第22届国际天文馆学会大会

2014年 6月23–27日

中国 · 北京

会议手册

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KONICA MINOLTA

INTERNATIONAL PLANETARIUM SOCIETY INC.

北京天文馆 Beijing Planetarium

The 22nd International Planetarium Society Conference

CONFERENCE PROGRAM

23-27 June, 2014

Beijing · China

The 22nd International Planetarium Society Conference

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KONICA MINOLTA

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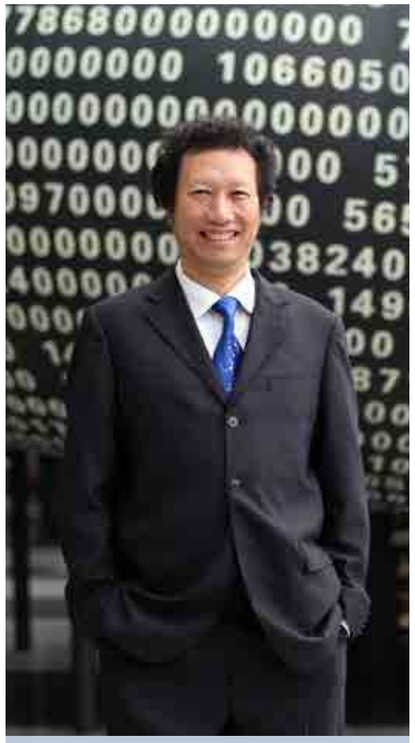
Director's Welcome



Beijing Planetarium is honored to invite all the members of the International Planetarium Society (IPS) to participate in the 22nd IPS Conference, to be held from Monday, 23rd June to Friday, 27th June, 2014 in Beijing, China.

The IPS 2014 Conference under the theme of “Educating for the Future” focuses on the significant role of planetariums in future astronomy education. It presents the latest advancements in astronomy, planetarium theater management and technology, while providing an ideal forum for the exchange of ideas on astronomy education and visitor experience.

Hundreds of Planetarium professionals around the world are brought together to exchange ideas on best practices and present new technology. Chinese and Asian planetarium professionals and educators are also invited to this fantastic gathering devoted to planetarium development and astronomy education, to communicate and make friends with all the colleagues from IPS.

Beijing, capital of the People’s Republic of China, is the nation’s political, cultural, educational, international trade, and communication center. Located in northern China, the city also serves as the country’s most important transportation hub and port of entry. Both a tribute to China’s proud history and a gateway to China’s future, it is an international metropolis, home to more than 20 million people from all walks of life. Having succeeded in hosting the 2008 Olympic Games, Beijing is ready and looks forward to welcoming and impressing you in the week ahead. For more information concerning the city and your possible travel plan, please check the official website of the Beijing government http://www.ebeijing.gov.cn/.

We look forward to welcoming and working with you. Enclosed in this packet, you can find more information about the conference. Please also pay attention on the conference website www.ips2014.org for updates. If you have any questions, please do not hesitate to contact us. Many thanks for IPS council to give this opportunity to Beijing for hosting the great conference, and I wish every participant spending a wonderful time during IPS 2014 in Beijing.

Sincerely,
Dr. Jin Zhu
Director
Beijing Planetarium

FROM IPS
IPS President's Welcome

Dear Planetarians,

Ninety years - almost a century - after creative people projected the dome of the sky indoor for the first time, to teach and share the stars independent of daylight, thousands of planetariums worldwide are attracting visitors of all ages. Since the early days of “first light” of a star projector in the center of the dome in Jena, creativity has continued to rule under the domes of planetariums, revolutionizing and rejuvenating the immersive experience. Projection into a dome brings a sense of immersion that can´t be duplicated anywhere else, and that immersive experience is a powerful inspirational and educational tool.

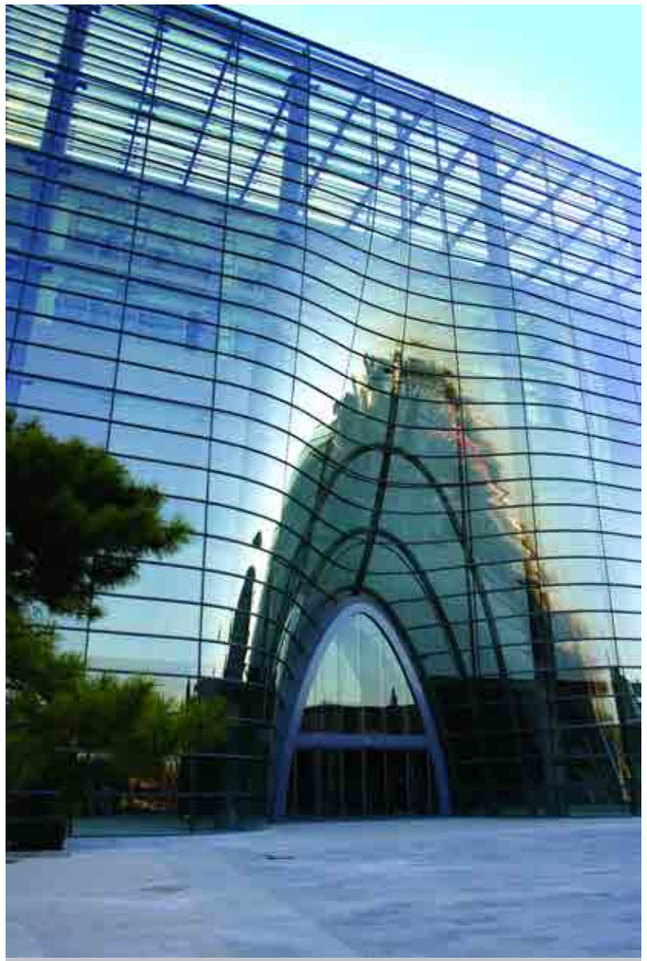
This is the perfect time to discuss the future of our medium - so, on behalf of IPS, the global association of planetarium professionals, I am very pleased to welcome you here in China for this unique event: the first-ever IPS conference in China! Beijing Planetarium is the perfect place to showcase creative ideas, solutions and technologies from around the world. IPS 2014 is here for you to look at and to discuss the future of our medium. For the first time in IPS, an enormous variety of content produced by creative minds from around our planet will be showcased. The best productions from the IPS-Macao-Fulldome Festival (jointly organized with the Macao Science Center and Beijing Planetarium) will be presented and awarded at the conference - and this is only one of many highlights of this IPS conference.

I want to thank Dr. Jin Zhu and his whole team at Beijing Planetarium and all volunteers, supporters and sponsors for making this great event possible - and I look forward to meeting you all and learn about your planetarium. Let us join and share the ideas, insights and creative work in our planetariums around the globe.

Welcome to IPS 2014 - welcome in Beijing!

Thomas W. Kraupe
President
International Planetarium Society Inc.

Contact Information



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Venues

Conference Venue (Primary)

Beijing Planetarium, the first large-size planetarium in China, located in the northwest of Beijing, is the primary conference venue for IPS 2014. It will be the site of all vendor booth exhibitions, keynote speeches, poster sessions, parallel sessions and vendor demonstrations.

Conference Venue (Secondary)

Hotel Nikko New Century Beijing, which is ten-minute's walk from Beijing Planetarium, is a five-star joint venture luxury hotel and a member of "Nikko Hotels International".

Century Hall is the hotel's largest function room, consisting of a VIP room and a main banquet hall. The hall is equipped with lighting systems, acoustic facilities, Internet access, TV screens, and a versatile mobile stage, making it ideal for opening ceremony, luncheon with awards ceremony, and business meeting.

The distance between the hotel and the Beijing Capital Airport is 27 km and it takes 45 minutes to get there by Taxi. The hotel offers limousine service.

Speakers

Mr. Ouyang Ziyuan

Senior Advisor to China's Lunar Exploration Program

The Landing and Exploration of China's Chang'e 3

Abstract:

The soft landing of China's Chang'e 3 and its subsequent in situ exploration, together with activities by its rover（Yutu）, has resulted in the first ever lunar based UV astronomical observation, the first ever near UV imaging observation of the earth ionosphere, and the first ever lunar radar detection of the Moon's soil structure and Moon's sub-crust structure down to 100 m in depth. These and some of the other recent notable achievements by Chang'e 3 will be presented.

Bio:

Mr. OUYANG Ziyuan, widely regarded as the father of China's Lunar Exploration Program (CLEP), has brought the CLEP into fruition since its inception decades ago. He started out his scientific career as an astrochemist with research in meteorites, and went on to become the leading scientist in the country's space exploration. Along the way, he was given numerous awards and honors, including the academicians of the Chinese Academy of Sciences and International Space Science Academy. Currently as the senior advisor to the Leading Group of CLEP, his present responsibility is the formulation and execution of China's near term and long term plan on lunar and solar system exploration, and beyond.

Mr. David J. Eicher

Editor in Chief, Astronomy Magazine

Communicating Astronomy in the 21st Century

Abstract:

This talk will describe the increasing challenges and complexity of communicating planetary science, astronomy, and cosmology in the fast-paced modern world we now live in, with many younger people awash in a continual world of entertainment, and with new modes and methods of getting science out to the public. It will describe exciting current developments, the new worlds of social media and digital publishing, and the challenges to spark interest in planetaria, using the example of a new rock and roll educational show featuring the music of Queen, and produced in collaboration with astronomer-guitarist Brian May, "A Universe of Magic."

Bio:

David Eicher is editor in chief of Astronomy magazine, the world's largest publication on the subject. He is president of the Astronomy Foundation, the telescope industry's first-ever trade association. He is author of 17 books on science and history, and at age 15 founded a magazine on observing galaxies, clusters, and nebulae, Deep Sky Monthly. An avid observer of astronomical objects for more than 35 years, he was honored in 1990 by the International Astronomical Union with the naming of minor planet 3617 Eicher. He is also a rock and blues drummer, playing in the Astronomy Blues Band.

Mr. Sun Xiaochun

Institute for the History of Natural Science, Chinese Academy of Sciences

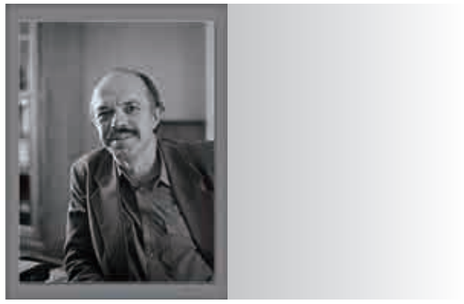
Sky-Gazing and Season-Granting: Astronomy in Ancient China

Abstract:

The most advanced science in ancient China, and the one which seems to throw the most light on Chinese civilization, is astronomy. The recently discovered Taosi site is perhaps the earliest astronomical observatory in China, dated 4000 years before present. The Chinese had invented many astronomical instruments, culminating with the invention in the eleventh century of the water-powered astronomical clock tower which combined observation, demonstration of celestial movements, and time-reporting into one automatic system. Calendar-making was one of the top priorities of the Chinese rulers. The Chinese calendar provided numerical methods for predicting celestial events such as eclipses and planetary motions. By the eleventh century the accuracy in prediction of planetary motions in China reached the same level as that in sixteenth century Europe. Portent astrology was of utmost importance to the state because it indicated the ruler's performance in governing. That is why the Chinese had maintained the longest continuous records of celestial phenomena, some of which prove to be unique and invaluable data for modern astronomy. Sky-gazing and season-granting were the two major themes of ancient Chinese astronomy, which constituted an eternal Chinese agenda for bringing Heaven and Man into a harmonious unity.

Bio:

SUN Xiaochun is Professor of the History of Science at the Institute for the History of Natural Science, Chinese Academy of Sciences. He studied astronomy in Nanjing University. He received his Ph.D. in History of Astronomy from the Chinese Academy of Sciences in 1993 and his second Ph.D. in History and Sociology of Science from the University of Pennsylvania in 2007. He has published primarily on the history of Chinese astronomy and co-authored The Chinese Sky during the Han (Leiden: Brill, 1997). Currently he serves as Vice-President of Commission on History of Astronomy of IAU, and a corresponding member of International Academy of the History of Science.



Mr. Nikolay N. Samus

Institute of Astronomy of Russian Academy of Sciences and P.K. Sternberg Astronomical Institute of the M.V. Lomonosov State University

Astronomy and Astronomical Education in Russia and Countries of the Former USSR

Abstract:

During the Soviet period, science and education in different parts of the Soviet Union developed according to centralized plans. After 1991, each country of the former USSR has its own specifics. This is especially true for astronomy, a science that requires observing facilities, preferably at mountain sites with a good astronomical climate, and expensive large telescopes, while not providing immediate economic effects. Preservation of a good level of astronomical research and education is crucial for space research programs. My review will present information about the level of astronomical research and education in different parts of the former Soviet Union, in somewhat more detail in the case of Russian Federation. I will discuss the present state and development prospects of major observatories, the situation with teaching astronomy in schools and universities. I will also briefly present information on public outreach in the field of astronomy and space research.

Bio:

Nikolay N. Samus, professor, PhD, DSci, was born in Kiev in 1949. Since 1952, lives in Moscow. Graduated from the M.V. Lomonosov Moscow University in 1973. PhD in astronomy: 1977. DSci in astrophysics: 1996. Professor in astrophysics: 2012. Leading researcher of the Institute of Astronomy of Russian Academy of Sciences and of the P.K. Sternberg Astronomical Institute of the M.V. Lomonosov State University, Moscow. The main fields of scientific interests are variable stars and globular star clusters. N.N. Samus is the editor of the General Catalog of Variable Stars. He is now also engaged in the project of digitizing the Moscow stacks of astronomical plates, with simultaneous search for new variable stars. N.N. Samus is the co-chairman of the Eurasian Astronomical Society (the former Astronomical Society of the USSR).

Program Overview

Saturday	**21 June, 2014**
09:00-17:00	IPS Council Meeting at Beijing Planetarium
09:00-17:00	Delegate Registration

Sunday	**22 June, 2014**
09:00-17:00	IPS Council Meeting at Beijing Planetarium
09:00-17:00	Delegate Registration
17:00-19:00	Welcome Reception

Monday	**23 June, 2014**
08:00-17:00	Delegate Registration
09:00-09:40	Opening Ceremony
09:40-10:40	Keynote Speech
10:40-11:00	Coffee Break
11:00-12:00	Exhibition Hall Inauguration
11:00-17:00	Exhibition Hall Open
12:00-13:30	Lunch
13:30-15:00	Paper/Show Presentation/Workshop/Panel Session 1
15:00-15:30	Coffee Break
15.30-17:00	Paper/Show Presentation/Workshop/Panel Session 2
17:00-18:35	Vendor Demonstrations I
18:30-19:25	Break (Meal-Box Provided)
19:30-21:05	Vendor Demonstrations II

Tuesday	**24 June, 2014**
09:00-17:00	Exhibition Hall Open
09:00-09:40	Keynote Speech
09:40-10:30	Poster Session and Coffee
10:30-12:00	Paper/Show Presentation/Workshop/Panel Session 3
12:00-13:30	Lunch
13:30-15:00	Paper/Show Presentation/Workshop/Panel Session 4
15:00-15:30	Coffee Break
15:30-17:00	Paper/Show Presentation/Workshop/Panel Session 5
17:00-18:25	Vendor Demonstrations III
18:30-19:25	Break (Meal-Box Provided)
19:30-20:50	Vendor Demonstrations IV

Wednesday	**25 June, 2014**
09:00-11:30	Exhibition Hall Open
09:00-11:15	Paper/Workshop/Panel Session 6
11:30-13:00	Lunch
13:00-18:00	Mid-conference Tours

Thursday	**26 June, 2014**
09:00-17:00	Exhibition Hall Open
09:00-09:40	Keynote Speech
09:45-10:15	Coffee Break
10:15-12:00	Paper/Show Presentation/Workshop/Panel Session 7
12:15-13:40	IPS Awards Luncheon
14:00-16:00	IPS Business Meeting
16:15-16:45	Coffee Break
16:45-17:15	Group Photo
18:30-21:00	Best of IPS-MSCL Fulldome Festival Presentation

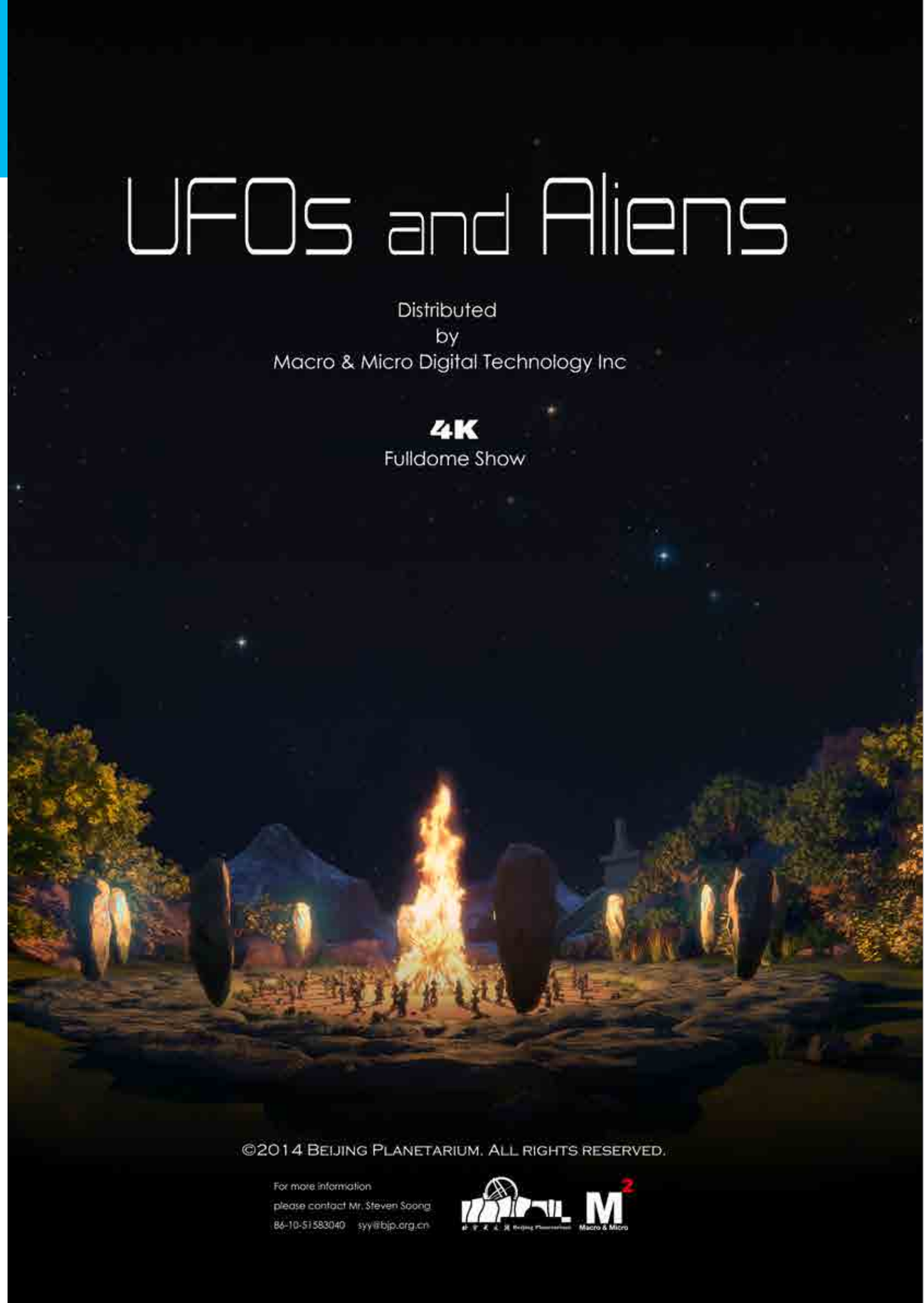
Friday	**27 June, 2014**
09:00-12:00	Exhibition Hall Open
09:00-09:40	Keynote Speech
09:45-10:00	Coffee Break
10:00-11:45	Paper/Workshop/Panel Session 8
12:00-13:30	Lunch
13:30-16:00	Best of IPS-MSCL Fulldome Festival Presentation (Rerun)
13:30-14:30	Paper/Workshop/Panel Session 9
14:30-16:00	Affiliate Meetings
17:30-18:00	Assemble for Banquet
19:00-22:00	Banquet

Program

Saturday & Sunday ***Program***

Day/Time	Event	Location
Saturday	**21 June, 2014**	
09:00-17:00	IPS Council Meeting	Meeting Room 203, Beijing Planetarium
09:00-17:00	Delegate Registration	Lobby, Hotel Nikko New Century Beijing
Sunday	**22 June, 2014**	
09:00-17:00	IPS Council Meeting	Meeting Room 203, Beijing Planetarium
09:00-17:00	Delegate Registration	Lobby, Hotel Nikko New Century Beijing
17:00-19:00	**Welcome Reception**	2F Building B, Beijing Planetarium

Sponsored by Konica Minolta Planetarium Co., Ltd



Monday — Program

Day/Time	Event	Location
Monday	**23 June, 2014**	
08:00-12:00	Delegate Registration	Lobby, Hotel Nikko New Century Beijing
12:00-17:00	Delegate Registration	Service Center, Beijing Planetarium
09:00-09:40	**Opening Ceremony** *Sponsored by Sony (China) Limited.*	Century Hall, Hotel Nikko New Century Beijing
09:40-10:40	**Keynote Speech**: Mr. Ouyang Ziyuan	Century Hall, Hotel Nikko New Century Beijing
10:40-11:00	**Coffee Break** *Sponsored by TIANJI JUXING*	Century Hall, Hotel Nikko New Century Beijing
11:00-12:00	**Exhibition Hall Inauguration**	Exhibition Hall, Beijing Planetarium
11:00-17:00	Exhibition Hall Open	Exhibition Hall, Beijing Planetarium
12:00-13:30	**Lunch: Buffet** *Sponsored by Carl Zeiss AG*	1F Hotel Nikko New Century Beijing
13:30-15:00	**Paper/Show Presentation/ Workshop/Panel Session 1** *Sponsored by Fulldome.pro*	3D Theater, Beijing Planetarium
	3D Theater	
	13:30-13:45 2014-PP01	
	13:45-14:00 2014-PP02	
	14:00-14:15 2014-PP03	
	14:15-14:30 2014-PP04	
	14:30-14:45 2014-PP05	
	14:45-15:00 2014-PP06	
15:00-15:30	**Coffee Break** *Sponsored by TIANJI JUXING*	2F Building B, Beijing Planetarium

Monday — Program

Day/Time	Event	Location
Monday	**23 June, 2014**	
15.30-17:00	**Paper/Show Presentation/ Workshop/Panel Session 2**	3D Theater & Classroom 507, Beijing Planetarium
	3D Theater	Classroom 507
	15:30-17:00 2014-W01	15:30-15:45 2014-PP07
		15:45-16:00 2014-PP08
		16:00-16:15 2014-PP09
		16:15-16:30 2014-PP10
		16:30-16:45 2014-PP11
		16:45-17:00 2014-PP12
17:00-18:35	**Vendor Demonstrations I** Delegates will be divided into two groups for demonstrations (orange, green)	Cosmos Theater & Dome-3D Theater, Beijing Planetarium
18:30-19:25	Break (Meal-Box Provided)	2F Building B, Beijing Planetarium
19:30-21:05	**Vendor Demonstrations II** Delegates will be divided into two groups for demonstrations (orange, green)	Cosmos Theater & Dome-3D Theater, Beijing Planetarium

Vendor Demonstrations — Monday, 23 June

Group A

17:00-17:30 NSC Creative	Dome-3D Theater, Beijing Planetarium
17:35-17:55 Evans & Sutherland	Dome-3D Theater, Beijing Planetarium
18:00-18:15 GOTO INC	Dome-3D Theater, Beijing Planetarium
18:20-18:35 RSA COSMOS	Dome-3D Theater, Beijing Planetarium
18:30-19:25 Break & Meal	2F Building B, Beijing Planetarium
19:30-20:00 Sky-Skan	Cosmos Theater, Beijing Planetarium
20:05-20:25 Konica Minolta Planetarium Co., Ltd	Cosmos Theater, Beijing Planetarium
20:30-20:45 Carl Zeiss AG	Cosmos Theater, Beijing Planetarium
20:50-20:58 Softmachine - Reef Distribution	Cosmos Theater, Beijing Planetarium

Group B

17:00-17:30 Sky-Skan	Cosmos Theater, Beijing Planetarium
17:35-17:55 Konica Minolta Planetarium Co., Ltd	Cosmos Theater, Beijing Planetarium
18:00-18:15 Carl Zeiss AG	Cosmos Theater, Beijing Planetarium
18:20-18:28 Softmachine - Reef Distribution	Cosmos Theater, Beijing Planetarium
18:30-19:25 Break & Meal	2F Building B, Beijing Planetarium
19:30-20:00 NSC Creative	Dome-3D Theater, Beijing Planetarium
20:05-20:25 Evans & Sutherland	Dome-3D Theater, Beijing Planetarium
20:30-20:45 GOTO INC	Dome-3D Theater, Beijing Planetarium
20:50-21:05 RSA COSMOS	Dome-3D Theater, Beijing Planetarium

Monday ***Details*** ***Paper/Show Presentation/Workshop/Panel Sessions***

Day/Time	Date	Location
Monday	23 June, 2014	3D Theater & Classroom 507, Beijing Planetarium

	3D Theater	Chair	Classroom 507	Chair
13:30-13:45	**2014-PP01:** Planetarium and Astronomy Education in China Jin Zhu & Jie Liu	Jon Elvert	–	
13:45-14:00	**2014-PP02:** Suggestions for Best Educational practices in Planetarium Jeanne E. Bishop			
14:00-14:15	**2014-PP03:** International Year of Light and Public Naming of Exoplanets Sze-leung Cheung			
14:15-14:30	**2014-PP04:** Immersive Fulldomes versus Non-Immersive Displays for Astronomy Education Ka Chun Yu			
14:30-14:45	**2014-PP05:** Elementary and secondary school teacher training for Astronomy in China Dongni Chen			
14:45-15:00	**2014-PP06:** Unfolding the Universe Patty Seaton			
15:30-15:45			**2014-PP07:** Make Numbers Beautiful - Data Visualization method in Astronomical Education Jin Ma	Ziping Zhang
15:45-16:00	**2014-W01:** Designing, Building and Operating a Successful Planetarium Ian McLennan Tim Barry Bill Chomik Manos Kitsonas Thomas Kraupe Mike Murray	–	**2014-PP08:** An Example to Teach Middle School Students Astrophotography at BJP Xiang Zhan	Ziping Zhang
16:00-16:15			**2014-PP09:** Teaching astronomy in China's junior high school as a selective course: a case study Xin Li	
16:15-16:30			**2014-PP10:** A handy planetarium Simonetta Ercoli	
16:30-16:45			**2014-PP11:** CNAO, where the star began to shine Yan Dai	
16:45-17:00			**2014-PP12:** Astronomy Education for Pre-schooler at Beijing Planetarium Ying Wang	

Note on sessions:

1. Chair for each session should arrive at the venue 5 minutes before the session starts, to check the microphone and av equipment.

2. As a rule, talk in paper sessions should not exceed 15 minutes, which consists of 10 minutes of presentation time, 3 minutes for Q&A, and 2 minutes for transition between talks.

Tuesday *Program*

Day/Time	Event	Location
Tuesday	**24 June, 2014**	
09:00-17:00	Exhibition Hall Open	Exhibition Hall, Beijing Planetarium
09:00-09:40	**Keynote Speech**: David J. Eicher	East Hall, Building A, Beijing Planetarium
09:40-10:30	**Poster Session and Coffee** （*Tickets for Best of IPS-MSCL Fulldome Festival Presentation Provided Here*） *Sponsored by TIANJI JUXING*	2F Building B, Beijing Planetarium
10:30-12:00	**Paper/Show Presentation/ Workshop/Panel Session 3**	Classroom 505 & Cosmos Theater, Beijing Planetarium
	Classroom 505	Cosmos Theater
	10:30-11:15 2014-PN01	10:30-12:00 2014-W02
	11:15-12:00 2014-W03	
12:00-13:30	**Lunch: Buffet** *Sponsored by Carl Zeiss AG*	1F Hotel Nikko New Century Beijing
13:30-15:00	**Paper/Show Presentation/ Workshop/Panel Session 4** Sponsored by Fulldome.pro	3D Theater & Cosmos Theater, Beijing Planetarium
	3D Theater	Cosmos Theater
	13:30-13:45 2014-PP13	13:30-15:00 2014-W02
	13:45-14:00 2014-PP14	
	14:00-14:15 2014-PP15	
	14:15-14:30 2014-PP16	
	14:30-14:45 2014-PP17	
	14:45-15:00 2014-PP18	
15:00-15:30	**Coffee Break** *Sponsored by TIANJI JUXING*	2F Building B, Beijing Planetarium

Tuesday *Program*

Day/Time	Event	Location
Tuesday	**24 June, 2014**	
15:30-17:00	**Paper/Show Presentation/ Workshop/Panel Session 5**	3D Theater & Cosmos Theater, Beijing Planetarium
	3D Theater	Cosmos Theater
	15:30-13:45 2014-PP19	15:30-16:15 2014-PN02
	15:45-16:00 2014-PP20	
	16:00-14:45 2014-W04	16:15-17:00 2014-PN03
	16:45-17:00 2014-PP21	
17:00-18:25	**Vendor Demonstrations III** Delegates will be divided into two groups for demonstrations (orange, green)	Cosmos Theater & Dome-3D Theater & 4D Theater, Beijing Planetarium
18:30-19:25	Break (Meal-Box Provided)	2F Building B, Beijing Planetarium
19:30-20:50	**Vendor Demonstrations IV** Delegates will be divided into two groups for demonstrations (orange, green)	Cosmos Theater & Dome-3D Theater & 4D Theater, Beijing Planetarium

Vendor Demonstrations — Tuesday 24 June

Group A

17:00-17:30 Sony (China) Limited	Dome-3D Theater, Beijing Planetarium
17:35-17:53 Fulldome.pro	Dome-3D Theater, Beijing Planetarium
18:00-18:07 Softmachine - Reef Distribution	Dome-3D Theater, Beijing Planetarium
18:12-18:20 Bella Gaia	Dome-3D Theater, Beijing Planetarium
18:30-19:25 Break & Meal	2F Building B, Beijing Planetarium
19:30-20:00 Macro&Micro Digital Technology Inc	Cosmos Theater, Beijing Planetarium
20:10-20:35 Spitz, Inc.	4D Theater, Beijing Planetarium
20:40-20:50 Ohira Tech Ltd.	4D Theater, Beijing Planetarium

Group B

17:00-17:30 Macro&Micro Digital Technology Inc	Cosmos Theater, Beijing Planetarium
17:40-18:05 Spitz, Inc.	4D Theater, Beijing Planetarium
18:15-18:25 Ohira Tech Ltd.	4D Theater, Beijing Planetarium
18:30-19:25 Break & Meal	2F Building B, Beijing Planetarium
19:30-20:00 Sony (China) Limited	Dome-3D Theater, Beijing Planetarium
20:05-20:23 Fulldome.pro	Dome-3D Theater, Beijing Planetarium
20:30-20:37 Softmachine - Reef Distribution	Dome-3D Theater, Beijing Planetarium
20:42-20:50 Bella Gaia	Dome-3D Theater, Beijing Planetarium

Tuesday Details Paper/Show Presentation/Workshop/Panel Sessions

Day/Time **Date** **Location**

Tuesday **24 June, 2014** **3D Theater & Classroom 505 & Cosmos Theater, Beijing Planetarium**

	3D Theater	Chair	Classroom 505	Chair	Cosmos Theater
10:30-11:15	–	–	**2014-PN01:** Vision 2020: An Overview of IPS' Strategic Planning Project Thomas Kraupe	–	**2014-W02:** Presenting live under the dome Mark Webb
11:15-12:00			**2014-W03:** Vision 2020: SWOT Analysis and Goals Workshop Thomas Kraupe		
13:30-13:45	**2014-PP13:** Cosmic Wonder, Worldwide Telescope and the Planetarium's Third Wave Mark SubbaRao	Sze-leung Cheung	–		**2014-W02:** Presenting live under the dome Mark Webb
13:45-14:00	**2014-PP14:** Neurodome: Visualization of neuroim-aging data in immersive, full-dome planetarium environments Jonathan A. N. Fisher				
14:00-14:15	**2014-PP15:** Planetaruim Institutions To Become An Icon In Their City And Region Engique Fonte				
14:15-14:30	**2014-PP16:** News and Free Fulldome Materials from ESO's observatories Lars Lindberg Christensen				

	3D Theater	Chair	Classroom 505	Chair	Cosmos Theater
14:30-14:45	**2014-PP17:** GAMA: A new astronomical dataset exploring cosmology and galaxy evolution Tanya Hill	Sze-leung Cheung	–		**2014-W02:** Presenting live under the dome Mark Webb
14:45-15:00	**2014-PP18:** Dome 8k system: analysis and experience Horace LU				
15:30-15:45	**2014-PP19:** Virtual travel waiting for the World Exposition (Expo 2015) Simonetta Ercoli	Steven Soong	–		**2014-PN02:** IPS Task Force Report on Science and Data Visualization Mark SubbaRao
15:45-16:00	**2014-PP20:** Deep Sky. Beyond the black tapestry of the night Fernando Jauregui				
16:00-16:15	**2014-W04:** Exploding the frame - The language of immersive cinema Ben Shedd & Dan Neafus				**2014-PN03:** Science Visualization Showcase Lars Lindberg and others
16:15-16:45					
16:45-17:00	**2014-PP21:** Exploding the frame - The language of immersive cinema Ben Shedd & Dan Neafus				

Note on sessions:

1. Chair for each session should arrive at the venue 5 minutes before the session starts, to check the microphone and av equipment.

2. As a rule, talk in paper sessions should not exceed 15 minutes, which consists of 10 minutes of presentation time, 3 minutes for Q&A, and 2 minutes for transition between talks.

Wednesday

Program

Day/Time	Event		Location	
Wednesday	**25 June, 2014**			
09:00-11:30	Exhibition Hall Open		Exhibition Hall, Beijing Planetarium	
09:00-11:15	**Paper/Workshop/Panel Session 6**		Classroom 505 & 507, Beijing Planetarium	
	Classroom 505		Classroom 507	
	09:00-09:15	2014-PP22	09:00-09:15	2014-PP27
	09:15-09:30	2014-PP23	09:15-09:30	2014-PP28
	09:30-09:45	2014-PP24	09:30-09:45	2014-PP29
	09:45-10:00	2014-PP25	09:45-10:00	2014-PP30
	10:00-10:15	Break	10:00-10:15	Break
	10:15-10:30	2014-PP26	10:15-10:30	2014-PP31
	10:30-11:15	2014-PN04	10:30-10:45	2014-PP32
			10:45-11:00	2014-PP33
			11:00-11:15	2014-PP34
11:30-13:00	**Lunch: Buffet** *Sponsored by Carl Zeiss AG*		1F Hotel Nikko New Century Beijing	
13:00-18:00	**Mid-conference Tours** (13:00-13:30 Assemble at Group Reception of Hotel Nikko New Century Beijing) (Tours are concurrent; delegates may only register for one.) Option 1: The Temple of Heaven, Beijing Ancient Observatory *Sponsored by Evans & Sutherland* Option 2: The Forbidden City			

Wednesday Details Paper/Show Presentation/Workshop/Panel Sessions

Day/Time	Date	Location
Wednesday	25 June, 2014	Classroom 505 & 507, Beijing Planetarium

	Classroom 505	Chair	Classroom 507	Chair
09:00-09:15	**2014-PP22:** Development and Status of Chinese Planetarium Full Dome Show Steven Soong	Mark SubbaRao	**2014-PP27:** Breaking the Cycle: a case study of innovative change Andrew Greenwood	Jin Zhu
09:15-09:30	**2014-PP23:** More than 180 Warik Lawrance		**2014-PP28:** Archiving a Museum Dale W. Smith	
09:30-09:45	**2014-PP24:** Creating Virtual Reality Experiences with WorldWide Telescope Doug Roberts		**2014-PP29:** WPD: Worldwide Planetariums Database Daniel Audeon	
09:45-10:00	**2014-PP25:** A brief history and review of planetarium demelopment in China Shaohao Wu		**2014-PP30:** Optimization of Hybrid Planetariums Chi-Long Lin	
10:15-10:30	**2014-PP26:** How to produce 3D audio for planetarium shows Rene Rodigast	Mark SubbaRao	**2014-PP31:** New Planetarium project in Argentina Oded E. Kindermann	Jin Zhu
10:30-10:45	**2014-PN04:** IPS new audio committee Rene Rodigast	Mark SubbaRao	**2014-PP32:** Cooperation Projects Among Planetariums in Germany Björn Voss	–
10:45-11:00			**2014-PP33:** Stargazing camp for the blind and other persons with disabilities Chun-lam Chan	
11:00-11:15			**2014-PP34:** Visitor Satisfaction Poll Results at Adler Planetarium Mark Webb	

Note on sessions:

1. Chair for each session should arrive at the venue 5 minutes before the session starts, to check the microphone and av equipment.

2. As a rule, talk in paper sessions should not exceed 15 minutes, which consists of 10 minutes of presentation time, 3 minutes for Q&A, and 2 minutes for transition between talks.

Thursday Program

Day/Time	Event	Location
Thursday	**26 June, 2014**	
09:00-17:00	Exhibition Hall Open	Exhibition Hall, Beijing Planetarium
09:00-09:40	**Keynote Speech:** Sun Xiaochun	East Hall, Building A , Beijing Planetarium
09:45-10:15	**Coffee Break** *Sponsored by TIANJI JUXING*	2F Building B, Beijing Planetarium
10:15-12:00	**Paper/Show Presentation/ Workshop/Panel Session 7** *Sponsored by Fulldome.pro*	Classroom 505 & 507, Beijing Planetarium
	Classroom 505	Classroom 507
	10:15-11:00 2014-PN05	10:15-10:30 2014-PP35
		10:30-10:45 2014-PP36
		10:45-11:00 2014-PP37
	11:00-11:45 2014-PN06	11:00-11:15 2014-PP38
		11:15-11:30 2014-PP39
		11:30-11:45 2014-PP40
	11:45-12:00 2014-PP42	11:45-12:00 2014-PP41
12:15-13:40	**IPS Awards Luncheon**	Zhonghua Hall, Hotel Nikko New Century Beijing
14:00-16:00	IPS Business Meeting	East Hall, Building A, Beijing Planetarium
16:15-16:45	**Coffee Break** *Sponsored by TIANJI JUXING*	2F Building B, Beijing Planetarium
16:45-17:15	**Group Photo**	Beijing Planetarium
18:30-21:00	Best of IPS-MSCL Fulldome Festival Presentation	Dome-3D Theater, Beijing Planetarium

Thursday Details Paper/Show Presentation/Workshop/Panel Sessions

Day/Time	Date	Location
Thursday	26 June, 2014	Classroom 505 & 507, Beijing Planetarium

	Classroom 505	Chair	Classroom 507	Chair
10:15-10:30	**2014-PN05:** 'In-system' show production with digital planetaria Edward Bloomer	Mark SubbaRao	**2014-PP35:** Shanghai Planetarium - From dream to reality Qing Lin	–
10:30-10:45			**2014-PP36:** Development and Prospect of of China's Planetarium Xia Guo	
10:45-11:00			**2014-PP37:** Political effects on planetarium activities Omar Fikry	
11:00-11:15	**2014-PN06:** Planetariums for Community Dialogues on Ecological Resilience to Global Change: Evaluation Results and Dissemination Products Ka Chun Yu	–	**2014-PP38:** The analysis of Division of Labor and Coorperation Between Planetarium and Design Company in Exbibition Design Kaiyi Zhao	–
11:15-11:30			**2014-PP39:** How to Make Astronomical Exhibition Fun Jing Wang	
11:30-11:45			**2014-PP40:** The sky above my neighborhood: reading social territories between ground and sky Carlos Augusto Molina	
11:45-12:00	**2014-PP42:** Production Pipeline for Real-Time Planetarium Presentations of Global Change Topics Ka Chun Yu	–	**2014-PP41:** Case study of Chinese Ancient Poetry Astrophotography Competition Bing Li	–

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Friday Program

Day/Time	Event	Location
Friday	27 June, 2014	
09:00-12:00	Exhibition Hall Open	Exhibition Hall, Beijing Planetarium
09:00-09:40	**Keynote Speech**: Nikolay N. Samus	East Hall, Building A, Beijing Planetarium
09:45-10:00	**Coffee Break** *Sponsored by TIANJI JUXING*	2F Building B, Beijing Planetarium
10:00-11:45	**Paper/Workshop/Panel Session 8** *Sponsored by Fulldome.pro*	3D Theater & Classroom 507, Beijing Planetarium
	3D Theater	Classroom 507
	10:00-10:15 2014-PP43	10:00-10:15 2014-PP47
	10:15-10:30 2014-PP44	10:15-10:30 2014-PP48
	10:30-10:45 2014-PP45	10:30-10:45 2014-PP49
	10:45-11:00 2014-PP46	10:45-11:00 2014-PP50
	11:00-11:45 2014-W06	11:00-11:15 2014-PP51
		11:15-11:30 2014-PP52
12:00-13:30	**Lunch: Buffet** *Sponsored by Carl Zeiss AG*	1F Hotel Nikko New Century Beijing
13:30-16:00	Best of IPS-MSCL Fulldome Festival Presentation (Rerun)	Dome-3D Theater, Beijing Planetarium
13:30-14:30	**Paper/Workshop/Panel Session 9**	3D Theater, Beijing Planetarium
	3D Theater	
	13:30-13:45 2014-PP53	
	13:45-14:30 2014-W05	

Friday Program

Day/Time	Event	Location
Friday	27 June, 2014	
14:30-16:00	Affiliate Meetings (if needed)	Classroom 505 & 507, Beijing Planetarium
17:30-18:00	Assemble for Banquet	Hotel Nikko New Century Beijing
19:00-22:00	**Banquet** *Sponsored by Sky-Skan*	Yishiliu Restaurant

Friday Details Paper/Show Presentation/Workshop/Panel Sessions

Day/Time	Date	Location
Friday	27 June, 2014	3D Theater & Classroom 507, Beijing Planetarium

	3D Theater	Chair	Classroom 507	Chair
10:00-10:15	**2014-PP43:** Astronomy education at Al-Khawarizmi Astronomy Complex Kassim Bin Bahali	–	**2014-PP47:** Educational Storytelling Adam Majorosi	Ian McLennan
10:15-10:30	**2014-PP44:** Atlanta Science Festival April S. Whitt	Mark Webb	**2014-PP48:** The Making of Dark Universe Carter Emmart	
10:30-10:45	**2014-PP45:** Review and future prospects of Mobile Planetarium outreach activities at BJP Bin Yang		**2014-PP49:**The train wreck that changed time Francine Jackson	
10:45-11:00	**2014-PP46:** a brief discussion on the effect of mobile exhibitions in social education of planetariums Jun Miao		**2014-PP50:** dynamic 3D theater control system design and implementation Jinliang Zhao	
11:00-11:15	**2014-W05:** The Dutch approach Jaap Vreeling		**2014-PP51:** Activities of the observatory in Hurbanovo between two world wars Marian Vidovenec	
11:15-11:30			**2014-PP52:** Speaking Of Space---Public Ourtreach Science Lectures at Bejing Planetarium Ziping Zhang	
11:30-11:45			–	

	3D Theater	Chair	Classroom 507	Chair
13:30-13:45	**2014-PP53:** From planetarium to Kosmotorium Lars Petersen	Ziping Zhang	–	
13:45-14:30	**2014-W06:** Nanotarium: An Inexpensive Do-It-Yourself Educational Planetarium Projector and Accompanying Optics Curriculum James Sweitzer			

Note on sessions:

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SCISS

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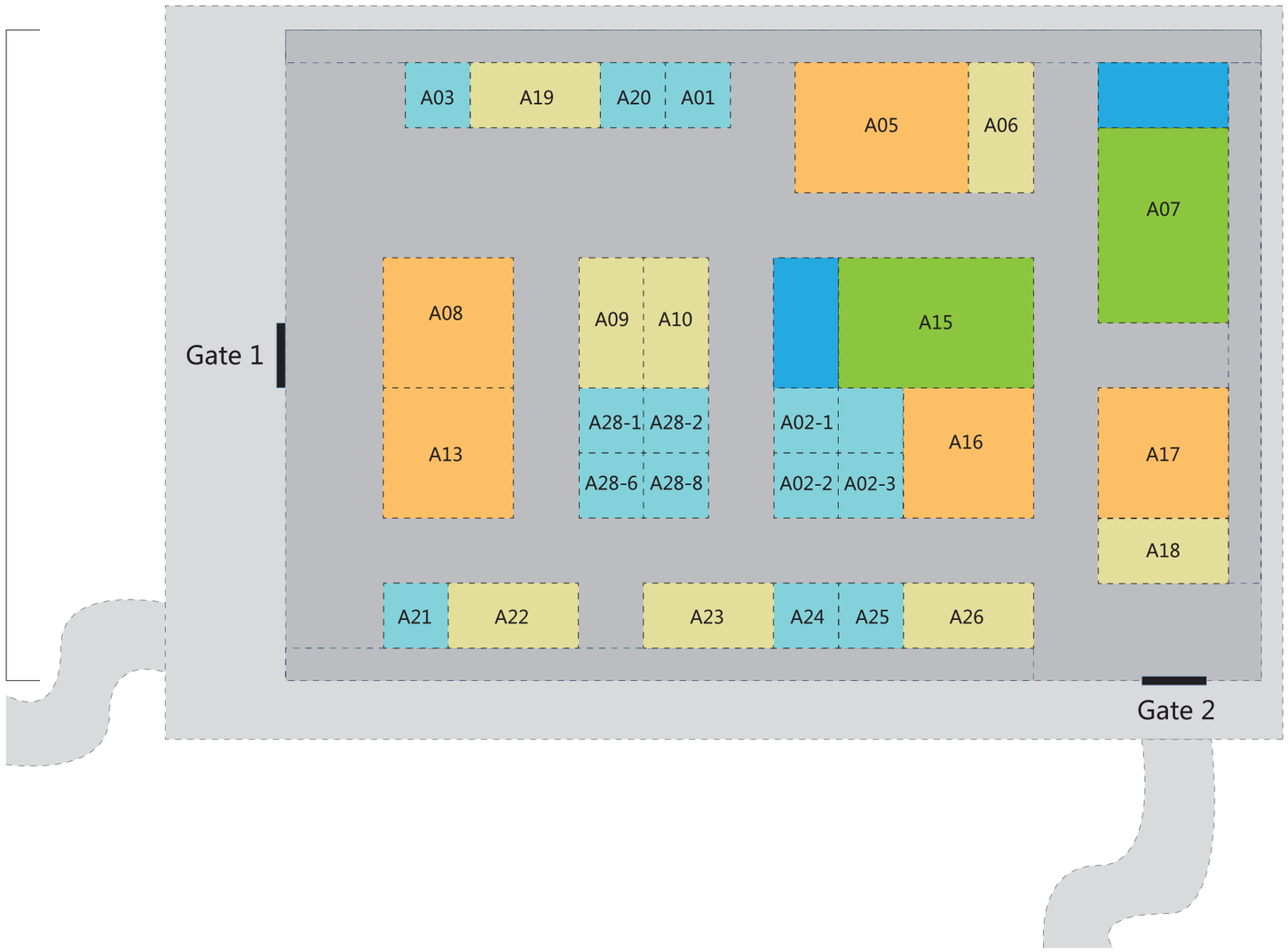
Exhibition Hall

Exhibition Hall Schedule

Monday, 23 June	11:00-17:00
Tuesday, 24 June	09:00-17:00
Wednesday, 25 June	09:00-11:30
Thursday, 26 June	09:00-17:00
Friday, 27 June	09:00-12:00



Exhibition Hall

A01	SCISS
A02-1	Project: Syntropy Gmbh & Domeprojection.com
A02-2	Macro&Micro Digital Technology Inc
A02-3	Factory Island Co.Ltd
A03	Wincomn Technology
A05	Fulldome.pro
A06	Astro-Tec Mfg., Inc
A07	Sky-Skan
A08	Evans & Sutherland
A09	Softmachine - Reef Distribution
A10	Spitz, Inc.
A13	Beijing Tianji Juxing Technology Development Co., Ltd
A15	Professional Solutions of China, Sony (China) Limited
A16	Konica Minolta Planetarium Co., Ltd
A17	Beijing Polar Star Optical Instrument Co., Ltd
A18	Carl Zeiss AG
A19	Nanjing Haotian Astronomical Instrument & Equipment Co.,Ltd.
A20	iDEC
A21	Go-Dome
A22	GOTO INC
A23	RSA COSMOS
A24	Navitar
A25	American Museum of Natural History
A26	NSC Creative
A28-1	CINEDOME STUDIOS
A28-2	Microsoft Research
A28-6	PCCW Solutions Ltd
A28-8	Chengdu Jindu Superstar Astronomy Equipment Co., Ltd

Exhibitors & Sponsors

A25

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A06

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A17

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A28-8

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A28-1

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A08

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A21

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A22

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Exhibitors & Sponsors

A20

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A28-2

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A19

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A24

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A26

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A28-6

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A15

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A01

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Exhibitors & Sponsors

A07

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A10

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A03

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Website	www.wincomn.com

2014-PN01

Thomas Kraupe

Vision 2020: An Overview of IPS' Strategic Planning Project

2014-PN02

Mark SubbaRao, Adler Planetarium

IPS Task Force Report on Science and Data Visualization

The panel will report on the first year activities of the IPS's Science and Data Visualization Task Force. The mission of the task force is to streamline the process of going from data to dome, increasing the potential for scientific communication and storytelling in the planetarium. We have defined several initatives such as preparing planetaria for the big data streams that will come from next generation telescopes, satellites, experiments and computational simulations and creating professional development opportunities aimed at developing more "data savvy" planetarians. We will report on the progress made towards each of these initatives.

2014-PN03

Lars Lindberg and others

Science Visualization Showcase

2014-PN04

Rene Rodigast, Fraunhofer IDMT

IPS new audio committee

With increasing requirements in content production for dome and 3D screens the needs for having content related audio are more relevant. The audience expect a high immersive sound quality together with the video on all seats. The new audio committee will assist planetarium to provide a high quality sound for the audience. In the session the new activities of the committee will introduced and discussed. The goals and activities of the new audio committee will introduced.

2014-PN05

Edward Bloomer, Royal Observatory Greenwich

'In-system' show production with digital planetaria

Many current-generation planetaria software systems are now powerful content-creation tools in their own right, allowing facilities to develop and share their own material. This panel will be a collaborative discussion between panel guests and the audience about how to best harness available tools, concentrating on:

• Development cycles and production values: low-cost tools, shared developments and project lifetimes.

• Specialist content creation: niche topics, audience expectations.

• Show types: hybrid systems, short sequences and full-length shows.

• Education: creating and sharing material, audience expectations and interactivity.

2014-PN06

Ka Chun Yu, Denver Museum of Nature & Science

Planetariums for Community Dialogues on Ecological Resilience to Global Change: Evaluation Results and Dissemination Products

Digital planetariums are powerful environments for illustrating complex oceanic, atmospheric, terrestrial, biological, and human systems. Those science domains can inspire wonder and awe, or they can sink viewers into a dismal sense of futility that we cannot realistically address human alterations to the Earth system. Informal educators require proven techniques to leverage global data visualization platforms while simultaneously focusing audiences on proactive opportunities. The Worldviews Network addresses these challenges by using immersive visualizations to stimulate community dialogues about local resilience to global change. This panel will introudce the Network, and present case studies for this programmatic model of engaging local audiences in global issues from small, medium, and large institutions, as well as from different cultural perspectives.

We will discuss evaluation results of our project, drawing on the perspectives of the informal science education partners who were involved with the Network, as well as visitors to the presentations and dialogues. We conclude with the broad range of professional development materials that are now freely available to the fulldome planetarium community, including detailed narratives from a dozen of our productions, storyboards, visualization files, references and links to further information, and how-to and other tutorial videos.

2014-PP01

Jin Zhu, Beijing Planetarium

Jie Liu, Tianjin Science and Technology Museum

Planetarium and Astronomy Education in China

Promoting astronomy education in schools is one of the most important task for Chinese planetaria from the early beginning of Beijing Planetarium in 1950s. During the recent years, planetaria developed rapidly in China, and more and more astronomy educational activities performed, with some emphasis on school students. This speech will give some introduction and summation on the current status and progress of astronomy education in mainland China.

2014-PP02

Jeanne E. Bishop

Suggestions for Best Educational practices in Planetarium

Both research in education and psychology and experience have shown that a number of ways of communicating ideas are successful. In this paper many of these techniques will be discussed, including concepts possible as a result of brain development, use of different senses, movement, and analogies. Ideas for stimulating motivation in the planetarium also will be considered.

2014-PP03

Sze-leung Cheung, Office for Astronomy Outreach,

International Astronomical Union

International Year of Light and Public Naming of Exoplanets

The International Astronomical Union (IAU) is one of the supporting organziation of the International Year of Light 2015 (IYL2015), one of the IYL2015 cornerstone project is "Cosmic Light", which connect astronomy to light. The IAU Office for Astronomy Outreach (OAO) is the central hub for coordination for the Cosmic Light cornerstone for IYL. We will present the details of the Cosmic Light cornerstone and the ongoing development for IYL programs. Another major campaigns that the IAU OAO office is going to organize will be the public naming for exoplanets. IAU has decdied to name exoplanets, however, we adopt a different approach than the naming of solar system bodies like asteorids or comets, the naming of exoplanet will involve public and public organizations including planetariums. We will present the details.

2014-PP04

Ka Chun Yu, Denver Museum of Nature & Science

Immersive Fulldomes versus Non-Immersive Displays for Astronomy Education

The digital fulldome planetarium is a maturing medium with over a decade of technological innovation. Yet few studies have been done to look at the efficacy of this immersive tool for education. We report results from the first experiment using immersive visualizations for teaching astronomy to college undergraduate students. Weekly curriculum quiz results from students visiting a digital fulldome theater were compared to a control group that saw the same visualizations on a flat screen in their regular classroom, and a second control group that received only traditional classroom instruction. Results from the topic module on Earth seasons shows significant benefits in learning gains for those who visited the dome versus their peers in the two control groups. Learning gains in other modules suggest the importance of interactive views of spatial phenomena within a virtual environment, where multiple frames of reference are presented and three-dimensional relationships between celestial bodies are more easily understood.

2014-PP05

Chen Dongni, Beijing Planetarium

Elementary and secondary school teacher training for Astronomy in China

Astronomy is neither a compulsory course for elementary school nor for secondary school in China.The Astronomical education in elementary and secondary shool in China is facing ever furious challenge.Being the unique large Planetarium in mainland of China, Beijing Planetarium has devoted to astronomy teacher training program for more than 50 years and gained remarkable achievements. Besides the traditional ways inviting physics teachers and geography teachers to take part in the summer school to learn basics for astronomy teaching as part time job, Beijing Planetarium works together with IAU 46 Committee to create a completely new mode to PLAY astronomy in class.

2014-PP06

Patty Seaton, Howard B. Owens Science Center (HBOSC)

Unfolding the Universe

Universe unfolds
Elements creating stars
Encompassing me

What if the elements created in stars create a universal bond between us and everything that exists? How would you express the feeling of your very soul exposed to the wonders of space? Your journey begins with exquisite images of the universe. It becomes a journal for writing, and a study guide to spark the imagination. Come receive a brief taste of what 7th grade Engish Language Arts students experience under the dome at the Howard B. Owens Science Center, as we use scientific images, poems, and the simple beauty of the night sky to encourage poetry writing.

2014—PP07

Jin Ma, Beijing Planetarium

Make Numbers Beautiful - Data Visualization method in Astronomical Education

Data visualization has been wildly used in all fields of sciences. It is a technic to communicate information clearly and effectively by graphical means. It is not only makes the boring numbers and functional descriptions easy to read, but also stimulate viewer engagement and attention.

In astronomical, especially in astronomical outreach fields the massive data obtained by the telescopes over the world everyday constructs a data Great Wall which is impossible to read by public. Even the simplest knowledge of solar system or space or the universe, etc., is not friendly shown by only words and numbers. So graphs are used all the time and data visualization method plays an active role in the outreach activities.

In this report, a few types of data visualization are introduced to make the data visible in an interesting way. Explanatory and exploratory data visualizations are distinguished by examples. A telescope evolution statistics will reveal the secrets of human capabilities of manufacturing, and a trans-Neptunian objects analysis leads the explorer a journey of discovering the history of the solar system.

2014-PP08

Xiang Zhan, Beijing Planetarium

An Example to Teach Middle School Students Astrophotography at BJP

Nowadays, more and more middle school students like astrophotography. We organize 20 to 30 students to form an astrophotography group. In this group, we mainly teach the students these things:
1. The knowledge of night sky.
2. How to use camera and telescope.
3. How to use star atlas, including software and APP.
4. How to take TWAN-style pictures (countryside).
5. How to find dim stars and deep sky objects by using the finderscope (countryside).
6. How to photograph the deep sky objects (countryside).
7. How to process the digital photos by computer.

The students love this group, and some of them can finally take beautiful astronomical pictures and win awards in astrophotography competition of Beijing.

2014-PP09

Xin Li , Beijing Planetarium

Teaching astronomy in China's junior high school as a selective course: a case study

The astronomy course in China’s 9 years compulsory education is still in the initial stage of development. We believe that astronomy course is necessary, and should be of interest for junior middle school students. Therefore we endeavored to set up a pilot astronomy curriculum along with appropriate teaching approach. The goal is to stimulate students’ interest in astronomy, while taking into account the students’ education background. The astronomy course should work in tandem with other courses, such as math and physics. In this paper, we summed up a set of astronomy courses and some actual teaching methods deployed. This work is from 6 years’ experience of teaching activities of Huangsongyu Middle School in Pinggu district, Beijing. We hope that our experience can be helpful for other junior high school science teachers who which to offer astronomy course in their school.

2014-PP10

Simonetta Ercoli, Starlight Association

A handy planetarium

"The most incomprehensible thing of th Universe is the fact that it is comprehensible" (A. Einstein). This is the thought that drives the "StaLight… a handy planetarium" Association to introduce students to the incomprehensible. "A handy planetarium" is a paper model of the Northern celestial hemisphere and a small part pf the Southern one. All the Northern constellations are represented, as well as the ones on the ecliptic, both with conventional star maps and with pictures, created by Mr. Giovanni Murelli, an architect from Todi, Italy. Students have to hold the model in their hands and describe it in great detail, following a specific chart. In this way they can learn the basic information about the celestial sphere by themselves. Students can work alone, in pair or in teams according the format of the paper model. This workshop is for middle and high school students, but "A handy planetarium" can be also used with primary school students like support for other kinds of workshops. I have to show the model and its use with a short PPT, because I can bring it with me.

2014-PP11

Yan Dai, Beijing Planetarium

CNAO, where the star began to shine

Chinese National Astronomy Olympiad (CNAO) was established in 2002. In the continuous development of 13 years, it has become an important astronomy education activity nation widely, and it has an increasing impact on the teenage astronomy amateurs.

At present, CNAO has formed a complete schedule: the national preliminary in March, the national final and the national team trials in May, the national team training in July, and participating in 3 international competition (IOAA, IAO, APAO) from August to December.

In recent years, CNAO national team has accomplished good scores in international contest. By showing their enthusiasm and wisdom of Chinese style, they've made profound friendship with teachers and classmates of other countries.

2014-PP12

Wang Ying, Beijing Planetarium

Astronomy Education for Pre-schooler at Beijing Planetarium

The education of astronomy is becoming a significant subject to promote the development of science and technology. In recent years, Beijing Planetarium is making full use of its educational resources to explore the field of inspiring kids to get knowledge in astronomy. Since 2012, Beijing Planetarium has set up the education base in astronomy for pre-schoolers with the kindergartens and primary schools in Beijing. There are educational course for children, such as, “stars are my best friends”, “looking at skies, wandering in universe”, ”I have an appointment with starry sky”, “The diary of the moon”, “The theatre of stars”. Children are the future of our country, so it is necessary to promote the education in astronomy in kindergartens and primary schools and helps develop the quality of the whole nation. Their creativity and imagination can be developed in the process. This article mainly introduces how Beijing Planetarium carries out educational activities using exhibitions and films for pre-schoolers to share the experiences and come up with some new thoughts in how to offer education in astronomy to children in the near future.

2014-PP13

Mark SubbaRao, Adler Planetarium

Cosmic Wonder, Worldwide Telescope and the Planetarium's Third Wave

In the spring of 2011 the Adler Planetarium opened a new show "Cosmic Wonder" produced and played back entirely in Microsoft Research's Worldwide Telescope software. The paper will argue that this show represents an entirely new type of planetarium show, one made possible through the "sky mode" of Worldwide Telescope - the first "third wave" planetarium show. The first wave of planetarium shows simulated the night sky. The second wave, enabled by digital projection, allows us to fly through three dimensional models of the Universe. The third wave gives us a telescope's view of the sky, pulling in and stiching together imagery from a variety of sources, turning the planetarium into a virtual observatory.

2014-PP14

Jonathan A. N. Fisher, New York Medical College

Neurodome: Visualization of neuroimaging data in immersive, full-dome planetarium environments

New technology is changing the way we view the brain. Advancements in bioimaging now permit us to capture sparks of electrical activity in an individual neuron, and motifs of neural connectivity are being steadily resolved. Yet, despite these technical advancements, there is a growing gap between what scientists are uncovering and what the general public knows and understands. Immersive or "frameless" visualization environments give an audience the experience of physically moving through virtual environments. Real-time, "route-based" data navigation offers a number of educational advantages. Despite the ubiquity of digital dome technology and its documented educational merit, its utility in depicting biological landscapes remains largely unexplored. Here, we describe results from our recent work on creating real-time visualization tools for presenting, in dome format, 3D neuroanatomical data at scales that vary by four orders of magnitude.

2014-PP15

Engique Fonte, Domo Didactico Itinerante

Planetaruim Institutions To Become An Icon In Their City And Region

The word "planetarium" attracts most people because of some mistery surrounds it; also, many times when these people visit a planetarium institution or just a dome theater, might get not so exciting visit experience as expected, in spite of having many new technology tools. That means technology is a very important issue but not enough to give a great performance in the theater and in the hole institution: interactive exhibits, workshops, etc. There are other issues where we must pay attention to improve visit quality, as didactic approach, a good and strategic combination of science and knowledge communication with an easy and enjoyable understanding. Also a gentle and warm welcome and friendly employee attitude, between others. In the other hand, an important need must be covered: a strong and permanent communication with its outside social environment: the city and regional area where it belongs. Each institution is able to develop a solid link with their comunity taking in account the profile of itself (v.gr.science astronomy, culture, environment, education) and the cultural, social and economic background that surrounds it. Then a planetarium can become an important icon.

2014-PP16

Lars Lindberg Christensen, European Southern Observatory (ESO)

News and Free Fulldome Materials from ESO’s observatories

I will present the latest developments at ALMA, E-ELT, Paranal and La Silla. A particular focus will be on our efforts to provide free fulldome footage and stills to the community, and on the future efforts to facilitate weekly dome updates from our observatories (as part of the IPS Science and Data Visualization Task Force).

2014-PP17

Tanya Hill, Melbourne Planetarium

GAMA: A new astronomical dataset exploring cosmology and galaxy evolution

Digital planetariums have the exceptional ability to introduce planetarium audiences to modern astronomy. Being able to fly through the stars of the Milky Way and drift among the galaxies of our Universe is an experience that cannot be achieved elsewhere and from our experence at the Melbourne Planetairum (Australia) it's one that audiences particularly delight in. Here we present a new astronomical dataset called GAMA - Galaxy And Mass Assembly. It combines observations from a number of observatories, both ground and space-based, to better understand how galaxies form and evolve. The survey consists of 300,000 galaxies and compliments previous surveys such as the Sloan Digital Sky Survey (SDSS), the 2dF Galaxy Redshift Survey (2dFGRS) and the Millennium Galaxy Cataloge (MGC). Discover how this new survey is being used to engage the public and how the planetarium can become a tool for research astronomers wanting to know more from their data.

2014-PP18

Horace Lu, Beijing Planetarium

Dome 8k system: analysis and experience

We have installed the first full dome 8K projection system in Beijing Planetarium in the world, and we have been running the system from 2008. Based on the experiences of these years, I make a contrastive analysis between Dome 8k system and optic system in the dome, summarize how to make the maintenance and run the system smoothly, and investigate what the audience's thinking after the 8k and optic dome show. Finally, I give some discussion and suggestion about installation and running of the dome 8K system.

2014-PP19

Simonetta Ercoli, Starlight Association

Virtual travel waiting for the World Exposition (Expo 2015)

This live projection invites the audience of a planetarium to discover a far place through a virtual travel. Your facility can become a "webcam" to discover a far natural park, where the sky is very dark, and the nearest city, where to partecipate in a virtual visit about the treasures of art, history and science. The virtual travels will be in relation with the World Exposition (Expo 2015) that will be held next year in Italy. Starlight Association in Perugia and Serafino Zani Astronomical Observatory in Brescia area invite the colleagues interested in the Expo 2015 to visit also the "astronomical itineraries" of the two cities.

2014-PP20

Fernando Jauregui, Planetario De Pamplona

Deep Sky. Beyond the black tapestry of the night

Deep Sky is a 25' fulldome planetarium show currently under production by the Planetarium of Pamplona, Spain. It's intended for general public but a didactical guide will be created to be used 14 to 18 years-old students. The production characteristics are the standars: 4k, 30fps, Dolby 5.1 & Stereo soundtrack and English and Spanish narration. The script pays homage to the Cosmos series and Carl Sagan and explains some of the topics related to the objects hidden behind the black background of the night. In this presentation we will discuss some production issues about scenes, music, scripting, etc. Please, come and join us through the wonders awaiting us behind that Deep Sky.

2014-PP21

Ben Shedd, School or Art, Design and Media, Nanyang Technological University

Dan Neafus, Gates Planetarium, Denver Museum of Nature & Science

Exploding the frame - The language of immersive cinema

The exploding the frame - the language of immersive cinema workshop will start by comparing and contrasting small screen/framed media with giant dome frameless experiences. Then, using numerous examples, presenters ben shedd and dan neafus will describe and demonstrate dome image placement, audience sight-lines, size and scale, audio placement, effective image and sequence juxtapositions in composition and editing, movement speeds for giant fulldome imagery, and much more. This workshop will provide a wide array of working tools to maximize quality in fulldome productions. Venue: workshop would be best presented in a fulldome planetarium to show full size examples. Audience is producers and presenters of full dome programs and will be very useful to all ips attendees.

2014-PP22

Steven Soong, Beijing Planetarium

Development and Status of Chinese Planetarium Full Dome Show

This paper will introduce the history of the planetarium show in China and the main technology that has been used since 1957.

Before the completion of the Beijing Planetarium, China had no planetarium，and astronomy is limited to the areas of scientific research. Furthermore, public understanding of astronomy was only limited to newspapers and magazines.

In 1957, the first planetarium of China, Beijing Planetarium, is open to public, and that meant the Chinese people began to have a chance to understand astronomy closely. At that time, the production of planetarium shows was easy, that only used optical planetarium and ordinary slide machine to make and play. During nearly half a century, Beijing Planetarium has been at the forefront of the popular science in astronomical of China, and made a lot of attractive planetarium show. During that time, all kind of full dome theaters ware constantly built in science centers and schools, and the show is basically to live speaking.

In 2004, after years of preparation, the new building of Beijing Planetarium was put in use, and the popular science in astronomical of China came into the digital age. So far we have produced many digital full dome shows, including "Interstellar", "Heaven Palace" and so on. In addition to Beijing Planetarium, some other domestic agencies and companies gradually tried to produce digital planetarium show.

Over years of attempt, not only conventional planetarium, 3D animation, scientific visualization technology can be used in making shows, also time-lapse photography, real-shooting can be added in it.

Nowadays, we has a complete production capacity of full dome show, and we is working hard for making more excellent shows for the audience all over the world.

2014-PP23

Warik Lawrance, Museum Victoria

More than 180

Many fulldome producers adhere to the strong belief that only one type of lens should be used in a planetarium. That lens is a 180 degree fisheye as it is perfectly fits the shape of the dome and causes no distortion of the image. However this is akin to a film producer or cinematographer only ever using a 50mm standard lens by reasoning that it perfectly fits what the human eye naturally sees. In reality, cinematographers use a wide variety and range of lens sizes to their stories because they are incredibly useful and powerful tools which assist the narrative. So what is the range of lens sizes that can work in the dome? What are the advantages and disadvantages of using different lens sizes? And how can they be used to the best effect?

2014-PP24

Doug Roberts, WorldWide Telescope

Creating Virtual Reality Experiences with WorldWide Telescope

WorldWide Telescope (WWT) works with Oculus Rift and will be able to work with other future VR systems. Virtual Reality (VR) is a new medium with many of the same characteristics of domed environments, such as immersion. However, VR can provide a much stronger feeling of being present in a virtual environment and producers must think about the audience representation – avatars – in these environments more deliberately than was done for domes. I have created a new VR show entitled "Impact!" that is freely available for use in VR shows using WWT. A free version of the show for the dome is also available. Both versions come with an audience survey instrument to assess various aspects of visitor experience and learning. I will briefly review the steps that went into creating this new show and discuss some lessons learned in producing for virtual reality. I will conclude with a list of next steps that our community should take to better understand the opportunities of this disruptive new technology.

2014-PP25

Shaohao Wu, Beijing Institute Of Technology

A brief history and review of planetarium development in China

Three representative planetarium systems were discussed. Firstly, the world unique universal planetarium system based on geocentric model. The instrument was highly precise because it corrected theoretical error caused by the offset between the projector center and the dome center. Besides, both planet's and earth Kepler orbital motions were corrected. Secondly, the S-10 planetarium has been the best-selling and most popular model in China, equipping hundreds of planetariums nationwide since 1986. Lastly, the newly developed high-end, low cost Nova planetarium system. The Nova is built on experience of prior designs while harnessing recent advances of technology, such as high brightness LED light source, high-efficiency optical fiber coupling and illumination, large NA, high resolution lenses and digitally controlled DDR drive silent motors.

Abstracts

2014-PP26

Rene Rodigast, Fraunhofer IDMT

How to produce 3D audio for planetarium shows

This paper describt the experiences for spatial sound mixing the full lenght planetarium show "life of trees" produced by Peter Popp. The show was remixed fom traditional 5.1 surround sound to object based 3D audio SpatialSound wave.

Workflow from working with conventional digital audio workstations (ProTools, Nuendo), sound placement and animation in the spatial sound software, scaling to large dome size to content exchange will explained .

2014-PP27

Andrew Greenwood, Museum Victoria

Breaking the Cycle: a case study of innovative change

Nothing is more certain than change – and this certainly applies to the technology behind our planetarium systems. In 2012, the Melbourne Planetarium (Australia) found itself with a rapidly aging and obsolete system, and was once again facing the challenges of acquiring capital renewal funding to reinstate them to their former glory. This was to be the third major bid for capital works in 15 years and it was clear that this cycle of uncertain funding would continue to be a challenge well into the future.

By using cost of life philosophy and an innovative approach to finance, Museum Victoria has achieved an assured renewal program and the ability to maintain contemporary technology without the shackles of capital funding. The cycle has been broken.

I will describe the new approach taken by Museum Victoria to achieve a secure renewal strategy and to ensure that the Planetarium keeps pace with the progress of technology well into the future.

2014-PP28

Dale W. Smith, Bowling Green State University

Planetarium

Archiving a Museum

I recently digitized the entire collection of the village museum in my boyhood home town of Ames, New York, USA. Steps included the photography of physical items, scanning of paper items, organization of images into folders, optical character recognition of text, indexing of special collections, creating a table of contents, and storage of all on archival DVDs. The methods are applicable to any museum, including those connected with planetariums.

2014-PP29

Daniel Audeon, Planetarium of Nantes (France), APLF

(Associaton of French Speaking Planetarium) member

WPD: Worldwide Planetariums Database

With the IPS Directory, WPD is the website where you will find all sorts of information on all planetariums around the world: exact location, pictures, dimensions, facilities, materials, equipment, installers/providers, projectors, etc. Hosted on the APLF website, easy access from the IPS website or on Twitter, or Google Earth or Maps. Just for the pleasure of seeing your planetarium or seek another worldwide, compare, get your colleagues, seeking information to evolve and upgrade. Use the power of a database to sort, select, search, make choices etc.

2014-PP30

Chi-Long Lin, National Museum of Natural Science

Optimization of Hybrid Planetariums

The digital planetariums have formed an irresistible trend of the future. But they are still not mature enough to dominate the dome. Thus, many large planetariums choose a hybrid of digital and opto-mechanical projectors to achieve good optical qualities and dynamic effects simultaneously. Of course, the price of such a system must be much more expensive. However, these two components are indeed partially superimposed. If one cuts off these superimposed parts, the final performance will not be reduced any a bit. Such an optimization has already been proved to be feasible in the IPS 2012 conference. This article will explain how it was accomplished and why it is applicable.

2014-PP31

Oded E. Kindermann, Astrojujuy

New Planetarium project in Argentina

This presentation is about showing to others how you can make your dreams come true, and how you can achieve your goals withpersistence and effort. After two years of hard work, endless meetings with politicians, phone calls, etc, the government finally give me the YES word to finance and build the first Planetarium in the north region of Argentina, where technology and sciencewas always relegated and forgotten.

This new Planetarium will provide to the region a quantum leap in questions of education, cultural and science knowledge.

I believe that there are many others like me that would like to build their own planetarium, this is a presentation to all of them.

I also have the intention to request the participation from vendors in order to help complete this project by giving any kind of technology thatwill be necessary to finish it.

2014-PP32

Björn Voss, Planetarium at the Westphalian State Museum of Natural History

Cooperation Projects among Planetariums in Germany

Several planetariums in Germany are cooperating closely on a number of projects, organized in different structures. These range from formal activities of the German Planetarium Society (GDP), or large show production projects with ten partners or more, towards ad hoc cooperation on smaller issues. Some relevant projects are discussed, with a focus on show production projects. These can allow small or mid-sized planetariums to achieve customized fulldome show productions even when on a budget, by sharing of assets.

2014-PP33

Chun-lam Chan, Hong Kong Space Museum

Stargazing camp for the blind and other persons with disabilities

Since 2010, the Social Welfare Department of the Hong Kong government and over 40 organizations, profit or non-profit, have joined together to organize an over-night stargazing activity called "Stargaze Camp for All & the Blind". The number of participants increased from 700 in the first year to 1800 last year. There were people with visual impairment, hearing impairment, intellectual impairment and physical impairment, minority, new arrivals, students, as well as people from the business sector and government departments. The Hong Kong Space Museum has been responsible for supporting the astronomy and stargazing related materials, equipment and manpower. From developing tactile starmap at the beginning, to employing 3D printing technology in recent years, some experience to communicate to people with visual impairment has been obtained. Barrier free Telescope was used to facilitate the observation experience for people with physical impairment. Chinese, English and sign language were used to explain astronomical phenomena. We hope, as we are all living under the same starry sky, we can eliminate any discrimination, misunderstanding against people with disabilities and to bolster social inclusion and harmony, by a joyful and relaxing stargazing.

2014-PP34

Mark Webb, Adler Planetarium

Visitor Satisfaction Poll Results at Adler Planetarium

During March and April of 2014 the Adler Planetarium conducted a poll of more than one thousand planetarium visitors. Planetarium show patrons were asked to rate their satisfaction with the program they had just experienced on a scale of one to five. Both live presentation and pre-recorded programs were measured. This paper will present the results of the audience response poll, compare the results to previous data, and make recommendations for creating programming that will help increase audience satisfaction with their planetarium visit.

2014-PP35

Qing Lin , Shanghai Science & Technology Museum

Shanghai Planetarium - From dream to reality

Shanghai Planetarium Project has been approved by Shanghai Municipal Government in January, 2014. Four years later, A brand new Shanghai Planetarium will appeared in the southeast of Shanghai, a new area named "Lingang New Town". It will become the second comprehensive planetarium in China and as a building area of 38,000 square meters; it will be one of the biggest and most advanced planetariums in the world. This talk will report the background of such an exciting project, its object, its designing concept and current status. We wish to share and discuss designing ideas with every planetarian.

2014-PP36

Xia Guo, Beijing Planetarium

Development and Prospect of China's Planetarium

This paper reviews the origin and development of China's Planetarium and equipment. Paper analyzed the features of the Chinese Planetarium, the developing trend of Planetarium of China, from 1957 and 1978 in the initial period, during 1979 to 1992 the formative years, from 1993 to 2003 the growth period, and the period of prosperity since 2004. explore the development of the China's Planetarium in the future.

2014-PP37

Omar Fikry, Planetarium Science Center, Library of

Alexandria Political effects on planetarium activities

After hosting the 20th International Planetarium Society conference (IPS 2010) with Seven months, The Egyptian revolution starts at 25 January 2011. Because of these political changes; the number of planetarium visitors and its related activities was strongly affected. And for more than three years we are still working with big resistance to keep the planetarium active as it was. We will show some statistical information before and after the revolution and discuss how the political issues can affect the work at the planetarium.

2014-PP38

Kaiyi Zhao, Beijing Planetarium

The analysis of Division of Labor and Cooperation between Planetarium and Design Company in Exhibition Design

With the rapid development of new exhibition technology, now in the Planetarium, the update frequency of astronomical science exhibition is increasing. An excellent astronomical science exhibition, need diverse talents, not only an astronomical background of professional and technical personnel, but also more with exhibition technical background professional personal. In the design of astronomical science exhibition, planetarium staff first put forward the basic design idea, delimit the exhibition area and the elements generally content. And design company design display form, then both sides in combination with the lastest display technology to make sure that the popular science exhibition will be interactive and interesting. In this article, there are some instances in the design process of new exhibition in the Beijing Planetarium.

2014-PP39

Jing Wang, Beijing Planetarium

How to Make Astronomical Exhibition Fun

With the development of astronomy science education philosophy and multimedia information technology, planetarium exhibition is designed to pay more and more attention to space form and the creation of the atmosphere and situational experience. Interactive learning has become the dominant mode of exhibition. How to make the inscrutable knowledge become easy and fun? How to stimulate the audience's interest in astronomical knowledge learning? From the perceptive of incentives, we can make it work by letting the audience learn through fun themes; consolidate knowledge from interest assessment; finally get to scenario games or other incentives scenes. Then, the astronomical knowledge will disseminate to the public in a simple and funny way and make astronomical education activities more attractive. Meanwhile, the complete incentive system not only makes the exhibition more holistic, enriches the exhibition experience, but also improves the effect of popularity of astronomical knowledge.

Key Words: Fun, Thematization, assessment, incentive.

Abstracts

2014-PP40

Carlos Augusto Molina, Planetario de Medellín, Parque Explora

The sky above my neighborhood: reading social territories between ground and sky

Medellin is, in matter of size, the second city in Colombia. At the last decades, some communities have been suffering a intra-urban displacement and fragmentation of the territory caused by a migration of the armed conflict to bigger cities. As a result of this situation, appears a social fenomenon called "invisible borderlines". The planetarium of Medellin, in a partnership with the public librarys of the city, is using astronomy encounters and the promotion of scientific reading as an estrategy to encourage another looks to the relation between the community and their surroundings.

2014-PP41

Bing Li, Beijing Planetarium

Case study of Chinese Ancient Poetry Astrophotography Competition

Our ancestors are closer to the night sky than we are. The sky nearly never changes. The OAD 2013 project Chinese Ancient Poetry Astrophotography Competition encourages more people to take pictures of the night sky according to Chinese ancient poems. And then let more people appreciate the night sky through the lenses of that beautiful poetry! Kevin Govender, the director of IAU OAD said, ' This project that Bing Li is leading is a perfect marriage between our cultural astronomical roots and the modern technology we use to observe the stars.' This article will show some beautiful works of the competition and share how we design and develop the project.

2014-PP42

Ka Chun Yu, Denver Museum of Nature & Science

Production Pipeline for Real-Time Planetarium Presentations of Global Change Topics

The Worldviews Network has pioneered community dialogues using immersive visualizations for digital fulldome planetarium audiences. Our central tenet is to build collaborations among network partners, local scientists, and community-based organizations. Each local team writes its own narrative and generates original data visualizations. These are presented together in a planetarium or immersion theater. Each narrative focuses on how to meet global challenges by promoting local resilience. We describe the Worldviews Network production pipeline for generating stories, strategies for creating compelling narratives, guides for selecting geospatial datasets to be displayed within immersive displays, visualization and other content creation best practices, and navigation tips for the live docent-led presentations.

2014-PP43

Kassim Bin Bahali, Al-Khawarizmi Astronomy Complex

Astronomy education at Al-Khawarizmi Astronomy Complex

This paper will discuss education activities carried out at Al-Khawarizmi Astronomy Complex. The aims of these activities is to educate students and people about astronomy. It also aims to create awareness and appreciation of the importance and contributions of astronomy in daily life.

These activities have several topics with features basic information, concepts and skills. These activities are arranged in such a way that they can choose to work on any activities.

2014-PP44

April S. Whitt, Fernbank Science Center

Atlanta Science Festival

Atlanta hosted its first-ever Science Festival in March 2014. Fernbank Science Center offered activities, planetarium programs and a mystery-theater presentation: Death By Chocolate.

2014-PP45

Bin Yang, Beijing Planetarium

Review and future prospects of Mobile Planetarium outreach activities at BJP

Mobile Planetarium is one of the most important forms of science outreach activities beyond the locational confines of Beijing Planetarium. This paper briefly reviews the activities of our Mobile Planetarium in the past six years, along with corresponding statistical analysis. We have found that:

1. The demand of public for popularizing astronomy activities has gradually increased, especially the demand from outside Beijing is accelerating, in recent years;

2. The principal targeted audience of our Mobile Planetarium are primary and secondary school students, followed by the residential communities;

3. Annual activities distribution will be mostly affected by the weather and the student's holiday and vacation schedule.

Based on our analysis, combining the trends of science popularization environment, this paper also analyzes the future prospects and challenges which our Mobile Planetarium will face, and puts forward some suggestions for that.

2014-PP46

Jun Miao, Beijing Planetarium

A brief discussion on the effect of mobile exhibitions in social education of planetariums

A brief discussion is made on the effect of mobile exhibitions in social education of planetariums, from aspects of improving the public's scientific and culture quality, training patriotism, serving out of school education, training creative talents and realizing lifelong education for adults. The discussion which is made in the field of planetariums has been rarely mentioned in papers of China. As effective ways in social education, mobile exhibitions are good supplements for local exhibitions of the planetarium, and further expand its educational function and social effect.

Key words: mobile planetarium, social education, mobile exhibitions

2014-PP47

Adam Majorosi, Freelance Scriptwriter

Educational Storytelling

How can we trigger young people to adapt scientific subjects at school, especially mathematics and physics? Planetarium shows can play an important role, but the key is the way of storytelling.

By the example of the astronomy show "Journey to a Billion Suns", the strategy of educational storytelling will be outlined. How does a complex story work? How do characters support the story? How much of colloquial wording is necessary? How about a dialogue?

How much solid content is digestible? The story of a 45 minutes show is a very complex work of art that needs structuring and wording skills. And finally how is it perceived by the audience? How much of the content sticks in the audience's mind? What exactly has been delivered? This paper doesn't commend any show. It draws upon real experience in the making of the show.

2014-PP48

Carter Emmart, American Museum of Natural History

The Making of Dark Universe

The latest space show production from the American Museum of Natural History attempts to explain not only what we know about cosmology, but how we know it. The three concepts of how we discovered the evidence for the Big Bang were taken on directly adding in how we discovered dark matter and dark energy. Using state of the art production data visualization and unique simulations created for the show, Dark Universe illustrates upon the data the basic cornerstones of current cosmological understanding. How this show was created will be described step by step.

2014-PP49

Francine Jackson, University of Rhode Island Planetarium

The train wreck that changed time

Recently, a copy of a photograph in a local observatory led to the discovery that a train wreck that occurred in my own neighborhood was not only the first ever taken, but led to the decision to standardize time. This information led to an exhibit in a local historic building, a PowerPoint presentation, and a paper. Whenever a unique bit of information is learned, take a little time for it. It could be an eyeopening event.

2014-PP50

Jinliang Zhao, Beijing Planetarium

Dynamic 3D theater control system design and implementation

According to Beijing planetarium 3D Motion Theater Automatic Control Systems project designed and implemented a 3D dynamic cinema automatic control system. This system consists of main cabinet, OCC operator panel and control box. Through emergency stop chain and sport license chain together to achieve the system security module. System also achieve mutual communication between control devices using the Ethernet, RS-232，RS485. Experiments show that the layout of the hardware is reasonable, The signal delay between distributed PLC architecture and iFix control configuration software in 50ms or less and the update cycle of local database is 0.5s so that able to achieve real-time control of various types of equipment in the 3D cinema. The 72 screenings within two weeks show that the correct rate of system up to 100%.

Keywords: Dynamic cinema, Control systems, Sports licensing, Emergency stop chain, Distributed architecture PLC

2014-PP51

Marian Vidovenec, Slovak Central Observatory

Activities of the observatory in Hurbanovo between two world wars

The observatory in Hurbanovo (former Stara Dala) was established in 1871 by Nicolaus Konkoly Thege. During short period it became wel known all over Europe. The first period of its existence ended in 1918 after the First World War. Hurbanovo became a part of newly established state Czechoslovakia so instruments of the observatory were removed to Hungaria. Activities of the observatory were saved thanks to fact that it became a part of Czechoslovak State observatory. This siutation continued till 1939. There worked a lot of important Czechoslovak astronomers (Kavan, Sternberk, Dittrich) in Hurbanovo´s obsevatory during this 20 years period. In 1927 there was installed 600 mm mirror telescope. By this telescope staff of the observatory made the first photos of Pluto from Europe, just two weeks after its discovery. Besides astronomical activities staff of the observatory worked on solving mathematical and technical problems and provided popularisation of astronomy too. This period ended at the beginning of the Second World War, when teritory of Hurbanovo became a part of Hungaria and the observatory lost its equipment again.

2014-PP52

Zhang Ziping, Beijing Planetarium

"Speaking Of Space" --- Public Outreach Science Lectures at Beijing Planetarium

The public lectures at Beijing Planetarium dates back to 1957, when the planetarium was first built. Over the years, the lecture has reached tens of thousands , or perhaps hundreds of thousands of people of various ages and education background. With the coming of the digital age and the information explosion, the lecture series is facing new challenges in terms of retaining its traditional audience, as well as expanding its reach to a broader spectrum of the society.

2014-PP53

Lars Petersen, Orion Planetarium

From planetarium to Kosmotorium

Kosmotorium is an ambitious plan to enlarge the Orion Planetarium with an adjacent building containing a science centre dedicated to astronomy and space science. In my talk I'll describe the concept for Kosmotorium and the various topics covered by the exhibits and activities, that all will be linked to the planetarium shows. Our aim is to rethink astronomy communication with the use of visualizations, live astronomical data and live presentations.

2014-W01

Ian McLennan

Tim Barry

Bill Chomik

Manos Kitsonas

Thomas Kraupe

Mike Murray

Designing, Building and Operating a Successful Planetarium

2014-W02

Mark Webb

Presenting live under the dome

2014-W03

Thomas Kraupe

Vision 2020: SWOT Analysis and Goals Workshop

2014-W04

Ben Shedd & Dan Neafus

Exploding the frame - The language of immersive cinema

The exploding the frame - the language of immersive cinema workshop will start by comparing and contrasting small screen/framed media with giant dome frameless experiences. Then, using numerous examples, presenters Ben Shedd and Dan Neafus will describe and demonstrate dome image placement, audience sight-lines, size and scale, audio placement, effective image and sequence juxtapositions in composition and editing, movement speeds for giant fulldome imagery, and much more. This workshop will provide a wide array of working tools to maximize quality in fulldome productions. Venue: workshop would be best presented in a fulldome planetarium to show full size examples. Audience is producers and presenters of full dome programs and will be very useful to all IPS attendees.

2014-W05

Jaap Vreeling, Dutch Research School for Astronomy

The Dutch approach

In February 2010 NOVA, the Dutch research center for Astronomy started a project with a Mobile Planetarium. We are visiting with schools with different levels through the whole Netherlands. The team consists of astronomers, master and phd students. The project is a huge success with more than 170 visits a year, it is based on interactive shows supervised by astronomical institutes. Schools are trying to organize a visit of the mobile planetarium in connection with their educational program. In May 2014 the project will reach the milestone of 100.000 visitors. In my presentation I will give you an overview of our outreach program in the Netherlands. We can discuss points of research of the learning aspects of our project.

2014-W06

James Sweitzer, Columbia College Chicago

Nanotarium: An Inexpensive Do-It-Yourself Educational

Planetarium Projector and Accompanying Optics

Curriculum

This workshop will introduce the planetarium community to the Nanotarium. A Nanotarium is a small, single-frame planetarium projector that can be assembled by astronomy educators and their students anywhere in the world. The project is funded in part by the International Astronomical Union (IAU) with the intention of creating introductory, affordable planetarium technology for developing world astronomy educators. The Nanotarium was designed to be a hands-on STEM module for high-school level students. Nanotariums feature educationally useful single star fields that are projected using quality optics onto ceilings or walls. Bright, white LEDs, the ability to create digital star fields for laser cutting and 3D printing have made Nanotariums possible. The project will also feature online support in the form of training videos and an accompanying curriculum on the optics upon which these projectors depend. Nanotariums have been prototyped and developed by Chicago high school students. At this workshop, we will give out the parts for a limited number of Nanotariums to those who complete the workshop. The IAU is supplying these projector parts for this session and more will be available at cost in the future.

2014-PS01

Chiaki Yoshizumi, Wakayama University

High definition fulldome video of various real scenery (VRS)

There are some experiences which cannot be fully appreciated if we do not go to the field. For example, we cannot fully perceive the dramatic change of ground scenery before, during and after a total solar eclipse. The usual video image or CG image does not compare to the live experience. In 2009, we took fulldome video of a total solar eclipse using a 4K video camera with a fisheye lens and transmitted live images from the field to 4K digital planetariums. The audience was able to experience the event, as an on location observer would, by reproducing a multidirectional video image on a dome screen. There are some subjects which cannot be fully experienced with the usual video or CG. Examples are natural landscape, submarine landscape, intangible cultural asset and disaster(Tsunami) area landscapes. We have been recording high definition, fulldome video of various real scenery(VRS). In this poster, we present the detail of our various experimentation and observations such as the attention/perception response of the audience.

2014-PS02

Jane ASHONG

Evaluating What We Do

Schoolchildren aged 4 to 18 visit Ghana Planetarium on weekdays. Teachers and pupils are enthused and excited by planetarium shows. Most want to learn about the solar system which is on the school curriculum. Children are questioned to assess their current astronomy knowedge. Posters, activities, demonstrations, questions and answers enrich their understanding. Teachers were asked to evaluate their visit and the facility. The majority said the visit had increased the children's knowledge. Most thought they would not have accessed this knowledge elsewhere. All the teachers wanted to bring their pupils for further visits. Transport costs prevented deprived schools from visiting. We held a one-week workshop for university students, teachers and lecturers in August 2013. We gave them questionnaires to find out what they thought of the workshop. The comments were overwhelmingly positive, and they thought similar workshops should be held for other groups.

2014-PS03

Marian Vidovenec

Present activities of Slovak Central Observatory in Hurbanovo

The existence of Slovak Central Observatory is divided into three periods. The first period (1871 - 1918) is connected with Nicolaus Konkoly Thege, the founder of the observatory. The second period is the era between two world wars. The present period started in 1962 when public observatory in Hurbanovo was established. Its activities grew up and in 1969 it became central public observatory in Slovakia. The Observatory publishes a magazine Kozmos six time a year. Since 1983 there have worked a small planetarium ZKP1. The observatory has a library and publishes several publications. An optical workshop of the observatory provides a service for amateur astronomers. A Museum of Nicolau Konkoly Thege was astablished in 2006 as a part of the observatory. Its main activity is orientad to collect historical astronomical instruments and introduce them to public. Main observational program is oriented to Solar observation, in 1983 there was built up a big Solar telescope on site of the observatory.

2014-PS04

Maria Helena Steffani - Planetário da UFRGS/Brazil

BRAZILIAN PLANETARIUMS 2014: an overwiew

Brazil is the world's fifth largest country. It has many natural richness and singular beauties and its people exhibit great ethnical and cultural diversity.

Brazil has great challenges. For instance, to improve its educational system, to provide efficient public health to the people, to guarantee public security, to reduce social differences and so on.

Planetariums do contribute significantly to improve the quality of the educational process, mainly in science area.

The first Brazilian Planetarium was installed in São Paulo, our largest city, in 1957. Five years later, the second one was installed in Rio de Janeiro.

Since 1960, some new Planetariums were created during the folllowing XX century decades. But in the first decade of XXI century the total number of Brazilian Planetariums duplicated.

Nowadays Brazil has almost 50 fixed planetariums and 40 portable ones.

A recent research shows that most of fixed planetariums are supported by government sectors and need new and modern planetarium equipments, like the digital ones.

Yet most of the portable Planetariums are private and, frequently, they have no enough people to work in.

Most of the fixed Planetariums are members of the Association of Brazilian Planetariums (ABP) which, like IPS, encourage the sharing of ideas among its members through an anual conference and meetings.

2014-PS05

Jing Liu, Guangxi Science &Technology Museum

Legends about the sky of the Pacific Rim

--take the sky of Zhuang rural area in China as an example

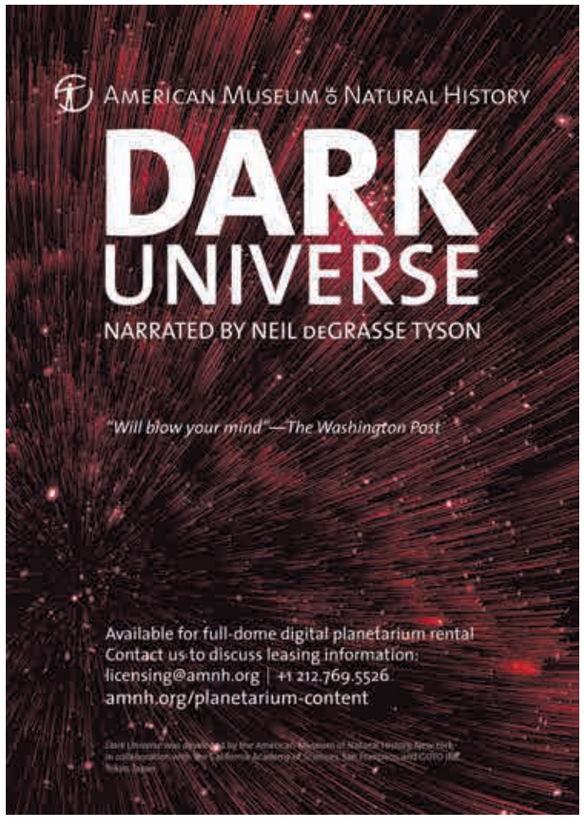
Guangxi Zhuang Autonomous Region is located in the south of China and is unique in geographical location. The Tropic of Cancer traverses its midland. In the long history, Zhuang ethnic has formed a special national culture on cosmology, calendar and production lifestyle, and then revealed the astronomical mysteries and planetarium culture with simple language and traditional pattern of Zhuang ethnic. All of these activities have enriched cosmic civilization of Chinese nation, and pushed forward economic and social development of Guangxi Zhuang Autonomous Region.

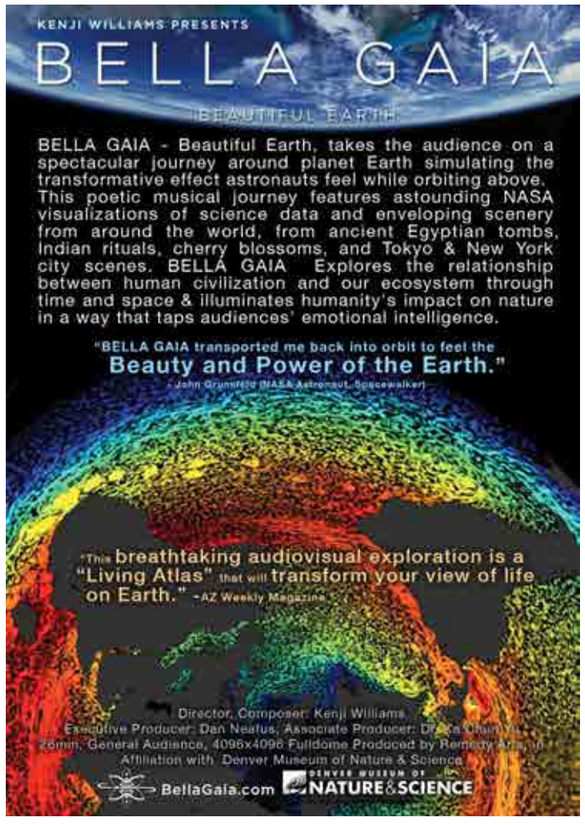
2014-PS06

Fernando Jauregui, PLANETARIO DE PAMPLONA

Mutant Bacteria - A story about the universe in a drop of water

Mutant Bacteria is a planetarium program for young children. It tells the story of a bacterium that is different: a mutant bacteria. We narrate the adventures of this little protagonist while walking through his microscopic world and its relationship with other beings who ignore or who want to devour her. Finally the little mutant bacteria finds its place in the ballet of Mademoiselle Ameba. The characters and some backgrounds that appear in this story have been built using images of different fluid mixtures. This makes for a visual richness that is difficult to achieve with classical animation.





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