

41. COSPAR Bilimsel Kongresi: Hedefler ve Beklentiler

Ersin Gögüş – Sabancı Üniversitesi

Elif Kutdemir – TÜBİTAK Uzay

Committee On SPACe Research

Tarihçe: 1957 de ilk uydu Sputnik'in fırlatılmasının ardından 1958'de ICSU (the International Council for Science) tarafından kurulmuştur.

Amaç: Uzay arařtırmalarını, bilimsel sonuçların, bilgi ve görüşlerin paylaşımını uluslararası düzeyde teşvik etmek.



COSPAR'ın Bilimsel Yapısı

8 Bilimsel Komisyon:

Uzaydan alınan verileri kullanan tüm araştırma alanlarını kapsar (Yer, gezegenler, iyonosfer, manyetosfer, helyosfer, astrofizik, yaşam ve malzeme bilimleri, temel fizik)

10 Panel:

Ötegezegen arařtırmaları, gezegenlerin korunması, bilimsel balon uçuřları, uzay havası, uydu dinamiđi, radyasyon kuřakları, uzay çöpleri, kapasite oluřturma, eđitim, arařtırma programları

Çalıřma Grupları:

COSPAR, 'Working group on GEO (Group on Earth Observations)' gibi çalıřma grupları ile bilim camiası arasında köprü görevi görmektedir.

COSPAR'ın Bilimsel Komisyonları

SC		Chair
A	Space Studies of the Earth's Surface, Meteorology and Climate	<i>N. Gobron (EC)</i>
B	Space Studies of the Earth-Moon System, Planets, and Small Bodies of the Solar System	O.I. Korablev (Russia)
C	Space Studies of the Upper Atmospheres of the Earth and Planets Including Reference Atmospheres	T. Nakamura (Japan)
D	Space Plasmas in the Solar System, Including Planetary Magnetospheres	K. Scherer (Germany)
E	Research in Astrophysics from Space	P. Ubertini (Italy)
F	Life Sciences as Related to Space	G. Reitz (Germany)
G	Materials Sciences in Space	<i>V. Shevtsova (Belgium)</i>
H	Fundamental Physics in Space	Laemmerzahl, C. (Germany)

COSPAR Ulusal Komitesi

Temsilci:

Dr. Elif Kutdemir

Üyeler:

Prof. Zafer Aslan - SC A on Space Studies of the Earth's Surface, Meteorology and Climate

Prof. Mahmut Onur Karslıođlu - SC B on Space Studies of the Earth-Moon System, Planets, and Small Bodies of the Solar System

Prof. Feza Arıkan - SC C on Space Studies of the Upper Atmospheres of the Earth and Planets Including Reference Atmospheres

Prof. Ümran İnan - SC D on Space Plasmas in the Solar System, Including Planetary Magnetospheres

Prof. Aysun Akyüz - SC E on Research in Astrophysics from Space

Prof. Şölen Balman - SC E on Research in Astrophysics from Space

Prof. Ersin Gođuş - SC E on Research in Astrophysics from Space

Prof. Halil Kırbıyık - SC E on Research in Astrophysics from Space

Prof. Emin Özsoy - SC F on Life Sciences as Related to Space

Prof. Nurcan Baç - SC G on Materials Sciences in Space

Prof. Durmuş Ali Demir - SC H on Fundamental Physics in Space

41. Kongre İstanbul'da

2016 İstanbul



2014 Moskova



2012 Mysore



Kongre Mekanı	Yıl	Katılımcı Sayısı
İstanbul	2016	
Moskova	2014	2349
Mysore	2012	2129
Bremen	2010	3246
Montreal	2008	2377
Pekin	2006	2029
Paris	2004	2859



COSPAR

41ST SCIENTIFIC ASSEMBLY 2016
ISTANBUL / TURKEY
30 JULY - 7 AUGUST 2016

Kongre Mekanı: İstanbul Kongre Merkezi



- **Oditoryum** : 3700 kişilik
- **30 oda** : 70 - 600 kişilik
- **89 ekstra oda**: 20-100 m²
- **Fuaye**: 5.000 m²



Kongre Kapsamındaki Aktiviteler

- Bilimsel oturumlar
- Poster oturumları
- Halka açık oturumlar
- Yuvarlak masa toplantıları
- Disiplinler arası oturumlar
- Sergi
- Teknik geziler
- IAA (International Academy of Astronautics) toplantısı benzeri, diğer organizasyonların aktiviteleri
- Sosyal aktiviteler



COSPAR 2016: Komisyon A & B

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| • Observing the Anthropocene from Space |
| • The Interaction of Biology and Climate |
| • Spacecraft Instruments and their Use |
| • Space-based and Sub-Orbital Observations of Atmospheric Physics and Chemistry |
| • Scientific Exploitation of New Missions and Heritage Data Sets (Essential Climate Variables) in Oceanography and Cryosphere |
| • Advances Space Science and Technology for Land Surfaces |
| • Earth System Dynamics: Deep and Shallow Processes Grasped by Gravity and Magnetic Satellites |

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| • Lunar Exploration and Science |
| • Planetary Data Management and Exploitation |
| • Planetary Science Enabled by Cube-Sats and Micro-Probes |
| • Mars Science and Exploration |
| • Outer Solar System |
| • Past, Present and Future of Small Body Science and Exploration |
| • Planetary Formation: From Dust to Giant Exoplanets |
| • In Situ Life Detection, Sample Returns and Planetary Protection from Astrobiological Targets |
| • Exploration of Venus |
| • Highlights in Planetary Science |
| • Mercury: Current Knowledge and Next Steps for Future Explorations |

COSPAR 2016: Komisyon C

• International Standards for Space Environment

• Advances in Remote Sensing of the Middle and Upper Atmosphere and Ionosphere from the Ground and from Space, including Sounding Rockets and Multi-instrument Studies

• New Generation Middle and Upper Atmosphere Radars: Applications and Development

• Ionospheric Disturbances Observed through very Low Frequency Radio Waves

• Recent Advances in Equatorial, Low- and Mid-latitude Mesosphere, Thermosphere and Ionosphere Studies

• 10th Thermospheric, Ionospheric, Geospheric (TIGER) Symposium

• Coupled Solar Wind-Magnetosphere-Ionosphere-Thermosphere System

• Physics and Chemistry of the High Latitude Mesosphere and Lower Thermosphere

• Wave Coupling Processes in the Whole Atmosphere

• Advances in Extra-terrestrial Forcing Studies for the Middle Atmosphere and Lower Thermosphere

• Planetary Atmospheres

• Planetary Upper Atmospheres, Ionospheres and Magnetospheres

• Modelling of Planetary Atmospheres

• Improved Representation of the Ionosphere in Real Time and Retrospective Mode

• Reference Atmosphere of Venus and Mars (VIRA and MIRA)

• Active Experiments and Processes Related to Space Plasmas

• Dusty Plasmas in Space

COSPAR 2016: Komisyon D

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| • Scientific Commission D Overview Talks |
| • Large Scale Heliospheric Structure: Theory, Modelling and Data |
| • Solar Modulation of Cosmic Rays |
| • Energetic Particles in the Heliosphere and beyond: Pickup Ions and the Galaxy |
| • Anomalous Transport of Energetic Particles in the Heliosphere and the Galaxy |
| • Anisotropy of Energetic Particles from keV to TeV |
| • Solar Transients: from Solar Origin to Earth Impact and the Outer Heliosphere |
| • Solar and Heliospheric Science with Future Space Missions |
| • Coordinated Observations and Modeling of Accelerated Particles at the Sun and in the Inner Heliosphere |

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| • Reconnection and Turbulence from the Sun through the Heliosphere to Galaxies |
| • Space Climate |
| • Abundance Variations and Fundamental Questions in Solar and Stellar Physics |
| • Multipoint Observations and Cross-Scale Coupling |
| • Tail Dynamics, Energy Transport and Substorms |
| • Highlights of Magnetospheric Plasma Physics |
| • Particle Acceleration and Loss in the Earth and Planetary Magnetospheres |
| • Plasma Transport across Magnetospheric Boundaries |
| • Role of Non-Thermal Distributions in Wave Generation, Particle Heating Acceleration in Space Plasmas |

COSPAR 2016: Komisyon E

• Accreting Neutron Stars and Stellar-mass Black Holes
• Exploring Neutron-star Structure by Timing and Spectroscopy
• The Explosive Death of Stars
• The Magnetar Link in Neutron Stars, Gamma Ray Bursts and Supernovae
• Spectral Meets Timing: a Global Approach to Accretion onto Compact Objects
• Black Hole Astrophysics: Observational Evidence of Theoretical Models
• Radio Galaxies: Resolving the AGN Phenomenon
• Nearby UV Universe
• Origin of Cosmic Rays
• A Broadband Perspective on Massive X-ray Binaries: towards a Unified Picture
• Activity of the Supermassive Black Holes and other Energetic Processes at the Galactic Center

• The Hot and Energetic Universe with the Large X-ray Observatory Athena
• A New View of the Universe Revealed by ASTRO-H
• Novae and Cataclysmic Variables: Multi-wavelength Observations Meet Theory
• X-ray Polarimetry: Experiments and Science Prospects
• Evolution of Massive Stellar Binaries: Modeling and Observations
• Evolution of Millisecond Pulsars
• Solar and Stellar Dynamo and Magnetic Flux Emergence
• Formation, Destabilization, and Ejection of Magnetic Structures in Solar and Stellar Coronae
• Solar Magnetism: Data-driven Modeling and Requirements for Future Instrumentation
• Multiwavelength Observations and Simulations of Solar and Stellar Flares

COSPAR 2016: Komisyon F

• Scientific Commission F Overview Event
• Gravitational and Space Biology of Plants, Microbes and Fungi
• Towards Space Exploration: Radiation Biological Basis
• Space Radiation Risk and Counter-measures: Physical and Biophysical Mechanisms, Modelling and Simulations
• Space Radiation - Dosimetric Measurements and Related Models, Radiation Detector Developments and Ground-based Characterisation
• Pre-Biotic Chemistry toward Origins of Life
• Mars Analogue Sites on Earth and Astrobiology
• Astrobiology Experiments in Earth Orbit and Beyond
• Habitability in the Solar System and Beyond
• Formation of Molecules of Biological Importance elsewhere in the Universe
• Innovative Approaches to Space Habitation
• Advanced Life Support Testbeds and Facilities

• Mathematical and Computer Modelling as a Tool for Constructing Reliable CBLSS
• Influence of Spaceflight Environments on Biological Systems
• Closure as a Specific Property of Manmade Ecosystems and Biospheres
• Ecological Life Support and Sustainability. Adaptation to Extreme Environments
• Space Nutrition and Space Agriculture
• Roundtable: International Collaboration for Regenerative Life Support Systems and Space Flight Testing
• Animal Models in Space-based Research
• Molecular, Cellular and Synthetic Biology in Space and Ground Research
• BION M1 Mission Update and Microgravity-induced Neuromuscular and Sensory-motor Plasticity

COSPAR 2016

G0.1	Gravitational Effects on Physico-Chemical Processes
G0.2	Drop Tower Days
G0.3	Influence of Free Space Environment on the Behaviour of Materials
H0.2	Gravitation, Dark Energy and Dark Matter
H0.3	Quantum Mechanics, Statistical Physics and Condensed Matter in Space
H0.4	Space Missions for Fundamental Physics
H0.5	Gravitational Wave Astrophysics
H0.6	Applications (Geodesy, Metrology, GNSS-Satellites)
H0.7	Enabling Technologies for Fundamental Physics Experiments and Missions

PE.1	Young Scientists in the Classroom
PE.2	Issues in Capacity Building and Education for Space Sciences
PEDAS.1	Space Debris - Providing the Scientific Foundation for Action
PEPE.1	Exoplanets
PEX.1	Science Drivers and Opportunities for Global Space Exploration
PEX.2	Human Exploration on the Moon, Mars and NEOs
PEX.3	Planetary Science and Exploration with Cube-Sats and Micro-Probes
PPP.1	Planetary Protection Policy
PPP.2	Planetary Protection Missions
PPP.3	Planetary Protection Research and Development
PPP.4	Life Detection for Astrobiological Targets and Planetary Protection for Icy Bodies Sample Return

PRBEM.1	Development of Physics-based, Empirical, and Data Assimilative Models of the Radiation Environment
PRBEM.2	Recent and Upcoming Observations of the Radiation Belts
PSB.1	Scientific Ballooning: Recent Development in Technology and Instrumentation
PSD.1	Satellite Dynamics for Earth and Solar System Sciences and Applications
PSW.1	Metrics and Validation Needs for Space Weather Models and Services
PSW.2	Solar System Space Weather
PSW.3	From Ionospheric Indices towards Standardised Activity Scales for Space Weather Services
PSW.4	Zones of Enhanced Risk for Ionospheric Weather
S.1	Advanced Data Analysis in Space Sciences

Kongre Kapsamındaki Sorumluluklar

- **Bilimsel program:** Bilimsel Program Komitesi oturum Başkanı gözetiminde COSPAR'ın Bilimsel Komisyonları hazırlayacak
- **Kongrenin ve katılımcıların tüm ihtiyaçlarını karşılayacak düzenlemeler**
- **Organizasyonu gerçekleştirecek yapının kurulması**

Hedefler & Beklentiler

Kısa vade (< 1 ay): Halka açık, disiplinler arası ve yuvarlak masa toplantıları için öneriler.

Kısa vade (1 – 2 ay) COSPAR 2016'nın Türkiye'deki ilgili tüm arařtırmacılara duyurulmasında yardım – özellikle yer bilimleri, elektronik, mekatronik ve bilgisayar mühendislerine: kendi üniversitelerinizde ilgilenebileceğini düşündüğünüz arařtırmacılara erişim

Hedefler & Beklentiler

Orta vade (1 yıl): Araştırma çalışmalarının başındaki gençleri yeni çalışma alanlarına yönlendirmek, teşvik etmek – Güneş Sistemi nesnelere, Rosetta, ötegezegenler, ...

COSPAR 2016'dan hemen önce:

Öğrenci Bilgi Günü

Kapasite İnşası Çalıştayı

COSPAR'ın geniş profilli katılımcıları çok önemli etkileşim olanağı sağlayacak.

İletişim

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COSPAR 2016

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COSPAR 2016

The 41st COSPAR Scientific Assembly will be held in Istanbul, which bridges Asia and Europe both physically and culturally. The city has been the capital of three great empires (the Roman, Byzantine and Ottoman) and the world was ruled from here by over 120 emperors and sultans for more than 1600 years. Surrounded by 5th century Roman city walls and stretching over seven hills, Istanbul is adorned by the masterpieces of Turkish art, the great mosques of the Sultans that crown the hills. The city presents an exquisite, majestic and serene silhouette from all directions.

Istanbul Congress Center, where the 41st Assembly will take place, is in the Taksim district which is located in the European part of Istanbul. Taksim is a main transportation hub and a popular destination for both tourists and the native population of Istanbul. İstiklal Caddesi (Independence Avenue), a long

pedestrian shopping street, ends at this square, and a nostalgic tram runs from the square along the avenue, ending near the Tünel (1875) which is the world's second-oldest subway line. The congress center is, in short, located in a