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SPECTRUM

The Official Newsletter of the ISPRS Student Consortium

THE LEADERS BEHIND THE SOCIETY: THE ISPRS COUNCIL

A Peek Into the
Society's History

What the Society is
Made Of

Ten Frontier Technologies in
Surveying, Mapping and Remote
Sensing Field

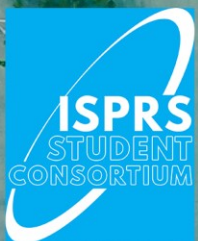


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NEWSLETTER

ISPRS
STUDENT
CONSORTIUM

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FROM THE BOARD

Hi ISPRS SC Members,

I am very happy to introduce our new and repackaged Newsletter – SpeCtrum. The ISPRS SC Newsletter has been around for a very long time, since the inception of the organization itself. Times have changed and we need to catch up with the changing interests of our readers. Moreover, remote sensing, photogrammetry, and other geospatial information sciences have greatly advanced in the recent years.

People have never answered the question “Where are you?” more accurately than today. With a simple click of “Send Location” or “Check-in” on your mobile phones, an individual’s approximate location can easily be accessed and stored through social media or instant messaging applications. People’s perspectives are becoming more spatial and maps are slowly becoming an everyday need. In my personal experience working in engineering, environmental science, conservation, and sustainability, I have also witnessed how geospatial technology provided a different and interesting perspective to formulating solutions to many research problems.

Why SpeCtrum? We are now in the era of interdisciplinary, multidisciplinary and even transdisciplinary research. Geospatial information play a vital role in many of the world’s most pressing issues today and SpeCtrum aims to cover the broad range of applications related to our profession. We also aim to reach out to experts, young researchers, and students who may not be entirely proficient with the disciplines but are using geospatial technology to deliver more sophisticated results in their respective fields. Just like the electromagnetic spectrum, defined by wavelengths and frequencies, SpeCtrum opens an opportunity for everyone to realize the entire scope of our profession, in varying fields of expertise and applications.

For the first 2 issues of SpeCtrum, we will be telling the stories of the ISPRS and the ISPRS SC. We sincerely hope that these issues will provide our readers, especially students and young researchers who are interested to get involved, about the structure of the organization and where it all began.

It is about time to gain a bigger and wider perspective as to where remote sensing, photogrammetry, and other geospatial information sciences can take you. Enjoy reading!

Sheryl Rose Reyes
ISPRS-SC Chair
2016 - Present

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Engage with our global network of experts and **be empowered**

Join the **ISPRS Student Consortium** today!

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

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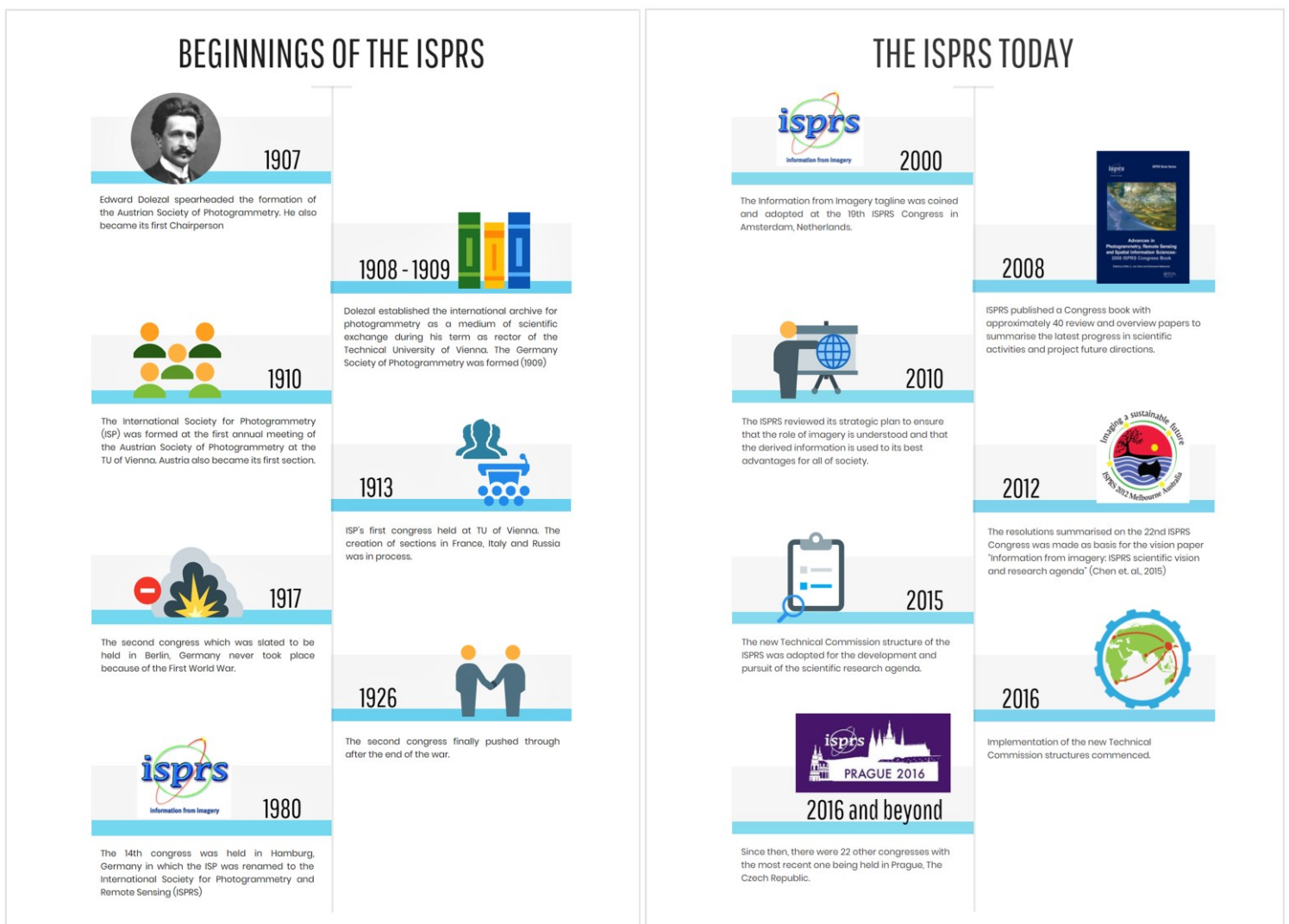
 [@ISPRSSC](https://www.instagram.com/ISPRSSC)

A Peek Into the Society's History

Written by Charles Jjuuko and Angelica Monzon

ISPRS stands for International Society for Photogrammetry and Remote Sensing. It is an international non-governmental organisation that enhances international cooperation between the worldwide organisations with interest in photogrammetry, remote sensing and spatial information science.

The Society promotes extraction and utilization of information from imagery by encouraging and facilitating research and development in its scientific activity; advancing knowledge through scientific networking; strengthening international cooperation; education and capacity development, and; persistent exploration on how to expand and enhance its application for the needs of society. Established in 1910 as the International Society for Photogrammetry (ISP), renamed to ISPRS in 1980, ISPRS is the oldest international professional umbrella organization in its field.



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Every four years (quadrennial Congress) >> resolutions are formulated and approved to address new and rapidly evolving topics to set the course of scientific activities. The Society has managed to hold a total of 23 congresses with the most recent one being held in Prague, The Czech Republic last 2016. The 24th ISPRS Congress will be held in Nice, France on the 28th June to 4th July 2020 in which many are already eager to participate.

What the Society is Made Of

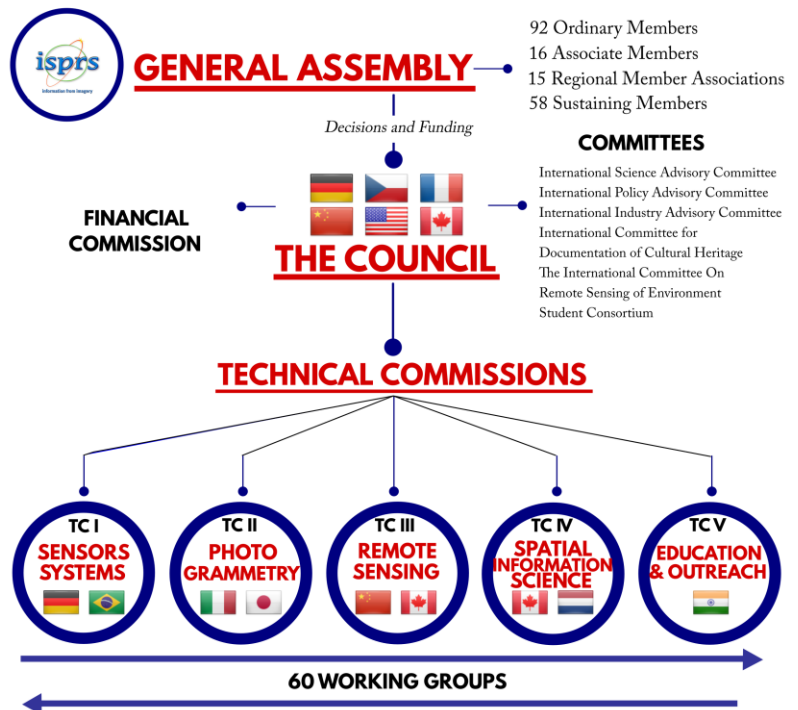
by Charles Jjuuko and Angelica Monzon

ISPRS is a society of societies whose direction and management is undertaken through the following components: Congress, General Assembly, Council, Financial Commission, Technical Commissions and Sustaining Members.

The General Assembly acts as the supreme authority of the Society for all decisions and it determines the general policy of the Society. While the Congress consists of all the photogrammetrists and remote sensing specialists present who are affiliated with a member organisation and others who have been invited. The General Assembly meets after four years at the Congress.

The ISPRS Council conducts the day to day affairs of the Society in the interval between meetings of the General Assembly in accordance with the statutes and bylaws and with the decisions and directives of the General Assembly and Congress. The Council holds a meeting at least every year. The Council consists of six members; the President, Secretary General, Congress Director, First Vice President, Second Vice President and the Treasurer.

The Technical Commissions (TCs) are responsible for the scientific work of the Society. They are hosted by an Ordinary Member or between two Ordinary Members through the election of the General Assembly. The TCs is headed by the Technical President (TCP) with a Vice Technical president (V-TCP) who comes from an Ordinary Member different from that of the president. This ensures that a large multi-national participation and Ordinary Members that believe organising the symposium is beyond their capability or interest, may still become active in the Society. Each TC is supposed to host a symposium between the Congresses. They are also tasked with establishing Working Groups (WGs) basing on topics related to the TC's Terms of Reference (ToR), which are responsible for the scientific work of the Society. Each WG is made up of one chair person, a maximum of two co-chairpersons and a WG secretary. WG officers are tasked with organising scientific activities of the WG covering its areas of



interest according to the ToR prepared in coordination with their TCP and approved by the Council. WGs organise activities like, specific topics of research, tests, case studies, and other activities of interest to the TC and ISPRS.

In 1948 details of six Technical Commissions were defined with the seventh TC added in the year 1952. Since then the ISPRS has had seven TCs which have been just changing topics a case in example is TC VI, in 1993 it was "Economics, Professional Matters and Education", but in 2004 it was "Education and Communication". Due to overlap in topics between the TCs and the advance in the science of photogrammetry and Remote Sensing, the TCs were reduced to five at the XXIII in 2016 in Prague, Czech Republic. The current TCs are under the following themes:

- Commission I – Sensor Systems
- Commission II – Photogrammetry
- Commission III – Remote Sensing
- Commission IV – Spatial Information Science
- Commission V – Education and Outreach

The Leaders Behind the Society - the ISPRS Council

Questions prepared by Angelica Monzon and Sheryl Rose Reyes

Get to know the driving force behind the ISPRS Council through learning how they started their involvement with the ISPRS and how being part of the society helped them achieve the career they have today.

CHRISTIAN HEIPKE

ISPRS President 2016 – 2020

Leibniz University Hannover

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GERMANY

<https://www.ipi.uni-hannover.de/257.html?&L=1>



“..it is not enough to carry out the right projects and find the right partners for co-operations today. We also need to make sure that there will be people with appropriate skills eager to take over from the current leadership generation in the not so distant future.”

How did you start with your engagement with the ISPRS? What were your motivations for actively participating in the organization?

In the early 1980's I had studied abroad and learnt English rather fluently. I had also travelled internationally a bit and had been fortunate enough to participate in the ISPRS Congress in Kyoto in 1988. I thus didn't think twice when my PhD supervisor, Prof. Heinrich Ebner, offered me the job of secretary in an ISPRS working group entitled "Design and algorithmic aspects of Digital Photogrammetric Systems". I was excited about the additional travel opportunities and could sense that building up an international scientific network would be both rewarding and useful for my future.

Young people gain leadership experience on a global level by teaming up and working together. They initiate, plan and carry out real projects, analyse the results and come up with suggestions for improvement, all while having a lot of fun and the ability to explore the world. To a large degree they work independently from ISPRS, thus they take on responsibility for their actions and learn from their mistakes. And when necessary, some ISPRS officers are happy to give general directions or act as mentors.

I have had a few very positive encounters with members of the Student Consortium. I can't single out a particular one, but each time I was thrilled by their fresh ideas for approaching just any issue, coupled with a very serious engagement towards the society.

How did your involvement in ISPRS help you in your career? Is there any milestone in your career that you can attribute to your involvement with ISPRS? Please tell us a bit about it.

The most important impact is probably the fact that I came into contact with people from different parts of the world having different mentalities, different expectations towards their own activities and that of their students, and different ways of carrying out research and teaching. Seeing and partly understanding these differences helped me tremendously in contributing in a meaningful way to international projects and co-operations.

What encouragement can you give to the members of the ISPRS Student Consortium to actively participate in the organization's activities as well as with the general activities of the ISPRS?

Working on an international level brings excitement and is fun and will shape your own perception of people towards a better understanding of different opinions. Only then can misunderstandings be identified, explained and eventually overcome. In particular, the development of the world as we are witnessing it over the last few years, such moderation is indispensable to come to lasting solutions and developments. We only have one world - we need to take care of it and of its people.

A single milestone? No, I don't think so - I rather see my involvement in ISPRS as a progressive flow, constantly learning more about the international scene, the society (and myself) as I moved on to different positions in ISPRS over the years, becoming commission secretary, working group chair, secretary general, and now being responsible for the whole society - a daunting thought a times, I tell you ...

While most people will agree on these general statements, ISPRS as a whole, and the Student Consortium in particular, is a way people in our profession can contribute to these overall goals. In ISPRS, we are aware of the importance of supporting the young generation, and we thus offer financial support to those who need it.

How important is the representation of the younger generation through the Student Consortium in the overall vision of the ISPRS? What was your most memorable experience working with the members of the Student Consortium?

Very important, indeed - for the simple reason that the students of today are the leaders of tomorrow. Thus, if ISPRS wants to have a bright future, it is not enough to carry out the right projects and find the right partners for co-operations today. We also need to make sure that there will be people with appropriate skills eager to take over from the current leadership generation in the not so distant future. The Student Consortium is an ideal group for acquiring these skills through "learning by doing".

On a more personal level, engagement in international organisations such as ISPRS widens your horizon, makes you aware of job opportunities you would otherwise not know about, lets you meet interesting people who you can ask to act as referees for your next job application, just to mention a few advantages - all that while enjoying international travel and making lots of new friends, hopefully for a life-time.

“the development of the world as we are witnessing it over the last few years, such moderation is indispensable to come to lasting solutions and developments. We only have one world - we need to take care of it and of its people.”



LENA HALOUNOVÁ

ISPRS Secretary General 2016 – 2020

Czech Technical University

Faculty of Civil Engineering

CZECH REPUBLIC

http://gama.fsv.cvut.cz/gwiki/Doc_Ing_Lena_Halounov%C3%A1_CSc

“The milestone in my life was to become Congress Director. It completely changed my life. I have gained a lot from the science, from the organization of the event, and from international contacts.”

How did you start with your engagement with the ISPRS? What were your motivations for actively participating in the organization?

I was a member of the Czech Society for Photogrammetry and Remote Sensing. I found it useful to be involved in a group of people who work in the same branch. Shortly after becoming a member, I was elected a chairperson of the Czech Society. One year later, I attended my first ISPRS Congress in Istanbul and as a chairperson I represented the Czech Republic at the ISPRS GA. So, it just happened.

How did your involvement in ISPRS help you in your career? Is there any milestone in your career that you can attribute to your involvement with ISPRS? Please tell us a bit about it.

I never looked for my career, but for good quality in my work at the university, mainly to be a good teacher. ISPRS helped me to be in touch with the results of top scientists and a variety of research topics under the ISPRS umbrella.

The milestone in my life was to become Congress Director. It completely changed my life. I have gained a lot from the science, from the organization of the event, and from international contacts. It was not a change in my professional career, but in my position among my colleagues in and beyond ISPRS in the world. It brought me a complex knowledge about the present state of art. I still have the same room and chair at my faculty, as from the moment I started to work for the Remote Sensing Laboratory in 1985. I have paid for that with thousands of hours of my leisure time and lost sleep.

How important is the representation of the younger generation through the Student Consortium in the overall vision of the ISPRS? What was your most memorable experience working with the members of the Student Consortium?

Student Consortium should make an entrance for young generation to ISPRS.

What encouragement can you give to the members of the ISPRS Student Consortium to actively participate in the organization’s activities as well as with the general activities of the ISPRS?

I would like to encourage all members of the younger generation working in remote sensing, photogrammetry and GIS to become a member of their local ISPRS Ordinary Member. I would like them to participate in ISPRS activities by attending ISPRS events, ISPRS summer schools, publishing in ISPRS journals, etc. It is the way to find new contacts, new friends and new colleagues, and participate in an interesting research and practice.

“A continuous implication within ISPRS can give you a spine or a thread during your professional career in the field of photogrammetry, remote sensing and spatial information sciences. At minima, it will help you being aware of latest developments and technologies that will impact our professions.”

NICOLAS PAPARODITIS

ISPRS Congress Director 2016 – 2020

MATIS Laboratory Congress Director

Institut Géographique National

FRANCE

<http://recherche.ign.fr/labos/matis/cv.php?nom=Paparoditis>



How did you start with your engagement with the ISPRS? What were your motivations for actively participating in the organization?

I was initially involved with the International Federation of Surveyors, FIG (I was a chair of a working group on best practices in digital photogrammetry) which I found not sufficiently scientific. I started attending scientific events in 1997 and I attended my first ISPRS event in 1998 (a symposium chaired by past president Ian Dowman) and I - as a researcher of the French national mapping agency - very quickly felt at home in ISPRS events and I naturally became a member of the ISPRS community (I thereafter focused my publications on ISPRS events). I soon after became a chair of a working group in 2000, then the commission secretary in 2004, a president of commission in 2008, a member of the ISPRS Scientific Advisory Board in 2012, before becoming the ISPRS 2020 Congress Director. I have myself an international background with a Greek father and an English mother (but brought up in France) thus I always felt comfortable in the very international and friendly atmosphere of ISPRS.

How did your involvement in ISPRS help you in your career? Is there any milestone in your career that you can attribute to your involvement with ISPRS? Please tell us a bit about it.

For national mapping agencies (NMA), the participation in the large international science associations in the field of photogrammetry, remote sensing and spatial information sciences (IAG, ICA, ISPRS) is crucial and often an official mission. As I said previously, I am, myself, a researcher and the international visibility (recognised by official positions in a recognized organisation) is indeed a very strong asset for a career evolution, especially in an NMA.

How important is the representation of the younger generation through the Student Consortium in the overall vision of the ISPRS? What was your most memorable experience working with the members of the Student Consortium?

I have no experience working with the student consortium myself but I am looking forward to working with the student consortium to co-organise the youth forum of the ISPRS 2020 congress in Nice. Nevertheless, I believe that programs to encourage the integration of a new generation and new talents in our organisation are one of the key pillars to continue developing ISPRS and to make ISPRS stronger.

What encouragement can you give to the members of the ISPRS Student Consortium to actively participate in the organization’s activities as well as with the general activities of the ISPRS?

A continuous implication within ISPRS can give you a spine or a thread during your professional career in the field of photogrammetry, remote sensing and spatial information sciences. At minima, it will help you being aware of latest developments and technologies that will impact our professions. It can also be (and has often been) a booster for a stronger motivation and help making important choices in a scientific and technical career in our field.

"I learned the academic tradition of a society with more than one century's history, the cultures from different countries, the scientific spirit from ISPRS members, and management skills from ISPRS officers."



CHEN JUN
 ISPRS First Vice President 2016 – 2020
 National Geomatics Centre of China
 PR CHINA
<http://ngcc.sbsm.gov.cn/article/en/ls/cj/>

How did you start with your engagement with the ISPRS? What were your motivations for actively participating in the organization?

The ISPRS Technical Commission VII Symposium was held in Toulouse, France, in September, 1982. I was a visiting student at the Institute Geographic National (IGN) in France, and our class was asked to attend the Symposium by our supervisor, Prof Max Guy. During that event, I got to know more about ISPRS and met a number of famous ISPRS scientists, such as Frederick J. Doyle, Sherman Wu, Gottfried Konecny, John Trinder, and Mr. Guanhua Xu (who became China's Minister of Science and Technology in 2000s).

How did your involvement in ISPRS help you in your career? Is there any milestone in your career that you can attribute to your involvement with ISPRS? Please tell us a bit about it.

I have grown up with ISPRS and received great help from my involvement in ISPRS affairs. Since 1982, I have participated in many ISPRS events, including Congress (16th, 18th to 23rd), Symposia and Workshops. I have also served as a Working Group Chair, (1996-2000), President of Technical Commission II (2000-2004), Congress Director (2004-2008), Secretary General (2008-2012), President (2012-2016) and today I am the First Vice President. This has shaped my whole career, and I became a member of ISPRS family. On one side, I had training, made friends, and gained experience during the past 35 years. I learned the academic tradition of a society with more than one century's history, the cultures from different countries, the scientific spirit from ISPRS members, and management skills from ISPRS officers. On the other side, it gave me an opportunity to contribute to ISPRS and to collaborate with the top experts in this field.

I was elected as the ISPRS Congress Director in 2004 and spent four years preparing the XXIst ISPRS Congress which was successful held in Beijing in July, 2008. This a milestone in my career, as I started a 16 year long service in ISPRS Council, with which I have been able to find a good balance with my own scientific research work and international commitments. Fortunately, I have strong support from my organisation, National Geomatics Centre of China, who provided me with great personnel and financial supports.

How important is the representation of the younger generation through the Student Consortium in the overall vision of the ISPRS? What was your most memorable experience working with the members of the Student Consortium?

The Student Consortium (SC) is a good entry point for young students and professionals who are interested in participating in ISPRS. I was invited to the ISPRS summer school, organized by SC in Myanmar, immediately after the Asia Remote Sensing Conference in 2014. I gave a lecture on global land cover mapping and had received good questions from the students.

What encouragement can you give to the members of the ISPRS Student Consortium to actively participate in the organization's activities as well as with the general activities of the ISPRS?

As a community of young professionals, ISPRS SC is a good platform for you to learn and contribute. I would suggest the SC members to make the best use of the platform, by stimulating academic discussions, moderating technical sessions during ISPRS events, making friends and establishing liaisons. I believe that you could certainly benefit from being an ISPRS SC member.

CHARLES TOTH
 ISPRS Second Vice President 2016 – 2020
 Department of Civil, Environmental
 and Geodetic Engineering
 The Ohio State University (OSU)
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<https://ceg.osu.edu/people/toth.2>



"While there are no limits in communication and in access to information these days, no geospatial, or any other, professional can be successful in isolation. Being part of an organization is essential for advancing a career, in many respects."

How did you start with your engagement with the ISPRS? What were your motivations for actively participating in the organization?

When I started as postdoc at OSU, there was no Internet and no easy communication, so the library and professional meetings represented the primary options to learn from others and get feedback on our work. Shortly after my arrival, I became an American Society for Photogrammetry and Remote Sensing (ASPRS) member, and thus indirectly connected to ISPRS. Then attending my first ISPRS Symposium, organized by Technical Commission V (TC V) was an unforgettable experience for me; I can still sharply recall presentations and the excitement of meeting famous people of our profession, whom I knew only from publications until that time. This was a true milestone in my professional career and I already felt that it would be a lifetime commitment. The attention, support and kindness from the well-established ISPRS people were just overwhelming, and made me feel like that I was accepted in a family.

How did your involvement in ISPRS help you in your career? Is there any milestone in your career that you can attribute to your involvement with ISPRS? Please tell us a bit about it.

I have been active in ISPRS in my entire career, so it is fair to say that it must have significantly advanced my professional developments. Early on, I became active in Working Groups (WGs), and served in four terms, as Secretary, Co-Chair and finally Chair. During that time, I was clearly learning a lot from my peers, so the interactions helped me form a broader view and understanding of our profession, as well as stimulate my research work. When I became a TC I President, it was slightly different, as it was more like giving back to ISPRS. My focus was on encouraging young professionals to engage in WG activities, increase attendance at ISPRS events, support education, such as summer schools, and improve scholarly work. Finally, as Council member, it is a great honor to serve ISPRS.

How important is the representation of the younger generation through the Student Consortium in the overall vision of the ISPRS? What was your most memorable experience working with the members of the Student Consortium?

For the future of ISPRS, I think it is absolutely essential to actively include and engage the younger generation in ISPRS. To

maintain its long-term relevance, ISPRS has to proactively attract young professionals and keep them committed to ISPRS, which can only be achieved by providing meaningful representation to them in the organization. The Student Consortium plays an essential role to that end in many aspects. Most importantly, the Student Consortium helps the professional developments of the younger generation, including their scholarly career but also preparing them for leadership. In addition, the activities by the Student Consortium may serve as compass for future directions, which is valuable to ISPRS management.

What encouragement can you give to the members of the ISPRS Student Consortium to actively participate in the organization's activities as well as with the general activities of the ISPRS?

While there are no limits in communication and in access to information these days, no geospatial, or any other, professional can be successful in isolation. Being part of an organization is essential for advancing a career, in many respects. Professional societies provide scholarships, travel grants for students, and then later various merit-based awards that will certainly advance the career of any young professional. Networking with peers is another important aspect of being involved in a society. The Student Consortium is an excellent starting point for young people, and represents a smooth transition to general ISPRS membership. In short, connect to the ISPRS Student Consortium! The earlier the better.

"..the Student Consortium helps the professional developments of the younger generation, including their scholarly career but also preparing them for leadership. In addition, the activities by the Student Consortium may serve as compass for future directions.."



SONGNIAN LI
 ISPRS Treasurer 2016 – 2020
 Geomatics Engineering
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"Being the President of ISPRS Technical Commission II certainly allowed me more room to serve the ISPRS society, which I consider is one of the important milestones of my professional life."

**How did you start with your engagement with the ISPRS?
 What were your motivations for actively participating in the organization?**

My first connection to ISPRS was back to 2002 when I attended the ISPRS Technical Commission IV Symposium held in Ottawa, Canada. Later, I had attended a few more ISPRS events, including the ISPRS Congress held in Istanbul, Turkey in 2004, where I was selected as the Co-Chair of WG IV. Since then, I had been serving this WG as the Co-Chair and Chair for eight years, until I was elected as the President of ISPRS Technical Commission II in 2012 in Melbourne, Australia. This increased level of engagement with ISPRS also encouraged me to take the lead of the Canadian National Committee for ISPRS over the last eight years to help coordinate the relationship between Canadian ordinary member – Canadian Institute of Geomatics, and ISPRS.

As for my motivation, it has always been professional development, connection to people in the field under ISPRS umbrella, and opportunities to serve the Society.

How did your involvement in ISPRS help you in your career? Is there any milestone in your career that you can attribute to your involvement with ISPRS? Please tell us a bit about it.

Involvement in ISPRS, especially many enjoyable activities and events, has helped my professional development, networking with people in both academic and professional communities and inevitably my personal career development. Being the President of ISPRS Technical Commission II certainly allowed me more room to serve the ISPRS society, which I consider is one of the important milestones of my professional life.

How important is the representation of the younger generation through the Student Consortium in the overall vision of the ISPRS? What was your most memorable experience working with the members of the Student Consortium?

I have not had many chances to work more with the members of the Student Consortium, but strongly believe that its representation of younger generation in ISPRS is as important as the future of the society.

What encouragement can you give to the members of the ISPRS Student Consortium to actively participate in the organization's activities as well as with the general activities of the ISPRS?

ISPRS represents the highest international learning society in the fields of photogrammetry, remote sensing and spatial information sciences. Participating in its various activities and events will allow students and young professionals great exposure to a wealthy network of scientists, researchers and professionals, and learning opportunities. It will also help develop their professional identity in ISPRS designated fields of interest.

For contact information, please go to the official webpage of the ISPRS Council

[<http://www.isprs.org/structure/council.aspx>]

TEN FRONTIER TECHNOLOGIES IN SURVEYING, MAPPING AND REMOTE SENSING FIELD

Professor Li Deren | Wuhan University | drli@whu.edu.cn

Abstract: 3D Modeling, Indoor Positioning, Data Mining, SAR, Images and Data Fusion,



There are not many opportunities to learn about the frontiers of an industry, let alone grand events like the Geospatial Week organized deliberately by the working groups of the International Society for Photogrammetry and Remote Sensing (ISPRS).

Professor Li Deren, academician from Wuhan University told the journalist, "In order to get accustomed to the rapid development of the industry and the fast changes of requirements in industry, academics, and researches, the ISPRS decided to hold the ISPRS Geospatial Week, also known to us as GSW every two years."

There are ten workshops during this year's GSW which are organized by ISPRS and the sponsor, to be exact, the chairs and vice chairs of ISPRS' working groups.

The first subject is **PhotoGA**, Photogrammetric 3D Reconstruction for Geo-Applications. Comprehensively apply oblique photograph, laser scanning, and radar surveying to atomic 3D modeling. 3D models have been used in many areas such as in-door navigation, the protection of relics, 3D analysis in big cities, and the analysis of pollution.

We can also use 3D models to make land registration, property management, and the monitoring and punishment of the violations. There are many small property rooms in various cities increasing their areas by increasing their height instead of changing the land areas. This can only be monitored by 3D model. We are conducting such kind of program in Shenzhen.

We are also using 3D models to do disaster prevention and flood analysis. We mainly use photographic surveying to do 3D modeling in the past, but now we can use multiple sources to do it much easily and get more information. We can do 3D modeling through lidars and radars as well.

This is a very important topic, it is also the Trump Card of Wuhan University. Of course, my counterparts in Germany, France, and Israel are also doing well in 3D modeling. Therefore, we will invite experts in 3D modeling from all over the world to concert their intelligence and wisdom.

Next, I would like to talk about the International Workshop on **Web Mapping, Geoprocessing and Services**. This workshop aims to solve the problem that the online maps cannot make timely adjustments in accordance with the changes of the land surface. Above all, online maps must be able to update online to keep themselves fresh and reliable. On the other hand, online maps must be able to provide intelligent services and send spatial information to the users. Wuhan University is also cooperating with international experts in this area.

The third is the ISPRS Workshop on **Laser Scanning 2017**. Apart from the optical imaging, using laser to scan the land surface and the objects to get images is now become a new trend as well as a hotspot. Its advantages lie in that it can survey directly and swiftly. After scanning an object, its 3D data is obtained immediately. The technology is applied to aerial areas, satellite, ground, outdoor and indoor uses. As for the indoor uses, it can scan people. In addition, the 3D print after scanning can realize a precision of sub millimeters. Wuhan University is also researching in this technology. There is an international workshop on this area as well.

The fourth workshop is on **Indoor 3D and location-based Services**. How much do you know about human's outdoor activities? According to an expert from the UN, 17% percent of human activities are conducted outdoors while 83% indoors. The outdoor positioning relies on positioning systems, to be specific, China's BeiDou Navigation Satellite System, America's GPS, Russia's GLONASS, and Europe's Galileo.

However, the signal of satellite could not enter indoors. Thus, the indoor 3D modeling and indoors positioning become a heated topic on which experts all over the world is researching. China plans to realize the navigation and positioning from outdoors to indoors with a precision higher than 1 meter on the mobile phone, which is called Xihe Plan. During this workshop, we will distribute Huawei mobile phones to demonstrate how it works to conduct indoor 3D positioning. If this problem is solved after 2020, the mobile phones can become intelligent instrument panels which can collect big data to analyze human behaviour, psychology, and health. The values of



mobile phones and the service qualities will be greatly improved if this technology can be spread widely. This is also one of the priorities we would discuss.

The fifth workshop is on **Spatial Data Quality**. We are getting more and more data and producing many big data. These data are of TB level and is expected to be of PB level in the future. The quality of the data thus becomes evidently important. So, it is chosen as one subject of the GSW.

The sixth workshop is on **Image and Data Fusion**. As we all know, there are two forms of data. One is graphs, the GIS online maps. The other is satellite remote sensing images, aerial images, and video images. The integrated use of graphs and images is called Fusion. There are different types of images: optical images, radar images, high-orbit satellite images, and low-orbit satellite images. The fusion of data from multiple sources, multiple measurements, and multiple sensors is a global challenge. We will discuss the theories and applications in this area.

The seventh workshop is on **Spatial Data Mining and Geographical Knowledge Services**. The era of Big Data comes which has a higher requirement from data processing and information extraction to data mining. We should now try to explore and figure out the laws, patterns, rules, and knowledge inside the data.

For example, Wuhan University has successfully analyzed the situation and the changes of battle fields in Syria through five years' nighttime light remote sensing data during its civil war, and submitted to the UN. Over 600 media had covered this news including CNN, BBC, and Al Jazeera. Wuhan University will launch a nighttime light satellite by 2018 to explore this topic specifically.

This topic is quite impressive, for it turns to analyze human activities rather than only does natural observations through satellite, and it can connect world-famous remote sensing experts, economists, and sociologists together.

The eighth workshop is on the frontier developments in **Constellations, Signal processing, and Applications**. Radar is different from optical sensors for it can reflect the signal sent by satellite. Its advantages lie in that it can work 24 hours regardless of the weather. It can be very useful to research the deformations of the earth surface, and the land sinking in big cities, landslides, and the deformations of high-floored architectures and the rails of high speed trains.

Radar can also be used to study the maritime, the changes of a moving object, and the carbon cycle. These are all heated topics worldwide. We have been cooperating with the European Space

Agency for 12 years and harvested fruitful achievements in the area of radar satellite. We will invite prestigious experts in this area from all around the world to introduce the achievements in China, EU, America, and Canada.

The ninth workshop is on **Cryosphere and Hydrosphere for Global Change Studies**. The planet we are living on consist of four spheres, namely the Lithosphere, the Hydrosphere, the Atmosphere and the Biosphere. In view of the global climate changes and the rising of the sea level, we add an extra sphere-the Cryosphere. The sphere is among the Atmosphere, the Hydrosphere, and the Lithosphere, and connects with our Biosphere closely. The research on the process of melting and fluctuation of the Cryosphere can help us reveal whether the world is getting warmer or the sea level is rising or not, which is of great significance to the study on global climate change. Since 1985, Wuhan University has been doing polar research for over 20 years. We would like to share and discuss our research results with the experts in relevant areas.

There is another major topic, the most important theme of the first day during the GSW. That is **Smart City**. We will invite prestigious experts to deliver keynote speeches. This is a great gathering for the top-notch and leading experts from the US, the UK, Switzerland, and China, to share ideas and insights. The theme covers many sub topics.

Moreover, the activities include keynote speeches, speeches on the workshops, and exhibitions of the latest products, and the release of new products. Therefore, we all hope the GSW will be a great success. Two ISPRS GSWs have been held before and the GSW 2017 is the third one. We hope that the year's GSW can display more oriental elements and better promotes the exchanges between the East and the West. China is now promoting high resolution observations and the application of Navigation Satellite System in pilot areas. We would like also to demonstrate the updates and exchange ideas about this. This is the overall arrangement for GSW 2017.

Wuhan University has also developed an intelligent robot which has a vision sensor and a hearing sensor, and can conduct facial recognition. This robot can walk freely and measure and recognize object on its own. Such robots will be popular in China in the future. In addition, Wuhan University will also demonstrate its VR technology. Wuhan University has realized the digital protection of many cultural heritages in China, including Mo Kao Grotto in Dunhuang, Yungang Grottoes in Shanxi Province, Chi Lin Nunnery in Hong Kong, and the Stone City in Xinjiang. Apart from VR, we will also demonstrate other achievements like UAV oblique images, automatic modeling.

In a word, we invite guests from all over the world to join us in China. This is an invaluable opportunity to know about China, and to know what China has achieved in remote sensing and earth observation and navigation. You must never miss it.

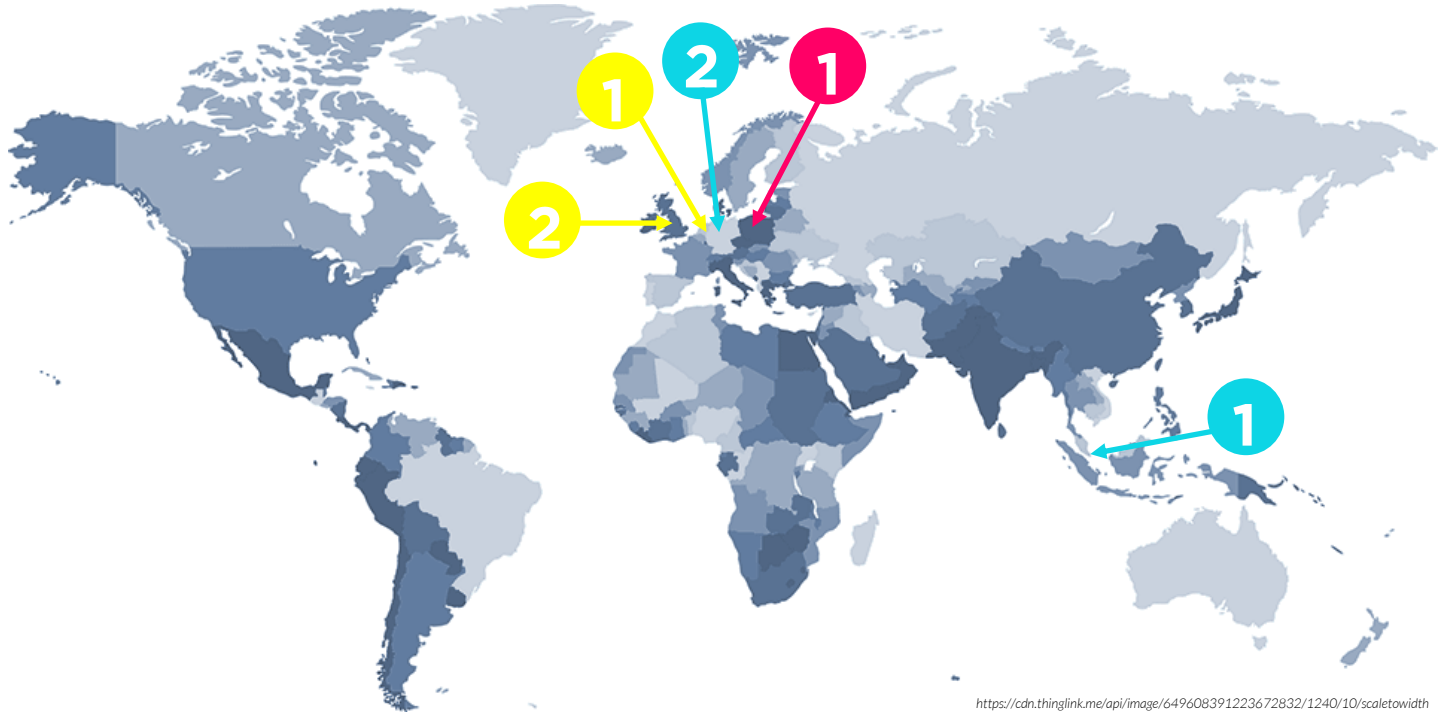
Visit the official website of GSW 2017 to get more details: <http://gsw2017.3snews.net/>

UPCOMING EVENTS 2017

DATE	EVENT	SITE	CONTACT
11-15 Sep 2017	56th Photogrammetric Week 2017	Stuttgart, GERMANY	PhoWo Secretariat +49 711 685 83201 +49 711 685 83297 phowo@ifp.uni-stuttgart.de
14-16 Sep 2017	8th International Scientific Conference "Environmental Monitoring, Photogrammetry, Geoinformatics - Modern Technologies and Perspectives of development"	Lviv, UKRAINE	Lyubov Babiy +380676749110 lbabiy@i.ua
15-22 Sep 2017	ISPRS IC WG IV/III ISPRS Workshop on Collaborative and Dynamic Land Cover Information Services Supporting UN Sustainable Development Goals	Jinan, CHINA	Hao Wu +86-10-63881312 +86-10-63881026 wuhao@ngcc.cn
18-22 Sep 2017	ISPRS Geospatial Week 2017 ISPRS Workshop 'Laser Scanning 2017' ISPRS WGs II/3, II/4, II/10, III/1, III/5, III/6 and III/10 www2.ipf.kit.edu/laserscanning2017/	Wuhan, CHINA	Lily +86 13006304291 lilyshi@whu.edu.cn
	10th International Symposium on Spatial Data Quality ISSDQ 2017 ISPRS WG IV/3 http://rsgis.whu.edu.cn/ISSDQ2017/		
	The 3rd International Workshop on Indoor 3D Indoor3D-2017 ISPRS WGs IV/5, I/6, I/7 http://indoor3d.net/2017/		
	The ISPRS Workshop on Advances in SAR: Constellations, Signal Processing, and Applications SarCon 2017 ISPRS WGs I/3, III/2, III/3 http://insar.lmars.whu.edu.cn/sarcon2017/index.html		
	The 2017 International Workshop on Image and Data Fusion IWIDF2017 ISPRS ICWG III/IV http://iwidf2017.csp.escience.cn/dct/page/1		
	Photogrammetric 3D Reconstruction for Geo-Applications 2017 PhotoGA17 ISPRS WG II/1 & WG II/2 http://www2.isprs.org/PhotoGA17.html		
	Third International Conference on Spatial Data Mining and Geographical Knowledge Services ICSDM2017 ISPRS TC IV, WG IV/3 http://www.icsdm2017.org		
	5th International Workshop on Web Mapping, Geoprocessing and Services WebMGS ISPRS WG IV/4, WG III/8 and WG V/4 http://www.lmars.whu.edu.cn/webmgs2017/		
	The 2017 ISPRS Workshop on Cryosphere and Hydrosphere for Global Change Studies CHGCS 2017 ISPRS WG III/9		
22-23 Sep 2017	ISPRS WG V/3 & V/4 Geospatial Hackathon	Ankara, TURKEY	Berk Anbaroğlu +90 312 780 5791 banbar@hacettepe.edu.tr

DATE	EVENT	SITE	CONTACT
25-29 Sep 2017	Earth Observation Sessions and workshops at the next International Astronautical Conference (IAC)	Adelaide, AUSTRALIA	Gunter Schreier Gunter.Schreier@dlr.de
26-30 Sep 2017	VIII Surveying Convention "Agrimensura 2017".	Havana, CUBA	Lyubov Babiy +380676749110 lbabiy@i.ua
04 Oct 2017	ISPRS WG IV/1 International Conference on Geomatic and Geospatial Technology 2017 "Geospatial and Disaster Management"	Jinan, CHINA	chioldes@isdi.co.cn
07-10 Oct 2017	ISPRS TC IV, ISPRS WG IV/3 ISPRS International Joint Conferences of The 2nd Geospatial Information Research (GI Research 2017) The 4th Sensors and Models in Photogrammetry and Remote Sensing (SMPR 2017) The 6th Earth Observation of Environmental Changes (EOEC 2017)	Wuhan, CHINA	Lily +86 13006304291 lilyshi@whu.edu.cn
09-10 Oct 2017	EuroSDR/ISPRS workshop Oblique 2017	Barcelona, SPAIN	Fabio Remondino remondino@fbk.eu
11 Oct 2017	ISPRS WG V/3 ISPRS Workshop on "Role of Geoinformatics in Citizen Science for Governance"	New Delhi, INDIA	Sameer Saran sameer@iirs.gov.in
14-15 Oct 2017	ISPRS WG IV/1 4th International GeoAdvances Workshop GeoAdvances 2017 : ISPRS Workshop on Multi-dimensional & Multi-scale Spatial Data Modeling	Safranbolu, Karabuk, TURKEY	Ismail Rakip Karas ismail.karas@karabuk.edu.tr
18-21 Oct 2017	ISGGG-2017 International Symposium on GIS Applications in Geography and Geosciences	Canakkale, TURKEY	R. Cuneyt Erenoglu +90 286 2180018/2206 ceren@comu.edu.tr
25-27 Oct 2017	ISPRS WG III/4, WG III/1 & WG I/5 Frontiers in Spectral imaging and 3D Technologies for Geospatial Solutions	Jyväskylä, FINLAND	Eija Honkavaara +358-40-1920835 eija.honkavaara@nls.fi
26-27 Oct 2017	ISPRS WG IV/1, WG IV/5 & WG IV/10 3D-Geoinfo 2017	Melbourne, AUSTRALIA	Mohsen Kalantari +61 3 8344 0274 mohsen.kalantari@unimelb.edu.au
28 Oct 2017	ISPRS WG II/5 Workshop on Multi-Sensor Fusion for Dynamic Scene Understanding in conjunction with ICCV 2017	Venice, ITALY	Alper Yilmaz +1 614-247-4323 Yilmaz.15@osu.edu
01-03 Nov 2017	ILUS 2017 International Land Use Symposium 2017 - Use of spatial modelling and data visualisation to enlighten future sustainable policy making	Dresden, GERMANY	Dr. Martin Behnisch m.behnisch@ioer.de
06-09 Nov 2017	ISPRS TC I XXVII Brazilian Congress of Cartography	Rio de Janeiro, BRAZIL	Raul Queiroz Feitosa +55 21 3527 1212 +55 21 3527 1232
13-17 Nov 2017	XI JORNADA DE EDUCACION EN PERCEPCION REMOTA EN EL AMBITO DEL MERCOSUR	Temuco, CHILE	Rodrigo Santander rsantander@uct.cl
14-16 Nov 2017	Pecora20 20th William T. Pecora Memorial Remote Sensing Symposium Observing a Changing Earth: Science for Decisions...Monitoring, Assessment, and Projection	Sioux Falls, South Dakota, USA	pecora20@asprs.org

DATE	EVENT	SITE	CONTACT
20 Nov 2017	ISPRS WG I/10 Workshop on Passive and Active Electro-Optical Sensors for Aerial & Space Imaging	Wuhan, CHINA	Dominik Rueß +49 30 67055518 ruess@informatik.hu-berlin.de
27-30 Nov 2017	Pacific Islands GIS/RS User Conference 2017 Innovative GeoSpatial Solutions to Pacific Island Challenges	Suva, FIJI ISLANDS	+679-3249 237 gisconf@spc.int
28-29 Nov 2017	ISPRS TC II LowCost 3D - Sensors, Algorithms, Applications "	Hamburg, GERMANY	Thomas P. Kersten +49 40 428275343 thomas.kersten@hcu-hamburg.de
04 Dec 2017	ISPRS WG V/7 Workshop "Geospatial Solutions for Structural Design, Construction and Maintenance in Training Civil Engineers and Architects" and a seminar "GIS-based Decision-making in Realizing Smart City Concept"	Kyiv, UKRAINE	Roman Shults +38 067 230 70 09 +38 044 243 26 71 r- schultz@mail.ru



● PhD Fellowships and scholarships

1. **National University of Singapore Fellowship 2018/2019**

The scholarship is open for all nationals of all countries in the world who are interested in cross-disciplinary research in science, engineering, computing, and related aspects of medicine. For information can be found on the scholarship website:

<http://www.nus.edu.sg/ngs/NGSS.html>

2. **DAAD Scholarships/Fellowships 2017**

For details follow the link below:

<https://www.daad.de/deutschland/stipendium/datenbank/en/21148-scholarship-database/?status=&origin=&subjectGrps=&daad=&q=&page=1&back=1>

● Master Scholarships

1. **DAAD Scholarships for International Students 2017**

Deadline varies For details follow the link below:

<https://www.daad.de/deutschland/stipendium/datenbank/en/21148-scholarship-database/?status=&origin=&subjectGrps=&daad=&q=&page=1&back=1>

2. **The Gates Cambridge Scholarship programme 2018**

For details follow the link below:

<https://www.gatescambridge.org/about>

● Job opportunities

1. **Research position for young mathematician at the Polish Academy of Science**

The position is open to full-time or part-time masters' or PhD students of Polish nationality or from abroad. For details follow the link below:

https://www.impan.pl/wydarzenia/konkursy/sonata_bis_doktorant_eng.pdf

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CHRISTIAN HEIPKE ISPRS President 2016 – 2020

Christian Heipke has organized and co-organized numerous international scientific meetings in the fields of photogrammetry, remote sensing, GIS and computer vision, in particular the biennial ISPRS Hannover Workshop on High Resolution Earth Imaging for Geospatial Information (since 1999). He has chaired ISPRS working groups for 16 years and was vice-president of EuroSDR (European Spatial Data Research, formerly known as OEEPE) from 2004-2009, in which he was responsible for research. From 2011-2014 he was chair of the German Geodetic Commission (DGK), from 2012-2016 ISPRS Secretary General. Currently he serves as ISPRS President.



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