

ISPRS Technical Commission V on Education and Outreach Mid-Term Symposium with theme “Geospatial Technology - Pixel to People” was held at Indian Institute of Remote Sensing (IIRS), Dehradun, India during November 20-23, 2018. The symposium included plenary sessions, technical sessions, pre-symposium tutorials, social activities, side meetings, exhibitions etc. The symposium was jointly organised by the Indian Society of Remote Sensing (ISRS) in collaboration with the Indian Space Research Organisation. This had support from twelve sponsors and exhibitors.

The main objective of the Symposium was to support, promote and motivate capacity building in the field of geospatial technology at different levels of professionals, educators, students and to develop cost effective teaching methods including distance learning programmes, International collaborative effort for sharing web-based resources. The symposium provided an interdisciplinary platform for experts, scholars and practitioners to present the latest developments and applications, discuss cutting-edge technologies, exchange research ideas, and promote international collaboration in the field of geospatial technology.

Pre-Symposium Tutorials

Four pre-symposium tutorials were organised during November 17-19, 2018, on the following topics:

1. Satellite Remote Sensing of Air Quality
2. Satellite Remote Sensing of Flood Monitoring and Management
3. Ground based 3D Modeling (Close Range Photogrammetry & TLS)
4. Big Geospatial Data Analytics

Total of 68 participants (44 from India and 24 from international) attended all the above tutorials. Geoinformatics Department of IIRS has prepared the reading material on Big Geospatial Data Analytics for the benefit of Big Geospatial Data Analytics tutorial students.



Fieldwork at FRI for 3D Modeling

Main Symposium

Dr. A.S. Kiran Kumar, Former Chairman ISRO and a member of Prime Minister’s Science, Technology and Innovation Advisory Council, Government of India presided the inauguration function as Chief Guest, and Dr. Shailesh Nayak, Director, National Institute of Advanced Studies (NIAS) and Former Secretary, Ministry of Earth Science (MoES) was the Guest of Honour. On this occasion, Dr. Christian Heipke, President, ISPRS, Dr. Prakash Chauhan, Director, IIRS and Dr. Senthil Kumar, President, ISPRS TC-V and Dr. Sameer Saran, Organising Secretary were also present. As part of this inaugural session, IIRS recent contributions of a book on Remote Sensing of North-West Himalayan Ecosystems by Springer and atlases of Ocean color from space and decadal forest change cover in India were released.

About 450 international and national researchers, professionals, academician and students attended this event. There were 169 invitees, out of which 37 were foreign delegates participated from 17 countries.

For greater participation in the symposium, students were given 50 % concession on registration. The registration was also subsidized for the ISPRS The ISPRS Foundation (TIF) participants and ISRS life members and senior citizens.

IPAC Session

ISPRS IPAC (International Policy Advisory Committee) organized a Special Session during the TC V Symposium, and reviewed international cooperation in Earth observation missions and Earth observation application projects. The panel specifically focussed on cooperative missions between ISRO and international partners. Many eminent scientists from leading space agencies (NASA, ISRO, CNES, ESA, representatives of global organisations (CEOS, UN) and space industrial corporations in sharing their experience on how the Earth observation missions would aim to contribute to the understanding of global change and supporting the United Nations Sustainable Development Goals (SDGs). Earth observation data from Indian and international missions are being used by scientists and international companies for regional applications, thus adding value to large scale programs such as the European Copernicus. This Special session has specially attracted decision makers, scientists of space agencies and ISPRS Technical Commission Presidents and Council members to discuss current needs and future directions of international cooperation in Earth observation. This session was chaired by Dr. Gunter Schreier and cochaired by Dr. Ranganath Navalgund and Dr. Lena Halounova.



Special Sessions for students and researchers

With a large number of students, working professionals and research scholars participating in the Symposium, a special session on *Research Skills development* was organised under chairmanship of Prof. Ian Dowman. This session provided valuable inputs by covering topics like presentation techniques, writing a journal paper and preparing a project proposal, research design for integrating remote sensing and socio-economic data as well as remote sensing and its status in society by eminent speakers who have vast experience in such topics. There was a special session on students' projects with participation from ISPRS Students Consortium representatives to promote ISPRS efforts in promoting geospatial information in young minds.



Research Skills Development session

Plenary Sessions

Plenary session I was on *Trends in Education and Outreach* chaired by Dr. Lena, ISPRS SG. This session contained about five lead talks of selected papers from the ISPRS publication submitted in this Symposium. This was followed by Q&A session with all speakers interacting with audience. Plenary session II was on *ISPRS Research: Efforts and Benefits* chaired by Dr. Christian Heipke, ISPRS President. This session covered topics like ISPRS scientific initiatives by Dr. Songnian Li, Treasurer and recent projects handled by ISPRS Technical commissions



Plenary Session I

presented by their respective presidents and vice president. There was a plenary session by exhibitors and sponsors to deliberate the current geospatial industrial trending in challenges and opportunities.

Technical Sessions

In all, total 445 manuscripts were submitted by the authors and these manuscripts were reviewed by 153 reviewers. Of these, 213 papers were selected for publications and thus out of 213 research papers 66 published in ISPRS Annals while 147 published in ISPRS Archives. These were presented in 26 technical sessions. These technical sessions were organised with the following themes –

- 1) WG V/1: Framework for Multi-level Education & Training – Curriculum Development and Methodology
- 2) WG V/2: Promotion of International Collaborative Education Programs
- 3) WG V/3: Promotion of Regional Collaboration in Citizen Science and Geospatial Technology
- 4) WG V/4: Web-based Resource Sharing for Education and Research
- 5) WG V/5: Promotion of the Profession to Young People
- 6) WG V/6: Distance Learning - Education and Training Services
- 7) WG V/7: Innovative Technologies in Training Civil Engineers and Architects
- 8) WG V/8: Promotion of Open Source on Geospatial Technology
- 9) Innovative approaches in Education and outreach for natural resources management
- 10) Innovative approaches in education and outreach for Atmosphere, Ocean, Weather and Climate
- 11) Innovative approaches in education and outreach for disaster monitoring, damage assessment and risk reduction
- 12) Innovative approaches in education and outreach for infrastructure and development planning
- 13) Capacity building in emerging trends
- 14) Capacity building for utilization of bio-resource national databases

These papers can be accessed online from the links: <https://www.isprs-ann-photogramm-remote-sens-spatial-inf-sci.net/IV-5/index.html> for Annals and <https://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XLII-5/index.html> for Archives.

As this was the last of Mid-term Symposia, there were ISPRS business meetings (TCV Board meeting, Joint Meeting and Council Meeting) which were attended in full spirit to discuss future plan of actions for the ISPRS before the Congress 2020.



A Glimpse of group photograph of participants and dignitaries