The International Space Weather Initiative
School on Space Weather and
Global Navigation Satellite Systems

08 – 12 October 2018, Baku, Azerbaijan

PROGRAMME

Sunday, 7 October

Arrival, registration

Monday, 8 October

Opening Ceremony

09:00 Welcoming addresses

- Dr. Elchin Babayev, Executive Director of the Science Development Foundation under the President of the Republic of Azerbaijan
- Academician Akif Ali-zadeh, President of the Azerbaijan National Academy of Sciences
- Dr. Nat Gopalswamy, NASA’s Goddard Space Flight Center, President of ICSU’s Scientific Committee on Solar-Terrestrial Physics (SCOSTEP), Executive Director of the International Space Weather Initiative (ISWI)
- Academician Roald Sagdeev, Professor of the National Aviation Academy and ADA University

General Lectures, Plasma Physics, Solar Physics & Space Weather

Session 1, Chair: Elchin Babayev, Azerbaijan

09:45 The International Space Weather Initiative (ISWI), Nat Gopalswamy, USA
10:00 International Committee on Global Navigation Satellite Systems (ICG), Sharafat Gadimova, United Nations Office for Outer Space Affairs (UNOOSA), Austria
10:15  Space Weather Effects on Modern Society, Patricia Doherty, USA
10:35  Group photo
10:40  Coffee Break
11:00  Solar Sources and Space Weather, Nat Gopalswamy, USA
12:00  The Tools and Recipes Plasma Physics Provides for Understanding Space Weather, Roald Sagdeev, Azerbaijan

13:00  Lunch Break

Session 2, Chair: Patricia Doherty, USA

14:00  Physics of the Solar Interior and Atmosphere, Mark Miesch, USA
15:00  Solar Wind: Low-frequency Turbulence in the Anisotropic Plasma, Namig Dzhalilov, Azerbaijan
16:00  Coffee Break
16:20  Magnetic Reconnection and Explosive Events Relevant for Space Weather, Grigori Vekstein, UK
17:20  Solar Energetic Particles, Pertti Makela, USA
18:20  Adjourn
19:00  Welcome Dinner hosted by the AzerCosmos

Tuesday, 9 October

The Ionosphere, Magnetosphere and Sun-Earth Connection

Session 1, Chair: Nat Gopalswamy, USA

09:00  What Dynamo Theory can Say about Extreme Events in the Sun and Stars, Elena Popova, Russia
10:00  Ionospheric Physics, Sandro Radicella, Italy
11:00  Coffee Break
11:20  The Magnetosphere and its Coupling with the Ionosphere, Endawoke Yizengaw, USA
12:20  The Sun-Earth Connection, Christine Amory-Mazaudie, France
13:20  Lunch Break

Session 2, Chair: Dominic Hayes, European Commission

14:20  Introduction to GNSS, Renato Filjar, Croatia
15:20  Ionospheric Irregularities: Global Occurrence and Impacts on GNSS, Keith Groves, USA
16:20  Coffee Break
16:40  Hands on: Solar Eruptions and Using the CME Catalog, Nat Gopalswamy, USA
17:30  Adjourn
18:30  Presentation of 3D-movie “The Sun, Our Living Star” in Tusi-Bohm Planetarium (Baku) followed by reception in Planetarium
**Wednesday, 10 October**

**Technical Tours**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tr>
<td>08:00</td>
<td>Technical tour to the AzerCosmos (38th km of the Baku-Shamakhy Highway)</td>
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<tr>
<td>10:30</td>
<td>Coffee / Tea sweet table</td>
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<tr>
<td>10:30</td>
<td>Technical tour to the Shamakhy Astrophysical Observatory (Shamakhy region)</td>
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<td>12:30</td>
<td>Lunch Break</td>
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**Solar-Terrestrial Relations**

*Session 1, Chair: Sandro Radicella, Italy*

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<tr>
<td>14:00</td>
<td>Introduction of the Shamakhy Astrophysical Observatory, <em>Namig Dzhalilov</em> and <em>Elchin Babayev</em>, Azerbaijan</td>
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<tr>
<td>15:00</td>
<td>Solar and Geomagnetic Activity Potential Impacts on Biological Systems, <em>Elchin Babayev</em>, Azerbaijan</td>
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<tr>
<td>15:30</td>
<td>Visit to the Telescopes</td>
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<td>16:30</td>
<td>Coffee / Tea sweet table</td>
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<td>17:30</td>
<td>Return to Baku</td>
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**Thursday, 11 October**

**Global Navigation Satellite Systems (GNSS)**

*Session 1, Chair: Sharafat Gadimova, UNOOSA, Austria*

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<tr>
<td>09:00</td>
<td>Ionospheric Modeling and its Challenges due to Space Weather, <em>Sandro Radicella</em>, Italy</td>
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<td>10:00</td>
<td>The GLONASS System as an Instrument of Monitoring the Weather Effects, <em>Victor Alpatov</em>, Russia</td>
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<td>11:00</td>
<td>Coffee Break</td>
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<td>11:20</td>
<td>Galileo and EGNOS: Reap the Benefits, <em>Dominic Hayes</em> and <em>Augusto Gonzalez</em>, European Commission</td>
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<tr>
<td>12:20</td>
<td>GNSS for Ionospheric and Space Weather Research, <em>Keith Groves</em> and <em>Endawoke Yizengaw</em>, USA</td>
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<td>13:20</td>
<td>Lunch Break</td>
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*Session 2, Chair: Keith Groves, USA*

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<tr>
<td>14:20</td>
<td>GNSS Monitoring and Mitigation of Space Weather Storms, <em>Anthea Coster</em>, USA</td>
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<tr>
<td>15:20</td>
<td>Coffee Break</td>
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15:40  GNSS Applications Affected by Space Weather, Renato Filjar, Croatia
16:40  Nano-satellites and Space Debris, Tarlan Mammadzade, Azerbaijan
17:40  Adjourn
19:00  Gala Dinner hosted by the Scientific Development Foundation

Friday, 12 October

Closing Ceremony, Discussions, Technical Tour

Session 1, Chair: Elchin Babayev, Azerbaijan

09:00  Closing Ceremony
      General Discussions
      Certificates Award
10:30  Coffee Break
11:00  Technical tour to the National Aviation Academy (Baku)
      Introduction of the National Aviation Academy, Anvar Hazarkhanov and Adalat Samadov, Azerbaijan

      Return to City Center and Hotels

Saturday, 13 October

Departure