

Vol. No. 11 Issue No. 3 | December 2017

SPECTRUM

The Official Newsletter of the ISPRS Student Consortium

THE SECOND INNSBRUCK SUMMER SCHOOL OF
ALPINE RESEARCH 2017:

Close Range Sensing Techniques in Alpine Terrain

**Geoprocessing Tools and
Technologies in Citizen Science:**

SUMMER SCHOOL 2017
AT DEHRADUN, INDIA

**ACRS 2017 7th
WebCon Winners**

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In Review

**3RD IEEE/GRSS-YOUNG
PROFESSIONALS & 16TH ISPRS
WORKING GROUP V/5 AND
STUDENT CONSORTIUM SUMMER
SCHOOL 2017**

ISPRS Midterm
Symposia
2018



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NEWSLETTER

ISPRS
STUDENT
CONSORTIUM

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FROM THE BOARD

Dear SpeCtrum Readers,

I welcome you all, our dear readers, to this latest issue of the SpeCtrum, the official Newsletter of the ISPRS Student Consortium (ISPRS SC). On behalf all the board members of the ISPRS SC, I thank you for always taking your time to read our Newsletter issues. Knowing that you so much appreciate and enjoy reading the SpeCtrum always invigorates us to bring you the latest updates from the world of photogrammetry and remote sensing with fun and flair. Now that the New Year is upon us, I guess you are all busy preparing to face it. Some of you might be taking up new jobs, starting your PhD's, Master's or Bachelor's degrees, or you could be actually preparing to finish your various programs. All this comes with a lot of demand in terms of time, energy, and other resources. But with all that, I would like you to take some time off to once again enjoy this issue of the SpeCtrum.

In this issue, we bring you the highlights from the 38th Asian Conference on Remote Sensing (ACRS) held in New Delhi, India on 23rd – 27th October 2017. It was a well-attended conference with over 900 delegates from all over the world, of which many were students. Therefore, various activities were organised for the student delegates. Read about the story highlights of the Student Session, WEBCON 7, Students' Night, and poster presentations.

Well, that's not all we have for you! The 17th ISPRS SC summer school was also held in the beautiful city of Dehradun in the Indian state of Uttarakhand at the Indian Institute of Remote Sensing. The summer school run under the theme "Geo-processing Tools and Technologies in Citizen Science." We bring you the highlights of what transpired during that summer school, including some of the projects by participants where they practiced collecting data on different aspects using geospatial tools and technologies in citizen science.

Not forgetting a section on career opportunities including job openings, PhD and Master's, fellowships and scholarships for those of you who want to further your careers.

I hope you enjoy reading this wonderful issue of the ISPRS SC SpeCtrum newsletter and do not forget to leave us feedback by following us on our social media platforms and website. Many of the articles in this issue will be put on our social media platform and our website.

I wish you all a happy, fruitful and peaceful New Year!

Cheers!

Charles Jjuuko
Web Administrator
ISPRS Student Consortium



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Join the SPECTRUM Team!

We are constantly in search for passionate volunteers to be part of the ISPRS-SC Newsletter team. If you are a student or a young professional (ages 20 – 35 years old), willing to lend your time and skills with the passion to tell stories, share knowledge and experiences, then join us as a CONTRIBUTOR to the Spectrum.

Have a passion for design, layouts and infographic? Be one of the volunteers of our CREATIVE DESIGN TEAM and help us tell stories through pictures and images.

Take the opportunity to work with an international array of experts to bring the latest stories and developments in the field of Remote Sensing, Geomatics and Photogrammetry.

Click here to register as a Volunteer TODAY!
<https://goo.gl/QcsABN>

Or you can email us at sc@isprs.org

THE ISPRS SC BOARD
WISHES YOU ALL A JOYOUS

Holiday Season

AND A PROSPEROUS

New Year

The ISPRS Student Consortium: 2017 In Review

The beginning of the term of the new board members of the ISPRS Student Consortium (ISPRS SC) officially started after the XXIII ISPRS Congress in Prague, Czech Republic last July 2016. The first few months of the new term was spent transitioning the work of previous term and identifying what needs to be done in the first year. This 2017, the ISPRS board members were involved in introducing the new website, the repackaged NewsLetter, collaborating with different organizations, coordinating with summer school organizers and strengthening the organization's connections to the ISPRS.

The new ISPRS SC website was launched in March through the technical assistance of Mr. Markus English, who is also responsible for the ISPRS website. The website aims to provide up-to-date content about events, open positions and scholarships, links to useful resources, photo galleries and reports of the previous summer schools, the latest and past issues of the Newsletter, and a member's registration area. The ISPRS SC website is continuously being developed, and the task of the Website Administrator was officially assigned to Mr. Charles Jjuuko in October. The repackaged Newsletter, SpeCtrum, was launched in September. SpeCtrum was created to expand the coverage of the official NewsLetter of the ISPRS SC and to open more possibilities of collaboration and to feature more articles that showcase the use of remote sensing and spatial information sciences in addressing various issues in different disciplines.

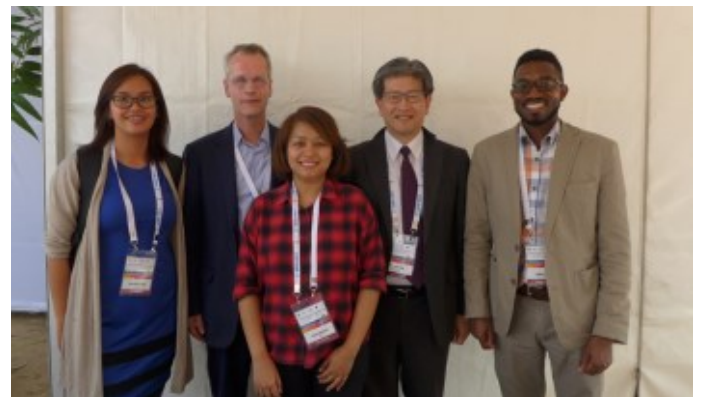


SpeCtrum, the official Newsletter of the ISPRS SC, made its debut during the Geospatial Week 2017 in Wuhan, China. Limited copies of the printed Newsletter were distributed in the event.

The ISPRS SC Chair, Sheryl Rose Reyes, attended the ISPRS Council meeting during the Geospatial Week 2017 in Wuhan, Hubei, China and presented the status of the organization. Important comments and feedback were received. The ISPRS SC Newsletter must promote the ISPRS Journals and other publications, so that the students and young professionals will be informed about the availability of such repositories. One of the most important issues raised was the sustainability of the organization, which involves revisiting the ISPRS SC Statutes and making the necessary changes to reflect the issues encountered by the organization and to provide a strong mechanism to facilitate a better transition and knowledge transfer in between terms. The sharing of information between the ISPRS SC, SpeCtrum and the ISPRS eBulletin was also recommended to further increase the presence of the organization.

The ISPRS SC board members, namely, Sheryl Rose Reyes (Chair), Angelica Kristina Monzon (Newsletter Editor-In-Chief) and Charles Jjuuko (Website Administrator) attended the 38th Asian Conference on Remote Sensing (ACRS 2017) in New Delhi, India for the ISPRS SC annual board meeting. The ISPRS SC board members also attended several meetings: (1) With Dr. Chaowalit Silapathong, former Deputy Director of the Geo-

informatics and Space Technology Development Agency (GISTDA) of Thailand for a potential collaboration with the ASEAN Research and Training Center for Space Technology and Applications (ARTSA), (2) With Dr. Christian Heipke, President of the ISPRS, for the final revision of the summer school guidelines as part of the harmonization of all summer schools organized and co-organized by ISPRS as well as the potential amendments to the ISPRS SC statutes, and (3) With Dr. Kohei Cho, General Secretary of AARS and other professors and experts involved in organizing international activities, with the goal of strengthening international collaboration and presence of the ISPRS in Asia. Moreover, the ISPRS SC board members also provided additional assistance in the organization of the student activities in conference.



The ISPRS SC board members with Dr. Christian Heipke, President of the ISPRS, and Dr. Kohei Cho, General Secretary of the Asian Association on Remote Sensing.

Three summer schools were also organized this year. The the 3rd IEEE/GRSS-Young Professionals & 16th ISPRS Student Consortium and Working Group V/5 Summer School was held in Lages, Brazil, from October 2 – 6, 2017, with the theme, "Multivariate Statistics, Introduction to Laser Scanning, and Image Processing with Google Earth Engine." This summer school is a collaboration between the IEEE - Geoscience and Remote Sensing Society (GRSS) and the International Society for Photogrammetry and Remote Sensing (ISPRS), and was financially supported by the Foundation for the Support of the Scientific and Technological Research of Santa Catarina State (FAPESC). The second summer school was held in Campus Sur, Santiago, Chile, with the theme, "Land Cover Assessment and Monitoring Using Google Earth Engine," and was held from November 13 – 17, 2017. Dr. Nicholas Clinton delivered the lectures from Google delivered the lectures via a video conference. The third summer school followed after the ACRS 2017, which was held in the Indian Institute of Remote Sensing, Dehradun, Uttarakhand, which is a 6 hour drive from New Delhi. This year's summer school theme was "Geo-processing Tools and Technologies in Citizen Science," which was a timely theme in today's issues related to the use and significance of the profession. The ISPRS SC extends its deepest and sincerest gratitude to Dr. Veraldo Liesenberg, Dr. Raul Feitosa, Dr. Jaime Hernandez, Dr. Sameer Saran and Dr. Sultan Kocaman, and to the other people involved in the organization of the summer schools.

The year 2018 was a year of learning, hard work and building relationships for the ISPRS SC board members. In the coming years, the ISPRS SC board members envisions a future of new and interesting activities for the youth, in hopes of inspiring them to contribute to the scientific community as well as sharing their knowledge and experience with friends and fellows in the profession.

Student Activities at the 38TH ASIAN CONFERENCE ON REMOTE SENSING 2017 *SPACE APPLICATIONS: TOUCHING HUMAN LIVES*

by Charles Jjuko and Angelica Monzon

The Asian Association of Remotes Sensing (AARS) organises the Asian Conference on Remote Sensing (ACRS) as an annual event providing a platform for professionals, scientists, and other groups in the community to interact and share knowledge and experience in the related field of Remote Sensing and Geoinformatics. This year, the 38th conference was held in the Ashok Hotel in the green city of New Delhi, India. The conference regularly attracts various researchers, professionals, and students from all over Asia and other parts of the world. Recognised as one of the significant groups in the community, students were always given opportunities to build their professional networks and connections with other peers and experts coming from diverse places to encourage interaction and potential collaborations in the future. Led by AARS Student Group and supported by the ISPRS Student Consortium (ISPRS SC), various student activities were organised on the 25th of October (Day 3) of the ACRS 2017. These activities included the WEBCON 7, the Student Session and the Students' Night.

WEBCON 7

Now on its 7th year, the WEBCON competition continued to gather much interest and enthusiasm from students, young researchers and seasoned professionals alike. Seven teams put forth their respective entries to compete for the most innovative web materials related to geospatial information sciences. A special presentation was also given by students from Shibaura Institute of Technology, Japan at the opening of the WEBCON competition.

The session was chaired by Dr. Fuan Tsai, professor from the National Center University, Taiwan, and co-chaired by Ms. Sheryl Rose Reyes (ISPRS SC Chair) from the United Nations University, Japan. Dr. Tsai and Ms. Reyes have been involved in the conceptualisation, organisation, and conduct of the WEBCON event since its conception and first session back in 2010. The WEBCON remains one of the highlights of the student activities in ACRS until today.

The WEBCON 7 entries included the following projects: (1) Next Generation GIS Data

management framework: The integration of desktop, mobile and web platform by Shiva Reddy Koti & Prabhakar Alok Verma from India; (2) Spatial Online Tool for Crop Land Suitability Analysis by Gautam Dadhich from India; (3) Friend-in-need: App based on crowd-sourced Geo-data for connecting volunteers and non-profit of humanitarian activities and for helping by Vaibhav Raj from India; (4) Web Analytics for Solar Energy Potential by Shweta Mishra & Pankaj Badoni from India; (5) CM Living Web Application Project by Sudarat Peeloung, Naphat Tunprakornkun & Kridsana Udtarun from Thailand; (6) A Geospatial Web Search Engine by Tse-Chun Wang from Taiwan, and; (7) Application of Guide System using Virtual Reality at National Central University by Hsuan-Yi Li & Kai-Yen Chang from Taiwan. The teams were given eight minutes each to present their entries to the judges and the audience. A free demonstration followed the presentations that gave the teams the opportunity to showcase the implementation of their web-based applications and answer more specific inquiries from the judges and audience. The judges for the WEBCON 7 include: Dr. Christian Heipke, ISPRS Council President; Dr. Kohei Cho, General Secretary of the Asian Association of Remote Sensing; Dr. Sameer Saran, Co-Chair of the ISPRS Working Group V/3 and Head of the Geoinformatics Department of the Indian Institute of Remote Sensing; and Dr. Fuan Tsai.



The criteria for the selection of winners included: general utility and importance of output, scalability and elegance of design; clarity, efficiency and portability of implementation; and originality. Tse-Chun Wang from Taiwan brought home the bronze prize of USD100 for "A Geospatial Web Search Engine." The gold prize of USD150 went to the two teams from India: one to Shiva Reddy Koti & Prabhakar Alok Verma for the "Next Generation GIS Data management framework: The integration of desktop, mobile and web platform." and the other

went to Vaibhav Raj for "Friend-in-need: App based on crowd-sourced Geo-data for connecting volunteers and non-profit of humanitarian activities and for helping." Learn more about their entries in the featured articles in the Newsletter. WARM CONGRATULATIONS TO ALL THE WINNERS!



STUDENT SESSION

The Student Session is a special session in ACRS dedicated to presentation about universities across Asia with degree programmes and research in the fields of remote sensing, photogrammetry, GIS, and other geospatial information sciences. An event led and facilitated by the board members of the ISPRS SC, this session was aimed for students to learn more about the learning environment of their peers studying elsewhere in the world and to potentially identify areas for collaboration and support among the members of the SC network. ISPRS SC board members Sheryl Rose Reyes and Angelica Monzon served as the Student Session Chair and Co-chair, respectively. Ms. Reyes opened the session with a warm welcome to all the attendees of the Student Session and gave a few minutes to Dr. Bruce Forster of the Asia Pacific Remote Sensing Pty. Ltd to briefly talk about the Australian Earth Observation Series Volumes that are now freely available online. (See this link for more details <http://www.crcsi.com.au/earth-observation-series/access-granted>)

Ms. Reyes opened the presentations by giving insights on the student group under the AARS and



the student activities in the ACRS and AARS at large. Ms. Monzon gave an introduction to the SC and its activities such as the Summer Schools, the Youth Forum at the ISPRS Congress, the Newsletter publication (SpeCtrum), the new website, and the communication media channels of the SC. Moving on with the highlights of the Student Session, seven students proudly showcased their universities and departments through 8-minute presentations. The universities represented in the session were: University of the Philippines by Charmaine Cruz; IHE Delft Institute for Water Education, The Netherlands by Charles Jjuuko; TERI University, India by Arun Murali Aakansha; University of Milano, Italy by Luca Fallati; Tokyo Institute of Technology, Japan by Min Lung Cheng; Shibaura Institute of Technology, Japan by Hayami Saso and Tamaki Kobayashi; National Central University, China Taipei by Yikeng Cheng.

Inspired by the presentations of the students in this session, a new section of the Newsletter will be



dedicated to showcasing the various universities within the student network of the ISPRS-SC. We'll be starting with the Center for Space and Remote Sensing Research of National Central University in Taiwan in page 13-14 of this issue. Watch out for more!

STUDENTS' NIGHT

This year's student night was held in Hotel Samrat on the 25th of October 2017 with over fifty (50) students in attendance. Each participant was treated to a cup of coffee and a host of Indian snacks. To encourage more interaction among the participants outside their usual companions during the conference, each participant was called to join in a game called "Human Bingo." The mechanics of the game: each person was given a paper with 24 different attributes of individuals. The goal was to find an individual from the participants that does not belong within their own table and that fits one of the 24 attributes listed on the paper. In this way, the participants were encouraged to start conversations with other participants in other tables and groups by asking if they fit any of the attributes in their bingo cards.

It was such an engaging activity that some participants went through with the conversations even beyond the ten minutes' duration of the game. Students have responded positively to the game and appraised it as a great ice breaker that compelled them to talk with other students in the event and establish further connections through social media.

The highlight of the night was dance time. The DJ of the night treated the participants to a variety of Bollywood music to which they danced throughout the rest of the student night. The Indian participants led the dances and enthusiastically taught everybody some dance moves that brought a lot of excitement in the event. The dancing continued throughout the rest of the evening followed by a photography session by all the participants in the lobby of Hotel Samrat. Overall, the event has succeeded in fostering camaraderie and developing connections between the student participants of the conference. More photos available at the ISPRS-SC website.



ACRS 2017 7th



WEBCON WINNERS

The Asian Conference on Remote Sensing is an annual event that brings together scientist, student, professionals and other stake holders in the area of remote sensing and geospatial sciences at large from the Asian continent and around the world. During the ACRS, a web contest (WEBCON) is held to let student showcase their web applications and innovations in the geospatial domain. Student with the top three innovations are awarded prizes with the winner taking the gold prize, the second silver and the third bronze. The 7th edition was held in New Delhi India, during the 38th ACRS. This edition saw the gold prize being shared between two innovators. Here we introduce you to the winners and their respective applications.

**GOLD
WINNER 1**

**NEXT GENERATION GIS DATA MANAGEMENT FRAMEWORK:
THE INTEGRATION OF DESKTOP, MOBILE AND WEB PLATFORM
(QREALTIME PLUGIN)**

Team: Shiva Reddy Koti (kotishiva@gmail.com) and Prabhakar Alok Verma (prabhakar.9219@gmail.com)

Affiliation: Indian Institute of Remote Sensing, ISRO, Dehradun, India

The team developed a framework/application capable of seamless integration between survey form design, data collection, data downloading and visualization. The framework is designed for scientists and normal GIS users who want to integrate field data with their GIS layers using recent advancement in data collection technologies, in the most efficient way with minimum efforts. The framework was designed using open source tools like: Open Data Kit (ODK) client, Aggregate server, Enketo server for web forms and the use QGIS 2.X for smart GIS plugin. It is an integration of web, mobile and desktop platform for GIS data management activities like data collection from field using mobile and web platform, data synchronization and editing in the desktop platform. The framework provides many capabilities, among them are:

- One-click solution to make your GIS layers' (spatial database table, WMS/WFS layers, shapefile etc.) schema online for field data collection using web and mobile platforms.
- It provides importing collected data and synchronizing with your target layer in a very efficient manner using the interoperable XForm and OPENROSA compliant servers in the backend.
- Provides flexibility to use any ODK server and client to collect data.



The framework was duly tested during the 17th ISPRS student Consortium summer school as tool for data collection in citizen science using web and mobile platforms. It was also approved by QGIS and now available in the QGIS plugin repository. For more information on the plugin follow the link: <https://shivareddyirs.github.io/QRealTime/>

**GOLD
WINNER 2**

'FRIEND-IN-NEED': APP BASED ON CROWD SOURCED GEO-DATA FOR CONNECTING VOLUNTEERS AND NON-PROFIT OR HUMANITARIAN ACTIVITIES AND FOR HELPING VICTIMS IN CASE OF A DISASTER.

Team: Vaibhav Raj (vbhv14@aol.com)

Affiliation: Indian Institute of Remote Sensing, Dehradun, India

The motivation behind this app is to connect the 'people who wants to help' and the 'people who needs help' and 'GIS' acts as a bridge to navigate and link it all together. This app utilizes the open source Mapbox API to navigate/route volunteers to the 'friend in need'. The Geo-event can be of any nature, from an actual person who needs help, to a 'buffer query' for a volunteer cleaning of streets.

Non-government organizations and non-profit organisations can get a verified account on the app to host a geo-event. Registered app users within the buffer distance (set by the user) can get notifications of the details related to the humanitarian event happening nearby.



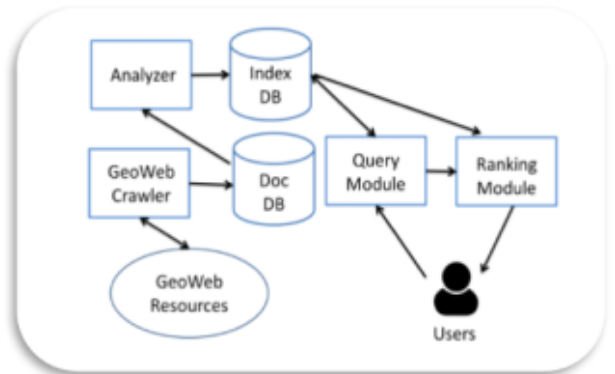
**BRONZE
WINNER**

A GEOSPATIAL WEB SEARCH ENGINE

Team: Tse-Chun Wang (jason100168331@gmail.com)

Affiliation: National Central University, Taiwan

The entry was a GeoWeb search engine to actively discover and provide a complete index of geospatial resources. Currently, people search for geospatial resources like satellite images, sensor observations, and web maps (Geo Web Resources) on the internet by connecting data portals or spatial data infrastructures (SDI's). They face various challenges as no single data portal and SDI can provide a complete index of geospatial data. These users are not certain where to find the data portal or SDI's that provide the data they need and different portals and SDI's have different query procedures. To overcome such problems, the Geo Web search engine applies a crawler to actively discover the Geo Web Resources over the internet and rank resources with a ranking algorithm.



The search engine uses factors of four categories to rank the resources, which are Attributes for selecting target resources, Quality of Services (QoS), Relevance, and Importance. The Analyzer stores the ranking factors into index database which the Ranker integrates to calculate the final ranking of the resources. The factors are integrated by using weighted average with manually assigned weighting for each factor. Finally, according to the final ranking, users' queries can be answered and provide a more efficient way for searching GeoWeb resources.



Geoprocessing Tools and Technologies in Citizen Science: SUMMER SCHOOL 2017 AT DEHRADUN, INDIA

The International Society for Photogrammetry and Remote Sensing (ISPRS) Technical Commission V on Education and Outreach organized the ISPRS Summer School 2017 on "Geo-processing Tools and Technologies in Citizen Science" with Working Groups V/3 & V/5 and ISPRS Student Consortium (ISPRS SC) at Indian Institute of Remote Sensing (IIRS), Dehradun, India from Oct 30 to Nov 3, 2017.

The topics covered during the course were: Role of Citizen Science in governance and disaster; Citizen Science and Earth Observation; Leveraging OSGeo ecosystem for Citizen Science, role of Geospatial Technology in Citizen Science; enabling Citizen Science using FOSS4G tools; Citizen Science data collection, management, validation and analysis; Citizen Science in mitigating natural disasters (e.g. Forest Fire and Landslide) and ISRO's Bhuvan platform for Citizen Science. The practical

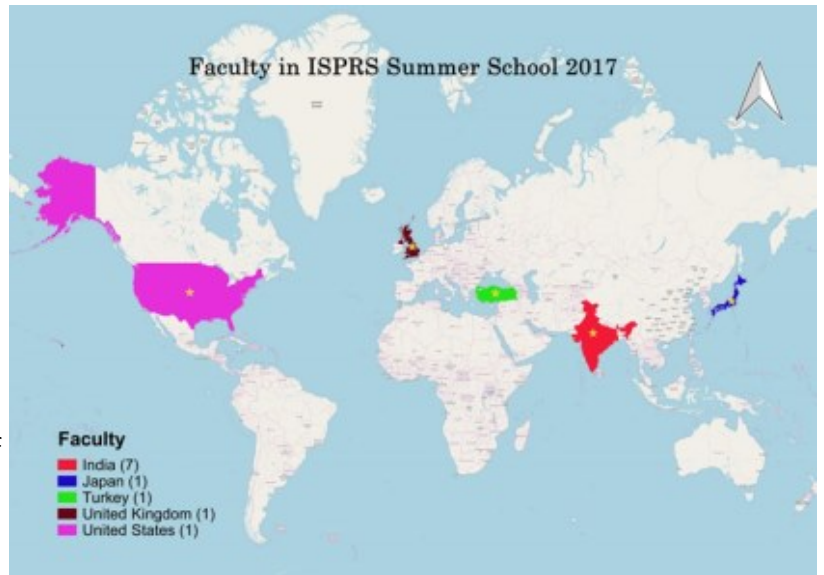


The course was attended by 43 participants from 9 different countries.

sessions were done on Open Source QGIS Software. Further, participants were given hands-on on indigenously developed QGIS plugin named 'QrealTime', a QGIS Plugin for Smart Data Collection. The participants were taken for a field visit to Mussoorie for mobile-based data collection using the Open Source software (Open Data Kit (ODK) Collect Android App). The students were given a book of compiled reading materials containing materials on the abovementioned topics along with hand-on practical manuals for their future reference.

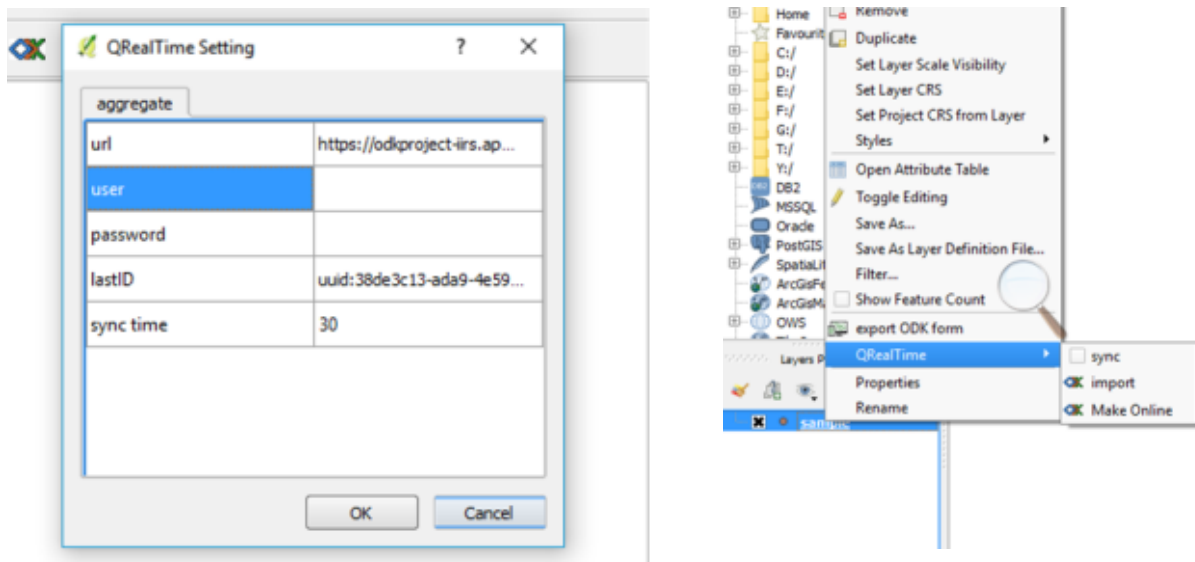
There were in total 12 lectures, 3 practical sessions, and a demonstration of case studies, followed by students' project work.

The map depicts the respective countries of the eminent speakers who delivered talks (either in person or over the Internet) as part of this summer school.



QREALTIME PLUGIN DEVELOPED FOR ISPRS SUMMER SCHOOL

This open source plugin for QGIS has been specifically designed and developed for ISPRS Summer School to provide single window solution for modern day GIS data management requirement. In this plugin we have seamlessly integrated state of the art data collection technology with the GIS software. User interface of the plugin is designed in such a way that any QGIS user can start using this plugin instantly. Data collection forms (surveys) are generated from the GIS layer. It also supports domain constraints and other advanced GIS data editing constraints. GIS user can simply create GIS and this plugin would translate the same to XForm and upload to ODK aggregate server, thus ensuring the same schema is used for field data collection and organization in QGIS. GIS user can import submitted data into any GIS layer at any time. GIS users who want their layers to always be up-to-date with the server, can use 'sync' functionality. The sync works in asynchronous mode. It always keeps track of last data downloaded and only download data which is submitted after last successful sync. The QRealTime is now available in QGIS plugin directory (<https://plugins.qgis.org/search/?q=QRealtime>).



QRealTime interface in QGIS

PILOT PROJECTS

Students carried out pilot projects in groups. For the same they were taken for field visit to Mussoorie. For many of the students, this has been the highlight of the Summer School as it provided the perfect opportunity for the students to get to know each other more and build relationships that they can carry past the duration of the Summer School.

Table below: Summary of the pilot work done by the participants

Group	Pilot Project Title	No. of Participants	Brief Summary
Group1	Open Source Geospatial and crowdsource approach in solid waste management	10	Students used citizen science approach to collect data on solid waste sites. Further, using spatial analysis, they proposed new location for placing the dustbin QGIS. Initially they designed field form using QrealTime plugin
Group2	Geo-enable information system powered by citizen science	12	Students designed field form in QrealTime plugin and collected Point of Interest (POI) related to tourists' amenities using ODK Collect App and also created an information system for interactive visualization.
Group3	Identification of service gap for utilities and facilities areas	10	Students designed field form in QrealTime plugin and collected POIs using ODK Collect App and reported the gap in services related to utilities and facilities using QGIS Software.
Group4	Biodiversity analysis using citizen science approach	10	Students designed field form in QrealTime plugin and then using Citizen Science approach, documented species observations. Geotagged information about plants and bird species were collected and visualized.

The students enjoyed walking around Mussoorie collecting data, sight-seeing and taking photos with their peers as memorable souvenirs of the trip.



Lectures of the ISPRS Summer School on "Geoprocessing Tools and Technologies in citizen Science" will be available on the website of the ISPRS Summer School 2017 ([http:// isprssummerschool.isrs-india.org/](http://isprssummerschool.isrs-india.org/) or <http://isprs-ss2017.iirs.gov.in/>) for future reference of all concerned. Lecture may be viewed online or downloaded for later use along with other reading materials like lecture and practical notes, along with supporting software and datasets for hands-on exercises.



ISPRS Summer School Online streaming webpage

THE SECOND INNSBRUCK SUMMER SCHOOL OF ALPINE RESEARCH 2017: CLOSE RANGE SENSING TECHNIQUES IN ALPINE TERRAIN

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²Department of Geoscience and Remote Sensing, Delft University of Technology

In July 2017, the 2nd edition of the summer school on close-range sensing techniques in alpine terrain took place at the Obergurgl University Centre (Austria) in the middle of the Alps. The summer school was hosted by the University of Innsbruck, the Austrian Academy of Sciences and the ISPRS. Thirty-nine international early-career scientists worked on selected topics from environmental monitoring in high mountain areas such as rock face mapping, vegetation monitoring, 3D change detection of landslides and rock glaciers, and riverbed erosion. The summer school is framed with selected Keynotes, including:

Laser scanning and challenges in alpine research (Norbert Pfeifer)

Terrestrial photogrammetry for glacier monitoring at high spatial and temporal resolution (Hans-Gerd Maas)

The Copernicus Programme and European Earth Observation activities from space (Thomas Geist)

Natural hazards in mountainous environments – assessing hazards and risks (Cees van Westen)

Monitoring high mountain Asia by remote sensing – Sentinel 2 and related data (Roderik Lindenbergh)

The participants were introduced to different sensors and platforms such as terrestrial laser scanning, terrestrial photogrammetry, and UAV and thermography. During the summer school they worked the whole week together in study groups on a sensor-related mapping and monitoring assignment combining project planning, field data acquisition, data processing, and presentation.

Sources:

<https://www.uibk.ac.at/geographie/summerschool/>

<http://www2.isprs.org/commissions/comm2/wg10.html>





FINAL REPORT ON THE 3rd IEEE/GRSS-Young Professionals & 16th ISPRS Working Group V/5 and Student Consortium Summer School 2017

Veraldo Liesenberg, Marcos B. Schimalski, and Leonardo J. Biffi
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The 3rd IEEE/GRSS-Young Professionals & 16th ISPRS Working Group V/5 and Student Consortium Summer School was held at the Centre of Agroveterinary Sciences of the Santa Catarina State University, Lages city, Santa Catarina State, Brazil from October 2nd to 6th, 2017. Lages is the main city in the Santa Catarina Southern Plateau, and large grassland fields and the last remaining mixed ombrophilous forest remnants can be found there. Several vast cattle ranches, which are nowadays used for rural tourism, can be also found in the area, where the modern “gaúchos” still keep the traditions and skills of their forebears alive. The region nearby also boasts various spectacular natural beauties such as Serra do Rio do Rastro, Serra do Corvo Branco, São Joaquim National Park, and Coxilha Rica, among other places.

The major themes of the 3rd IEEE/GRSS-Young Professionals & 16th ISPRS Working Group V/5 and Student Consortium Summer School were related to **Multivariate Statistics, Introduction to Laser Scanning, and Image Processing with Google Earth Engine**. The proposed event was possible due to collaboration between two well-known scientific societies, the IEEE - Geoscience and Remote Sensing Society (GRSS) and the International Society for Photogrammetry and Remote Sensing (ISPRS). The latter is supported by the Student Consortium (ISPRS SC) that is the official representation of the students and the youth to ISPRS. The main objectives of the ISPRS SC are to link students, young researchers and professionals in different countries, who are interested in photogrammetry, remote sensing and spatial information sciences. ISPRS SC also aims to provide a platform for exchange of information and to organize student-specific events and other activities that integrate students and the youth more effectively into ISPRS activities. The above mentioned event was also financially supported by the Foundation for the Support of the Scientific and Technological Research of Santa Catarina State (FAPESC).

A total of one hundred and three registered participants attended the above mentioned event (Fig. 1). They were originally from 19 different institutions (universities, research institutes, armed forces and governmental agencies). The majority of the participants were graduate students (both MSc and PhD levels) and they comprised 75% of the attendees. Undergraduate students comprised 10% of the participants, whereas professionals, working at different universities, research institutes, armed forces and governmental agencies comprised the remaining 15% of the audience.

The 3rd IEEE/GRSS-Young Professionals & 16th ISPRS Working Group V/5 and Student Consortium Summer School event was organized in two blocks. The first block, lasting three days (October 2nd to 4th), followed the model of the **ISPRS Student Consortium Summer School (ISPRS-SC)**. The aim was to transmit technical/scientific knowledge on selected topics. In this block, intensive lectures were delivered by renowned speakers with great technical and scientific experience in this field.

The above mentioned event was started by a short opening ceremony conducted by Prof. Dr. Veraldo Liesenberg. A round table discussion was initiated with representatives of the University (Prof. Dr. Marcos B. Schimalski, Prof. Leonardo J. Biffi, Prof. Dr. Adelar Mantovani, and Prof. Dr. Alessandro B. Cunha), the IEEE/GRSS Brazilian Chapter (Prof. Dr. Raul Feitosa) and the ISPRS V/5 council (Prof. Dr. Antonio M.G. Tommaselli). Afterwards, three key-note speakers were invited to deliver high-level lectures on specific topics. The key-note speakers were Prof. Dr. Norbert Pfeifer from the Technische Universität Wien (TU Wien, Austria) who is a well-known expert on LiDAR and photogrammetry. Additionally, Prof. Dr. Anselmo Chaves Neto from the Federal University of Paraná (UFPR) delivered talks on Multivariate Statistics applied to pattern recognition and automation. Finally, Prof. Dr. Héctor Jaime Hernández Palma from the Universidad de Chile (UC, Chile) a well-known scientist in the field of digital image processing using the Google Earth Engine ended the Summer School delivering the remaining talks. The lectures were delivered at specific intervals and after each lecture an additional session was planned with the collaboration of professionals in order to promote discussion with the audience. A coffee break was offered twice per day. The coffee breaks happened during both morning and afternoon sessions in which nine posters from students were presented.

It is important to mention that the **16th ISPRS Working Group V/5 and Student Consortium Summer School** also offered daily social events, on the basis of voluntary participation. On Monday, the social event took place at the “Galpão Gaúcho” in which the interested participants were able to appreciate traditional dishes from the region. The most famous dishes are those prepared with the nuts from the Brazilian pine (i.e., *Araucaria angustifolia* (Bertol.) Kuntze). On Tuesday, the social event resumed with a degustation of high-altitude grape varieties, i.e., wines made from grapes harvested from vineyards located at over 1300 meters above sea level. The degustation was harmonized with different cheeses, also produced in the region. On Wednesday, in order to celebrate the success of the first block, traditional beers brewed in the region were appreciated at the famous “Boteco Santa Fé”.



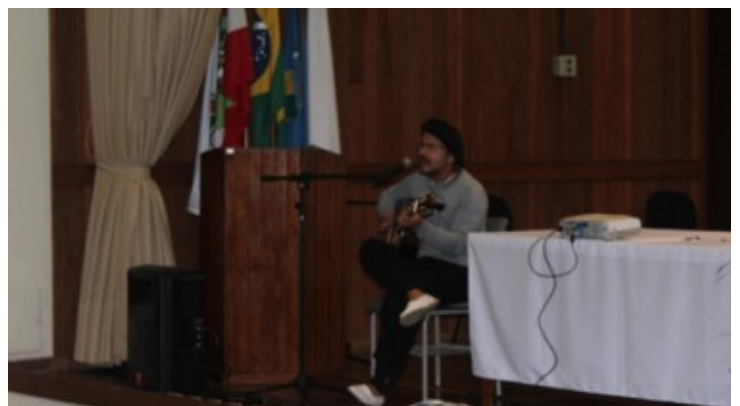
Figure 1. Group picture of the participants taken on the third day of the event.

The second block, lasting two days (October 5th-6th), followed the model of the **IEEE/GRSS Young Professionals (IEEE/GRSS-YP)**. This event was intended to guide the careers of Young Professionals who graduated up to 10 years previously, as well as both graduate and undergraduate students. The event consisted of lectures, as well as interactive sessions delivered and moderated by prominent professionals active in business, education/research institutions and academia. The morning session was started with a short opening ceremony mediated by Prof. Dr. Veraldo Liesenberg. A round table was established with representatives of the University (Prof. Dr. Marcos B. Schimalski, Prof. Leonardo J. Biffi, Prof. Dr. Adelar Mantovani, Prof. Dr. Alessandro B. Cunha), the FAPESC (Prof. Dr. Sergio L. Gargioni), the IEEE/GRSS Brazilian Chapter (Prof. Dr. Raul Feitosa) and the ISPRS V/5 council (Prof. Dr. Edson A. Mitishita) (Fig. 2A). The opening ceremony was followed by a guitar performance by the undergraduate student Mr. Marlus Pereira (Fig. 2B). Mr. Pereira delivered an impressive performance by playing guitar and singing typical songs from the "Gauchó's Culture" in both Portuguese and Spanish languages.

The first session of the **3rd IEEE/GRSS Young Professionals (IEEE/GRSS-YP)** event consisted of four lecturers. The first talk was delivered by Prof. Dr. Norbert Pfeifer from the Technische Universität Wien (TU Wien, Austria) with the topic "Remote Sensing Career Paths - Examples from Europe". After the talk, Prof. Dr. Raul Q. Feitosa, a representative from both the Rio de Janeiro State University (UERJ) and the Pontifical Catholic University of Rio de Janeiro (PUC-Rio), started moderating questions and concerns from the audience. The second talk was delivered by Dr. Lênio S. Galvão from the Brazilian Institute for Space Research (INPE) with the topic "Earth Observation Satellites and associated scientific production: advances and perspectives". This talk was moderated by Prof. Dr. José Marcato Júnior from the Federal University of Mato Grosso do Sul (UFMS). The participants were then invited for the coffee break and poster session. Afterwards, Prof. Dr. Sergio L. Gargioni, currently the President of the Foundation for the Support of the Scientific and Technological Research of Santa Catarina State (FAPESC) delivered a talk entitled: "The Role of the State Government Research Foundations in the relationship among University, Industry and Society". This session was moderated by Prof. Dr. Veraldo Liesenberg from the Santa Catarina State University (UDESC, Brazil). Afterwards, the morning session was closed by Prof. Héctor Jaime H. Palma from the Universidad de Chile (UC, Chile) with the talk: "Remote Sensing Applications in Chile". This session was moderated by Prof. Dr. Edson A. Mitishita from the Federal University of Parana (UFPR, Brazil), and there was then an interval for lunch.



(A)



(B)

Figure 2. Group picture of the lecturers from the event (A), and a picture of the guitar performance of the undergraduate student Mr. Marlus Pereira (B).

The afternoon session of the **3rd IEEE/GRSS Young Professionals (IEEE/GRSS-YP)** event was started with Prof. Dr. Edson A. Mitishita from the Federal University of Parana (UFPR, Brazil) with the talk: "The Brazilian Geotechnology Market:

Challenges and Opportunities". The talk was moderated by Prof. Leonardo J. Biffi from the Santa Catarina State University (UDESC, Brazil). This talk was followed by a lecture from Prof. Jefferson A. dos Santos from the Federal University of Minas Gerais (UFMG, Brazil) with the presentation entitled: "Machine Learning Methods for Remote Sensing Image Analysis: Challenges and Opportunities". This talk was moderated by Prof. Dr. Vagner A. Pesck from the Paraná Midwestern State University (Unicentro, Brazil). After the coffee break, Dr. Marcus V.N.D. Oliveira from the Brazilian Agricultural Research Corporation (EMBRAPA-Acre) delivered a talk entitled: "Remote Sensing Applications for the Sustainable Forest Management in the Brazilian Amazon". This session was moderated by Dr. Alessandra R. Gomes from the Amazon Regional Center (CRA), a research unit that belongs to the Brazilian National Institute for Space Research (INPE). By request of the local organizers, an additional group of 37 undergraduate students, mostly attending the courses of Forest Inventory, and Forest Management also attended this specific talk and joined the audience. Afterwards, the afternoon session was closed by Dra. Claudia M. de Almeida from the Brazilian Institute for Space Research (INPE) with the talk, "State of the Art and Perspectives of Simulating Land Use and Land Cover Changes using Remotely Sensed Images". The session was moderated by Prof. Dr. Marcos B. Schimalski from the Santa Catarina State University (UDESC, Brazil). Last, but not least, the **3rd IEEE/GRSS Young Professionals (IEEE/GRSS-YP)** also offered a social event on the basis of voluntary participation. The participants were invited to enjoy fish dishes at the "Galpão Capão do Cipó", a famous restaurant in the city of Lages.

The last day of the event consisted of a talk delivered by Prof. Raul Q. Feitosa from both the Rio de Janeiro State University (UERJ) and the Pontifical Catholic University of Rio de Janeiro (PUC-Rio). The talk highlighted the topic "The Importance of Scientific Societies in the Construction of the Research Groups". During his talk, an announcement of eleven travels grants was given to the audience (Fig.3A). All the students were invited afterwards to receive their travel grant award (Fig. 3B).



Figure 3. Announcement of the Travels Grants by the GRSS Brazilian Chapter Secretary Dr. Patrick N. Happ (PUC-Rio) (A) and group picture of the students granted travel awards by the event (B).

After the announcement, a closing discussion was initiated with the local organizers and all the lecturers of the event, promoting a very in-depth discussion with the audience under the topic: "How to Build a Professional Career: Challenges and Opportunities". During the closing ceremony, the forthcoming activities for the next year were announced. Unexpectedly, the students who helped in the local organization requested permission to show a short video containing some pictures of the event and acknowledging the audience for their visit and also the lecturers and tutors for the very interesting experience. The video made by the volunteer students can be accessed under the following URL:

<https://www.youtube.com/watch?v=X4myg6WuuQw&t=9s>

There was a final coffee break and afterwards a demonstration of different equipment from both FARO and Leica Brazilian representatives in the field. Certificates of participation were awarded to the participants by e-mail after the event. A list of exercises was made available to the students interested in obtaining ECTS credits in their graduate programs. Based on the delivery of an adequate report, the students will be awarded with three ECTS credits from the Graduate Program of Forest Engineering.

In conclusion of this report, we would like to sincerely acknowledge all the support given by both the IEEE - Geoscience and Remote Sensing Society (GRSS) and the International Society for Photogrammetry and Remote Sensing – Student Consortium (ISPRS-SC). A special acknowledgement is also due to the financial support given by the Foundation for the Support of the Scientific and Technological Research of Santa Catarina State (FAPESC). This event would not be the same without all this generous support.

Thank you very much!

Sincerely,

Veraldo Liesenberg, Marcos B. Schimalski, and Leonardo J. Biffi

UPCOMING EVENTS 2018

DATE	EVENT	SITE	CONTACT
10 Jan 2018	Workshop "SPACED: Using Earth Observations to Protect Natural Landscapes" website not yet available	Brussels, BELGIUM	Silvia Giamberini giamberini@igg.cnr.it
15-17 Jan 2018	14th International Conference on Location Based Services http://lbs18.ethz.ch/	Zurich, SWITZERLAND	Martin Raubal +41 44 633 30 26 mraubal@ethz.ch
17-19 Mar 2018	GISTAM 2018 4th International Conference on Geographical Information Systems Theory, Applications and Management http://www.gistam.org/	Funchal, Madeira, PORTUGAL	gistam.secretariat@insticc.org
18-21 Mar 2018	ISPRS ICWG III/IV Gi4DM Geo-information for Disaster Management http://www.gi4dm2018.org/	Istanbul, TURKEY	Orhan Altan +90 532 4464409 oaltan@itu.edu.tr
21-23 Mar 2018	ISPRS TC III GIS Ostrava 2018 http://gis.vsb.cz/gisostrava/	Ostrava, CZECH REPUBLIC	Jiri Horak +420597325457 jiri.horak@vsb.cz
26-29 Mar 2018	RSCy2018 Sixth International Conference On Remote Sensing and Geo-Information of the Environment http://www.cyprusremotesensing.com/rscy2018/	Paphos, CYPRUS	rscy@cyprusremotesensing.com
27-29 Mar 2018	ISPRS WG IV/7, WG III/IVb, WG IV/1 GRASF Conference 2018 http://www.grasf.ae/	Dubai, U.A.E.	Hussein M. Abdulmuttalib + 971 555500451 husseinma@dm.gov.ae

ISPRS Midterm Symposia 2018

Technical Commission I: Sensor Systems "Innovative Sensing – From Sensors to Methods and Applications"

October 10 – 12, 2018

Karlsruhe Institute of Technology, GERMANY

Website: <http://tc1-symposium2018.ipf.kit.edu/>

Abstract Submission Deadline: May 15, 2018

Notification of Acceptance: June 1, 2018

The Technical Commission I Sensor Systems intend to organize the Symposium's technical sessions in single-track fashion to support maximum information, interaction and communication. For allowing the presentation and publication of "cutting edge" technical papers as well as early concepts or latest, highly application-relevant results, we plan two submission possibilities: full papers to be assessed by peer-reviewing for ISPRS Annals and reviewing based on abstracts for ISPRS Archives.

Attached to the ISPRS TC I Midterm Symposium Innovative Sensing - From Sensors to Methods and Applications, several one- or half-day workshops and tutorials with special focus on young scientists and practitioners from industry and (non-)governmental agencies will be organized. This shall include, for instance, tutorials and workshops for UAS- and spaceborne data acquisition strategies, modern calibration methods, sensor-oriented SAR and hyperspectral data processing, multi-sensor fusion concepts etc. The interaction between science and industry will be further supported by an exhibition and possibilities for demos and master classes of internationally leading companies in sensing and processing of geospatial information.

Technical Commission II: Photogrammetry "Towards Photogrammetry 2020"

June 3 – 7, 2018

Riva del Garda, ITALY

Website: <http://www.isprs.org/tc2-symposium2018/>

Extended Abstract Submission (for paper publication in the ISPRS Archives): January 26, 2018

Notification of Acceptance: March 2, 2018

ISPRS Technical Commission II "Photogrammetry" focuses, at various scales, on geometric, radiometric and multi-temporal aspects of image- and range-based 3D surveying and modeling. Specifically Commission II deals with image orientation, point cloud generation and processing, 3D feature extraction, scene understanding, sensor and data fusion, sensor characterization, machine learning for geospatial data analysis and big data techniques for massive data processing. Applications in the fields of mapping, industry, heritage, space, underwater and environment are considered. We are looking forward to welcome researchers, practitioners and companies in the field of photogrammetry, computer vision, image processing and similar to present and discuss their results and activities. The Symposium will feature 4 days with plenary and parallel sessions, oral and poster presentations as well as keynote speakers from research and commercial domains and an exhibition of the most important business players in the photogrammetric and geospatial domain.

The event is organized in collaboration with SIFET (Italian Society of Photogrammetry and Topography), JSPRS (Japan Society of Photogrammetry and Remote Sensing) and ARIDA (Japanese Association for Real-time Imaging and Dynamic Analysis).

Technical Commission III: Remote Sensing "Developments, Technologies and Applications in Remote Sensing"

May 7 – 10, 2018

Beijing, CHINA

Website: <http://www.isprs-tc3.tianditu.com/>

Abstract Submission (for paper publication in the ISPRS Archives): January 12, 2018

Notification of Acceptance: February 15, 2018

It is our pleasure to announce that International Society for Photogrammetry and Remote Sensing (ISPRS) Technical Commission III Symposium on "Developments, Technologies and Applications in Remote Sensing" will be held in Beijing, China, during May 7-10, 2018. The symposium will include plenary sessions, technical sessions, tutorials, social activities, exhibitions, etc.

The symposium will provide a inter-disciplinary 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 remote sensing. Over 500 participants from around the world are expected to join in this international academic event, and you are welcome to meet old friends and create new contacts.

Technical Commission IV: Spatial Information Sciences "3D Spatial Information Science – The Engine of Change"

October 1 – 5, 2018

Delft, THE NETHERLANDS

Website: <http://www.isprs.org/tc4-symposium2018/>

Full Paper Submission (Double-blind review for publication in the ISPRS Annals): March 31, 2018

Abstract Submission (for paper publication in the ISPRS Archives): April 30, 2018

Notification of Acceptance: May 15, 2018

The world's population is predicted to reach 7.5 billion in 2018, and by 2050 it is predicted that it will be 9.7 billion. Managing the social and economic changes brought on by this increasing population will require new ideas and spatial information decision making tools. Moreover, the pressures placed on the usage of spaces that people live and work in will necessitate decisions that are based on 3D and higher dimension spatial data. The ISPRS Technical Commission IV Symposium will provide a forum where researchers and practitioners can come together and share their work and ideas in the spatial information sciences and propose new developments for this important field for the progress of humanity.

ISPRS TC IV 'Spatial Information sciences' has a mandate of four years (2016-2020). During this period the Commission intends to further advance the research in Spatial information sciences considering both theoretical and practical aspects in modelling, structuring, management, analysis, visualization and simulation of data. The focus in the four year period is on 3D representations, integration of data from different domains (indoor/outdoor, above/below the surface, design/real world) and applying the information for a variety of applications. The research and developments within the commission are carried out within 10 WG and one ICWG, coordinated by 43 ISPRS officers and more than 100 members.

Technical Commission V: Education and Outreach "Geospatial Technology: Pixel to People"

November 20 – 23, 2018

Indian Institute of Remote Sensing, Dehradun, INDIA

Website: <http://tc5-symposium2018.isprs-india.org/>

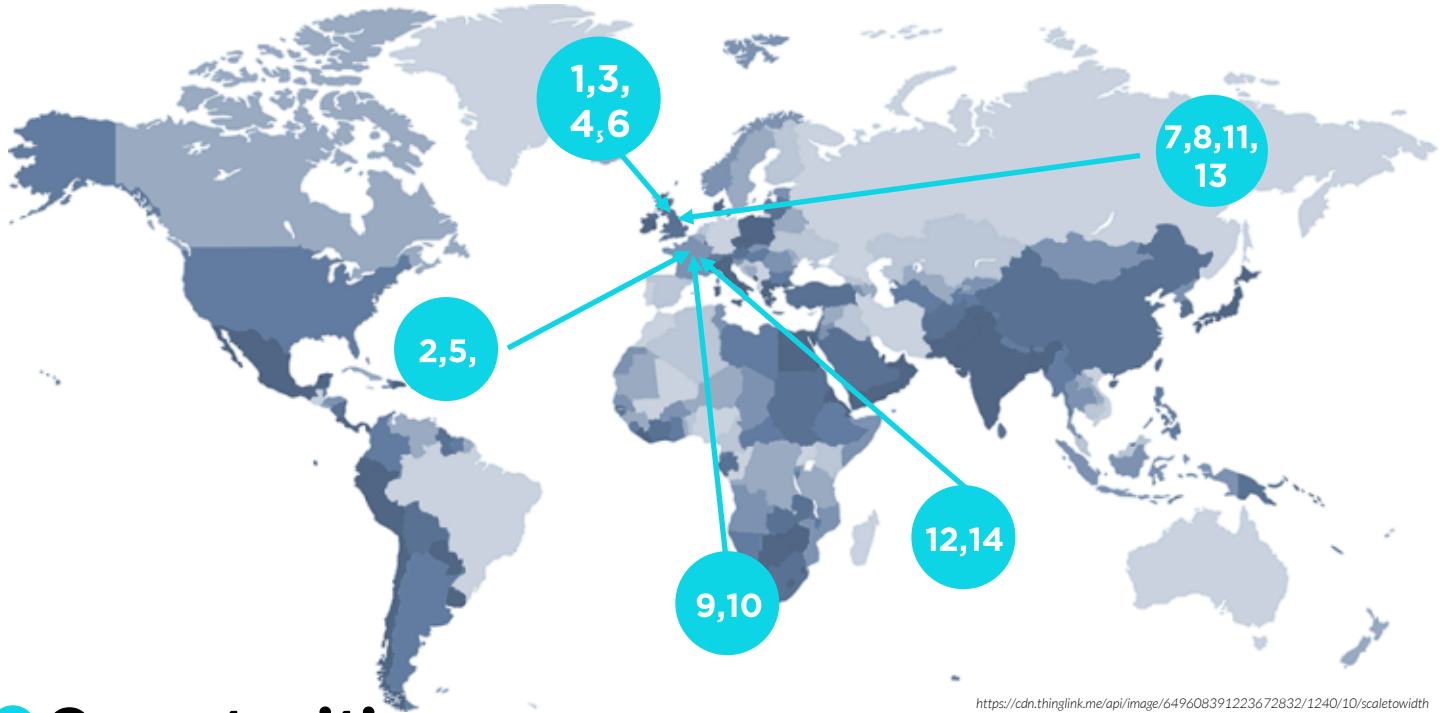
Full Paper Submission (Double-blind review for publication in the ISPRS Annals): June 1, 2018

Abstract Submission (for paper publication in the ISPRS Archives): June 1, 2018

Notification of Acceptance for Full Paper: August 30, 2018
Notification of Acceptance for Abstracts: August 15, 2018

It is our pleasure to announce that International Society for Photogrammetry and Remote Sensing (ISPRS) Technical Commission V Symposium on "Education & Outreach - Geospatial technology – Pixel to People" will be held in Dehradun, India, during November 20 - 23, 2018. The symposium will include plenary sessions, technical sessions, tutorials, social activities, exhibitions, etc.

The symposium will provide a inter-disciplinary 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 remote sensing. Around 200 - 300 participants from around the world are expected to join in this international academic event, and you are welcome to meet old friends and create new contacts.



● Opportunities

1. PhD position Quantifying the immeasurable: determination of tier II and III SDG indicators via an integrative geospatial framework, Newcastle University

Deadline: No particular deadline

<http://www.ncl.ac.uk/sustainability/funding/studentships/geospatial-framework/>

2. Postdoctoral researcher, area of Remote Sensing / Hyperspectral Image Analysis, University of Antwerp

Deadline: 1 January 2018

<https://academicpositions.eu/ad/university-of-antwerp/2017/postdoctoral-researcher-area-of-remote-sensing-hyperspectral-image-analysis/106057>

3. PhD Position, Multi-Source Remote Sensing for Enhanced Flood Modelling, The James Hutton Institute

Deadline: 5 January 2018

<http://www.rspsoc.org.uk/index.php/news/446-phd-studentship-in-multi-source-remote-sensing-for-enhanced-flood-modelling.html>

4. PhD Position, Monitoring Forest Ecosystem Services with Multi-Sensor Earth Observations, University of Leeds

Deadline: 8 January 2018

<https://www.findaphd.com/search/ProjectDetails.aspx?PJID=91427>

<http://www.nercdtp.leeds.ac.uk/projects/index.php?id=589>

5. Assistant Professor of 3D City Modelling for Urban Applications, TU Delft

Deadline: 8 January 2018

<https://vacature.beta.tudelft.nl/vacaturesite/permalink/599151/?lang=en>

6. PhD Position, Understanding caldera collapse at volcanoes in the Galapagos Islands using satellite remote sensing and gravity measurements, University of Leeds

Deadline: 8 January 2018

<https://www.findaphd.com/search/ProjectDetails.aspx?PJID=91227>

7. (1) PhD Position, Improvements to flood risk forecasting by combining ground-based remote sensing and 4D-Var mesoscale modelling, University of Edinburgh
 (2) PhD Position, Interpretation of ground-based remote sensing of greenhouse gases by large eddy simulation models, University of Edinburgh
 (3) PhD Position, Microwave remote sensing of snow and the lower atmosphere in polar regions (CASE), University of Edinburgh
 (4) PhD Position, Trees outside forests: using remote sensing to understand ecological and social landscape change in Africa (CASE), University of Edinburgh

Deadline: 11 January 2018

<https://www.ed.ac.uk/geosciences/postgraduate/phd/programmes-supervisors/physical-sciences/phd-projects>

8. PhD Position, Monitoring Forest Ecosystem Services with Multi-Sensor Earth Observations, Natural Environment Research Council (NERC)

Deadline: 14 January 2018

<http://www.envision-dtp.org/projects/#>

9. Post-doc: Integrating Geo & BIM, TU Delft

Deadline: 15 January 2018

<https://vacature.beta.tudelft.nl/vacaturesite/permalink/599439/?lang=en>

10. Post-doc in GIS Technology, TU Delft

Deadline: 19 January 2018

<https://vacature.beta.tudelft.nl/vacaturesite/permalink/599564/?lang=en>

11. PhD Position, Multi-scale remote sensing of high latitude dust, Loughborough University

Deadline: 22 January 2018

<http://www.lboro.ac.uk/study/postgraduate/research-degrees/funded/multi-scale-remote-sensing/>

12. Full-Time Academic Position in Geosciences, Université Libre de Bruxelles

Deadline: 25 January 2018

<https://academicpositions.eu/ad/universite-libre-de-bruxelles/2017/full-time-academic-position-in-geosciences/106090>

13. PhD Position, Improving understanding of ice-ocean interactions in Greenland and Antarctica through remote sensing of ocean temperature., University of Edinburgh

Deadline: 26 January 2018

<https://www.ed.ac.uk/geosciences/postgraduate/phd/programmes-supervisors/physical-sciences/phd-projects>

14. PhD Candidate on High-resolution remote sensing and modelling of nitrogen dioxide at city scale (HighNOCS), Swiss Federal Laboratories for Materials Science and Technology

Deadline: The position is available from February 1st 2018. The call will remain open until filled with review of applications and interviews.

http://eo.belspo.be/Docs/DocExt/call_postdoc_LSCE.pdf

ACKNOWLEDGMENT

The ISPRS SC board members would like to extend its sincerest and deepest gratitude to everyone who made all the activities for this year a great success.

We acknowledge the hard work and patience of the summer school organizers, namely, *Dr. Verardo Liesenberg, Dr. Raul Feitosa, Dr. Jaime Hernandez, Dr. Sameer Saran, Dr. Sultan Kocaman* and their respective institutions, as well as their colleagues and other individuals, who helped organized and supported the summer schools.

We are also greatly thankful for the support and encouragement we received from the ISPRS Council, the Technical Commission V, The ISPRS Foundation, and the Asian Association on Remote Sensing, and other organizations who expressed their interest to work with the ISPRS SC in the very near future.

Also, to *Mr. Markus English* and the ISPRS SC Newsletter and Design Team, namely, *Sandra Pulmano, Vincent Azucena, Amihan Manuel* and *Daphne Joyce Maza*, for their perseverance in helping us with the website and the Newsletter.

And lastly, to the ISPRS SC members, for your continued support in the organization. We look forward to the coming years of providing activities that foster the youth's capabilities and nurturing collaboration in our profession.



Please visit our SC web page sc.isprs.org where you will find more information about Student Consortium, our previous Newsletter issues, SC activities, photo galleries from previous Summer Schools, interesting links etc.

