. Fluke</i>	
Knowledge Discovery Workflows in the Exploration of Complex Astronomical Datasets	681
<i>R. D'Abrusco, G. Fabbiano, O. Laurino & F. Massaro</i>	
Kernel PCA for Supernovae Photometric Classification	683
<i>E. E. O. Ishida</i>	
Virtual Atomic and Molecular Data Centre: Level 3 Service and Future Prospects	685
<i>M. L. Dubernet, G. Rixon, M. Doronin & VAMDC Collaboration</i>	

Variable Stars and Data-Intensive Astronomy	687
<i>N. N. Samus & S. V. Antipin</i>	
Galaxy Zoo: Outreach and Science Hand in Hand	689
<i>K. L. Masters & the Galaxy Zoo Team</i>	
Discover the Cosmos - Bringing Cutting Edge Science to Schools across Europe.	692
<i>R. Doran</i>	
SpS16: UNEXPLAINED SPECTRAL PHENOMENA IN THE INTERSTELLAR MEDIUM	
Preface	695
<i>S. Kwok</i>	
Unexplained Spectral Phenomena in the Interstellar Medium	697
<i>S. Kwok</i>	
Unidentified Infrared Emission Features	699
<i>C. Joblin</i>	
Carbon Star Dust Features: the 21 and 30 μm Features	701
<i>K. Volk</i>	
Near-Infrared Spectroscopy of the Diffuse Galactic Emission.	703
<i>T. Onaka, I. Sakon, R. Ohsawa, T. I. Mori, H. Kaneda, M. Tanaka, Y. Okada, F. Boulanger, C. Joblin & P. Pilleri</i>	
Fullerenes in Circumstellar and Interstellar Environments.	705
<i>J. Cami</i>	
Amorphous Hydrocarbon Optical Properties.	707
<i>A. Jones</i>	
Prebiotic Matter in Space	709
<i>P. Ehrenfreund, A. Elsaesser & J. Groen</i>	
Carbon Nanoparticles and Carbonaceous Solids	711
<i>W. W. Duley</i>	
Laboratory Simulations of Physico-chemical Processes under Interstellar Condi- tions.	713
<i>G. M. Muñoz Caro</i>	
Synthesis and Transformation of Carbonaceous Nanoparticles	715
<i>V. Mennella</i>	
Laboratory Analogues of the Carbonaceous Dust: Synthesis of Soot-like Materials and their Properties	717
<i>T. Pino, Y. Carpentier, G. Féraud, Ph. Bréchnignac, R. Brunetto, L. d'Hendecourt, E. Dartois & J.-N. Rouzaud</i>	
A Review on Carbon-rich Molecules in Space	720
<i>F. Cataldo, D. A. García-Hernández & A. Manchado</i>	

**SpS17: LIGHT POLLUTION: PROTECTING ASTRONOMICAL SITES
AND INCREASING GLOBAL AWARENESS THROUGH
EDUCATION**

Preface	723
<i>R. Green, B. García, C. Walker, X. S. Jian, R. M. Ros, E. Álvarez, M. Stavischi and S. Kardel</i>	
China in Action – Starry Sky Project of China	724
<i>X. Wang, Y. Wang & H. Ren</i>	
Losing the Dark: A Planetarium PSA about Light Pollution	725
<i>C. C. Petersen & C. Walker</i>	
Espinho Planetarium’s Public Outreach on Light Pollution	726
<i>L. Canas, P. B. Silva & A. Pedrosa</i>	
Media and Light Pollution Education for the Public	727
<i>J. Romanowska</i>	
TV shows on Light Pollution Education for the Public	728
<i>V. Grigore</i>	
Knowing What is Best	729
<i>R. E. M. Griffin</i>	
More Observations in Schools for Promoting Astronomy and Sky Protection . . .	730
<i>R. M. Ros</i>	
Dark Skies Rangers - Fighting light pollution and simulating dark skies	731
<i>R. Doran, N. Correia, R. Guerra & A. Costa</i>	
The Impact of Light Pollution Education through a Global Star-Hunting Campaign & Classroom Curricula	732
<i>C. E. Walker & S. Burner</i>	
GLOBE at Night in China	733
<i>H. Guo</i>	
Citizen Science Programs on Light Pollution Awareness: Where Do We Go with the Data?	734
<i>C. E. Walker & C. C. M. Kyba</i>	
Night of Darkness Campaign: Make Light Pollution Something Everybody Cares About	735
<i>F. Pas</i>	
A new Starlight Reserve for the central South Island of New Zealand	736
<i>J. Hearnshaw</i>	
Astro tourism: Astro Izery project.	737
<i>T. Mrozek, S. Kotomański, G. Żakowicz, S. Kornafel, T. L. Czarnecki, P. Suchan & Z. Kamiński</i>	
Angular distribution of uplight at 10,000 ft over Berlin	738
<i>C. C. M. Kyba, T. Ruhtz, C. Lindemann, J. Fischer, F. Hölker & C. B. Luginbuhl</i>	
NIXNOX project: Sites in Spain where citizens can enjoy dark starry skies.	739
<i>J. Zamorano, A. Sánchez de Miguel, E. Alfaro, D. Martínez-Delgado, F. Ocaña, J. Gómez Castaño & M. Nievas</i>	

The Night Sky Monitoring Network in Hong Kong.	740
<i>C. S. J. Pun, C. W. So & C. F. T. Wong</i>	
SKYMONITOR: A Global Network for Night Sky Brightness Measurements . . .	741
<i>D. McKenna, D. Davis, & P. Boley</i>	
A standard format for measurements of skyglow.	742
<i>C. C. M. Kyba, D. E. Lolkema & C. E. Walker</i>	
Assessing the contribution from different parts of Canary islands to the hemispheric spectral sky radiance levels over European Northern Observatories	743
<i>M. Aubé</i>	
CTA site characterization: a contribution on Sky Background Brightness	744
<i>G. de la Vega, B. García, J. Maya, A. Mancilla & E. Roseblat</i>	
Protection of Northern Chile as an ICOMOS/IAU “Window to the Universe” . .	745
<i>M. G. Smith</i>	
Dark Sky Collaborators: Arizona (AZ) Observatories, Communities, and Businesses	747
<i>E. A. del Castillo, C. Corbally, E. E. Falco, R. F. Green, J. C. Hall & G. G. Williams</i>	
The Selection and Protection of Optical Astronomical Observing Sites in China	748
<i>J. Wenjing, J. Bai & Y. Yao</i>	
Light pollution in Beijing and effects on Xinglong Station of National Astronomical Observatory	749
<i>L. Lu, B. Zhang, J. Liu & S. Zeng</i>	
Legal protection of the night sky in Andalusia (Western Europe).	750
<i>D. G. Enríquez & Á. Ranea-Palma</i>	
SAAO small telescopes, capabilities and Challenges	751
<i>R. Sefako</i>	
Night Sky Protection Initiatives in Argentina	752
<i>B. García, S. Pérez Álvarez, V. Bibé, A. Risi & L. Gino</i>	
An Introduction to IAU 2009 Resolution B5	753
<i>M. G. Smith</i>	
IAU Resolution 2009 B5 - Commission 50 Draft Action Plan - Presentation and Discussion	754
<i>R. F. Green</i>	
The Effects of Lamp Spectral Distribution on Sky Glow over Observatories	756
<i>C. B. Luginbuhl, P. A. Boley, D. R. Davis & D. M. Duriscoe</i>	
Light Pollution and Protecting Astronomical Sites in China	757
<i>R. F. Green</i>	
Summaries of SpS17 Discussions IAU GA 2012 Special Session on Light Pollution	758
<i>C. E. Walker, B. Parks, D. McKenna, R. Sefako, M. Smith & D. Galadí-Enríquez</i>	
Author index	764

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