

# XXIX Planetary Congress Association of Space Explorers

October 2016 • Vienna, Austria



## Born to Explore

### XXIX CONGRESS REPORT

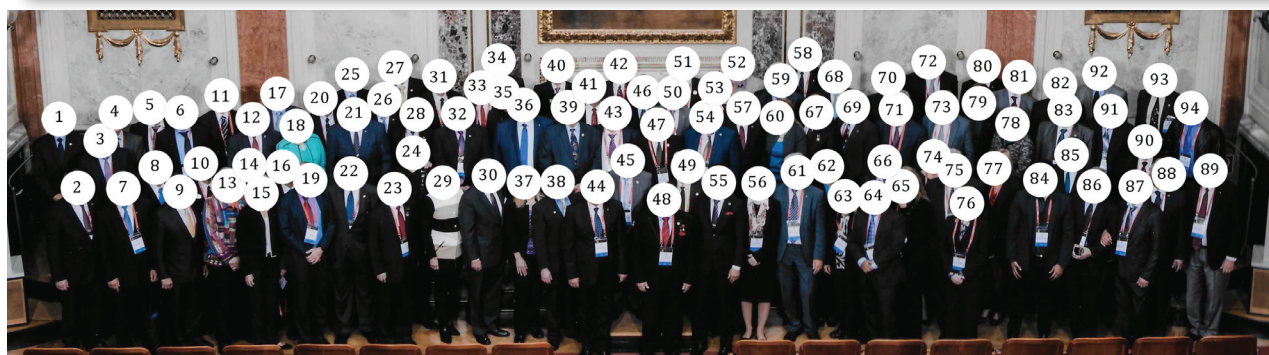
XXIX Международный Конгресс  
Ассоциация Участников Космических Полетов

Октябрь, 2016 • Вена, Австрия

# XXIX PLANETARY CONGRESS · AUSTRIA · 2016



Photos: OEWF



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## XXIX PLANETARY CONGRESS · AUSTRIA · 2016

One hundred and four astronauts and cosmonauts from 21 nations gathered October 3-7, 2016 in Vienna, Austria for the XXIX Planetary Congress of the Association of Space Explorers. The theme of the XXIX Congress was "Born to Explore"; hosted by Franz and Vesna Viehbock, the week-long event featured public technical sessions at Vienna Technical University, the House of Industry and at the Academy of Sciences, astronaut visits to schools and universities across the whole of Austria on the traditional Community Day activities, unprecedented engagement with audiences on a variety of social media platforms, and a social program highlighting Austria's culture, history and natural environs.

The week began on Sunday evening with a reception at the Imperial Riding School Hotel, with Congress hosts Franz and Vesna Viehbock welcoming the fliers and companions to Vienna. After dinner and a video recounting the Austromir 91 mission, a 100 kg Sacher torte was wheeled out in celebration of the 25th anniversary of both Viehbock's flight and the birth of his daughter Carina, who ably orchestrated the serving of 1.5 kg of cake to each and all 200 guests by Austromir crew members Alexander Volkov, Franz Viehbock and Toktar Aubakirov.



Photo: OEWF

*The Austromir 91 crew (l-r: Franz Viehbock, Toktar Aubakirov and mission commander Alexander Volkov) celebrate the 25th anniversary of their flight.*

Monday morning, the fliers and spouses gathered at the Vienna House of Industry for the Opening Ceremony of the XXIX Congress with dignitaries, students and invited guests attending. After a brief musical prelude by Viennese musical ensemble Ad Astra, Franz Viehbock officially welcomed the fliers and guests to Austria and noted that the Opening Ceremony coincided with the launch of the Sputnik spacecraft 59 years ago today – he also recalled his flight to the Russian Mir Space Station twenty five years ago this week and recognized his fellow crew members in the room.



Photo: OEWF

ASE president Soichi Noguchi then took the podium, recognized the ASE Founding members in atten-

*XXIX Congress host Franz Viehbock welcomes the delegates and their companions at the Opening Ceremony of the Congress.*

Photo: OEWF



ASE President Soichi Noguchi welcomes dignitaries and guests and officially opens the XXIX Congress on behalf of the ASE membership and Executive Committee

US astronaut Stephanie Wilson and Russian cosmonaut Alexei Leonov shared the Keynote address and both shared the formative experiences that inspired them on the path to space. Leonov shared his memories of getting to know and working with the US members of the Apollo-Soyuz flight crew, and recalled the poignant moment when he realized that “these were people that we could work with – that we were all born to explore”.

The Opening Ceremony concluded with a video-taped message from the Expedition 48/49 crew onboard the International Space Station, who greeted the Congress and wished the participants all the best for a successful week in Austria. Before breaking for lunch, the fliers and companions gathered for the official group photo of the XXIX Congress.

Following lunch with fliers at the House of Industry, the companions departed for a walking tour of the Vienna city center, including a backstage visit to the world-famous Opera House, St. Stephan’s Cathedral, and coffee & cake at a typical Vienna coffee house.

dance and called for a moment of silence on behalf of astronauts Edgar Mitchell (USA) and Don Williams (USA), both of whom passed away in the interval since the XXVIII Congress in Sweden. Jörg Leichtfried, Austrian Federal Minister for Transport, Innovation & Technology recalled the impact that Viehbock’s flight had on all Austrians, and the sense of inspiration that energized a young generation of Austrian scientists and engineers. Leichtfried also discussed the current state of space science in Austria and its contributions to European space exploration objectives.



Photos: OEWF

Alexei Leonov (top) and Stephanie Wilson (bottom) discuss the important role astronauts play in inspiring new generations of explorers, and what it means to be “Born to Explore”



The Monday afternoon technical session “Future of the Space Industry” was co-chaired by Franz Viehbock and Pascal Ehrenfreud, who also provided an overview of German space industry perspectives on the development of future technologies and plans. Mag. Dr. Andreas Geisler from the Austrian Research Promotion Agency followed with a discussion of Austria’s future in space and how current activities are supporting future science and exploration objectives. US astronaut Mark Brown presented his views on the 3rd revolution in Earth orbit and the requirement to mitigate the inevitable growth of debris and



Photo: OEWF

*Soichi Noguchi, Franz Viehbock and Alexei Leonov join representatives of Austrian industry and government following the opening press conference*



Photo: OEWF

*Franz Viehbock, Tony Antonelli and Mark Brown sit on the panel on the Future of the Space Industry*

and develop human spaceflight capabilities. NASA astronaut Mike Fincke reviewed NASA’s commercial crew competition and projected plans, HE Space CEO Claudia Kessler discussed a controversial effort to recruit and send the first female German astronaut to the ISS, and Lopez-Alegria reported on a nascent effort by Axiom Space, LLC to develop and operate a private space station as a follow-on to the ISS.

After dinner at the hotel, the fliers and

other hazards in low earth orbit. US astronaut Tony Antonelli concluded the session with an overview of Lockheed Martin Corporation’s plans for Mars transport vehicles, landers and settlements.

The second technical session of the afternoon, co-chaired by Oliver Juckenhöfel and US astronaut Michael Lopez-Alegria focused on commercial human spaceflight and related activities. Juchenhöfel, representing Airbus Defense and Space, provided an overview of Airbus’s continuing efforts to support



Photo: OEWF

*The ISS Expedition 48/49 crew greet the delegates during the Opening Ceremony at the Vienna House of Industry*

companions were treated to a Mozart Orchestra concert at the world-famous Musikverein in central Vienna.

On Tuesday morning, the delegates traveled by bus to the Technical University of Vienna for the second day of technical sessions. The third technical session of the Congress featured the traditional International Space Programs Review; the two-part session was co-chaired by astronauts and ASE Executive Committee members Oleg Kotov and Christer Fuglesang.

Russian cosmonaut Sergei Krikalev opened the first part of the session with an overview of future Russian human space exploration plans and cooperative efforts. Newly flown Japanese astronaut Kimiya Yui followed with a compelling review of his long-duration mission as a member of Expedition 44/45 on board the International Space Station, and NASA astronaut Joe Acaba presented an update on current and future upgrades aboard ISS as well as a discussion of the development of EVA technologies for planetary exploration.



Photo: OEWf

Frank De Winne discusses European space activities at the Vienna Technical University



Photo: OEWf

Yang Liwei describes China's progress and upcoming long-duration mission to the Tiangong-2 space station

After a coffee break, pioneering Chinese astronaut Yang Liwei reviewed the history of China's human space exploration activities and an overview of plans for upcoming long-duration Chinese missions aboard Tiangong-2. Belgian astronaut Frank De Winne concluded the morning's activities with a report on the ESA Exploration Envelope Program, an effort to maximize collaborative efforts with the private sector on complementary human and robotic space exploration programs.

While the fliers were in session, the companions spent Tuesday morning visiting the imperial Schönbrunn Palace on the outskirts of Vienna; after lunch at Salmbräu, a picturesque local restaurant, the companions were

(l-r) Sergei Krikalev, Kimiya Yui, Yang Liwei, Frank De Winne and Joe Acaba provide updates on their respective national space programs and activities



Photo: OEWf





Photo: Karen Lopez

*Alexander Alexandrov introduces the speakers for the Theme Session Born to Explore I*

After a short break, Born to Explore II was convened as a joint session of the ASE and International Astronautical Federation, following a reciprocal joint ASE/IAF session at the IAC in Guadalajara, Mexico, on the recent One Year in Space mission. Co-chaired by ASE president Soichi Noguchi and IAF Executive Director Christian Feichtinger, the session opened with a presentation by Lisa Kaltenegger, Director of the Carl Sagan Institute at Cornell, who made an intriguing presentation titled "Thousands of New Worlds to Explore" describing the efforts to find another Earth-like planet in the universe. Julie Payette, Director of the Montreal Science Centre, followed with a motivational keynote speech on "Why we were born to explore", based on her own experiences as a Canadian astronaut.

treated to a visit to the Gustav Klimt exhibit at the famous Belvedere Museum and Art Gallery.

After lunch at the University, ASE members convened for the two-part Congress Theme session. Co-chaired by cosmonauts and Executive Committee members Alexander Alexandrov and Sheikh Muszaphar, the session Born to Explore I featured a riveting account by Russian cosmonaut Viktor Savinykh of the rescue and rehabilitation of the Soviet space station Salyut 7, an inspirational presentation by Japanese astronaut Chiaki Mukai, who described her academic and professional path to becoming a medical doctor and astronaut, and a discussion of his and other European efforts to inspire greater student achievement in science, technology, engineering and mathematics by Dutch astronaut André Kuipers.



Photo: OEWF

*Julie Payette recalls her own sources of inspiration on her path to becoming an astronaut*



Photo: OEWF

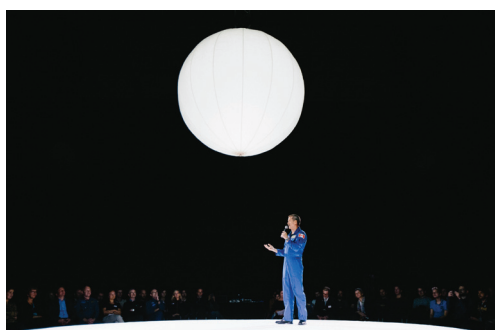
Tuesday evening, the fliers and companions gathered at the Kursalon for the Crystal Helmet Award Ceremony and banquet. The ASE Crystal Helmet 2016 was awarded to Dr. Johannes Ortner, a pioneer of Austrian aerospace research activities, for his outstanding and life-long contributions to human space-flight and exploration.

*The ASE Executive Committee presents the Crystal Helmet to Johannes Ortner*



Photo: OEWF

*Chiaki Mukai and Helen Sharman (above) meet students in Innsbruck while Chris Hadfield, Soichi Noguchi, Richard Garriott and Rusty Schweickart (below) reach out to audiences in Graz, Linz and Vienna during Community Day outreach activities*



Photos: OEWF



Wednesday, the fliers dispersed throughout Austria for the traditional Community Day activities. Small, mixed teams of astronauts, cosmonauts and taikonauts visited 127 different schools, universities, and centers of science, research and industry from Vienna to Innsbruck. They shared their stories from space and encouraged students to set high goals for themselves and work hard to achieve them. Wednesday evening, ASE was hosted by Werner Gruber at Urania Observatory in downtown Vienna for the 2016 Explorers Dinner and Auction.

Thursday morning, the delegates met at the Austrian Academy of Sciences for the final technical session of the XXIX Congress. Co-chaired by German astronaut Reinhold Ewald and US astronaut Bonnie Dunbar and titled Space & Enabling Future Technologies, the session featured a discussion of future European Space Agency plans for lunar and robotic exploration by German astronaut Thomas Reiter, a presentation on advanced technologies being developed by DARPA to support human spaceflight and exploration by US astronaut Pam Melroy, and a review of the ASE Near Earth Objects Committee work and Asteroid Day activities by Romanian cosmonaut Dumitru-Dorin Prunariu, and Dr. Rupert Ursin, a member of the Austrian Academy of Sciences, introduced



Photo: OEWF



*Franz Viehbock's flight suit, on display at the Vienna Museum of Natural History*

a space borne Chinese-Austrian experiment on entangled quantum particles. US astronaut Franklin Chang-Diaz concluded the session with a remote presentation from Houston on the technical specifications and merits of his Variable Specific Impulse Magnetoplasma Rocket (VASIMR).

The companions had a free morning while the fliers were in session, joining them after noon for a scenic lunch at nearby Kahlenberg and a panoramic tour of Vienna. That evening, the attendees made the short trip to the Vienna Natural History Museum for a reception and dinner, where Franz Viehbock turned over his flight suit for permanent display. ASE also held its Pinning Ceremony this evening, when first-time Congress attendees are officially

awarded their ASE lapel insignia.

On Friday morning, the delegates gathered at the hotel for regional chapter meetings. During the subsequent General Assembly of all fliers, the regional presidents reported on the activities of their respective regions, French astronaut and newly-elected president of ASE-Europe Michel Tognini formally invited the Congress to Toulouse in 2017, and preliminary reports were issued on the Congresses in 2018 and 2019. After candidates for the



Photo: OEWF

*First-time attendees receive their ASE logo insignia from the regional presidents during the Pinning Ceremony at the Natural History Museum*



Photo: OEWF

*Pam Melroy (l) and Thomas Reiter (r) discuss Space & Enabling Future Technologies at the final technical session at the Austrian Academy of Sciences*

open Executive Committee seats were presented, the Congress elected Russian cosmonaut Anton Skhaplerov and Dutch astronaut Andre Kuipers to replace outgoing members Swedish astronaut Christer Fuglesang and Russian cosmonaut Oleg Novitskiy, and re-elected Malaysian astronaut Sheikh Muszaphar and Chinese astronaut Yang Liwei to an additional term on ASE's international board of directors.

During the first official meeting of the new Executive Committee, US astronaut Bonnie Dunbar was elected the first female president of the international Association of Space Explorers.



Photo: OEWf

*Soichi Noguchi presents the 2016 Perchatka to Alexei Leonov for the best presentation of the Congress*

Friday afternoon, the fliers and companions took a scenic excursion to a 10th century Benedictine abbey located on a rocky plateau

overlooking the Danube River. Following a tour and traditional Austrian lunch at the Melk Abbey, the attendees delighted in a scenic, paddlewheel cruise down the Danube River from Melk to Dürnstein, where English monarch Richard the Lionhearted was imprisoned and ransomed in 1193. For the final evening of the Congress, the fliers and companions traveled to the nearby Stiftskeller Klosterneuburg for dinner and the Closing Ceremony.



*Melk Abbey and Dürnstein in Austria's Lower Wachau Valley*

Photos: ASE

Before the Closing Banquet, members of the Executive Committee thanked Franz and Vesna Viehbock for hosting the very successful XXIX Congress and, on behalf of ASE awarded a Leonov Medallion to Vesna Viehbock for her contributions to ASE and the XXIX Congress. Based on votes received by attending members, Russian cosmonaut Alexei Leonov was awarded the Perchatka for the best technical presentation of the XXIX Congress. Franz and Vesna Viehbock recognized and thanked Gernot Groemer and the many volunteers on the Austrian Space Forum organizing committee, and thanked the fliers and companions for coming to Vienna. With an invitation to dinner and dancing, Viehbock officially declared closed the ASE XXIX Planetary Congress in Vienna.



*Alexei Leonov presents the Leonov Medallion to Vesna Viehbock for her contributions to ASE and the XXIX Congress as Soichi Noguchi and Oksana Leonova look on*

Photo: OEWf



**2016 Honorees**

**ASE Planetary Award - Crystal Helmet**

**Johannes Ortner (Austria)**

**Leonov Medallion**

**Vesna Viehbock (Austria)**

**Perchatka (Best Technical Presentation)**

**Alexei Leonov (Russia)**



ASE extends its gratitude to Franz and Vesna Viehbock for organizing and hosting the XXIX Congress, and to Gernot Groemer, Carina Viehbock, Olivia Haider, Lisa-Maria Madlener, Tom Sutner, Helmut Bernhart, Christine Wendl, Monika Fischer, Marlen Raab, Stefan Übermasser, Konstantin Chterev, the entire crew at the Austrian Space Forum, Werner Gruber, the Community Day hosts and volunteers and many others for their excellent work on the XXIX ASE Planetary Congress.

## IN MEMORIAM



**Edgar Mitchell**

*17.09.1930 - 04.02.2016*  
*Apollo 14*



**Don Williams**

*13.02.1942 - 23.02.2016*  
*STS 51-D, STS 34*



