



ISDE 11 11th INTERNATIONAL
SYMPOSIUM ON
DIGITAL EARTH

Florence (Italy), September 24 – 27, 2019

Digital Earth in a transformed Society



PROGRAMME

www.digitalearth2019.eu



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MAIN PARTNERS



ASSOCIATE PARTNERS



MEDIA PARTNERS



SYMPOSIUM SECRETARIAT



ENIC MEETINGS & EVENTS SRL

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GENERAL INFORMATION

info@digitalearth2019.eu

SCIENTIFIC PROGRAMME

scientific@digitalearth2019.eu

SPONSORS & EXHIBITORS

sponsor@digitalearth2019.eu

PLATINUM SPONSOR



GEOVIS TECHNOLOGY CO. LTD

Geovis Technology Co., Ltd., mainly provides digital earth products and technology development services to such users as national defense organizations, overnments, enterprises.

The “Digital Earth” is a digitalized product deeply integrating the ext-generation information technology, including big data, cloud computing, and Artificial intelligence, as well as geographic information technology and aerospace industry. It is based on aerospace big data and can be applied in national defense, natural resources, transportation, meteorology, oceanography, environmental protection, emergency management and other industries.

Moreover, this important emerging software platform will satisfy China’s major demands from “digital economy”, “smart city”, and “targeted poverty alleviation”. The company’s product portfolio primarily includes the products of GEOVIS Digital Earth basic and application platforms.

www.geovis.com.cn

EXHIBITORS



IDEAS
International Digital Earth Applied Science Research Center

BOOTH 1

INTERNATIONAL DIGITAL EARTH APPLIED SCIENCE RESEARCHCENTER, CHUBU UNIVERSITY

International Digital Earth Applied Science Research Center, Chubu University (IDEAS) was established in Aichi prefecture, Japan in April 2011 to engage in the development of research approaches to solve complex systemic problems on the theme of "Digital Earth" by applying GIS and spatial information science. IDEAS is engaged in two research areas;

1. Development of technical components for the design and improvement of Digital Earth.
2. Case studies of the use of Digital Earth to support decision-making to address complex systemic problems.

<http://gis.chubu.ac.jp>



BOOTH 2

PCI GEOMATICS

PCI Geomatics, founded in 1982, is the world leader in geo-imaging products and solutions. PCI Geomatics has set the standard in remote sensing and image processing tools offering customized solutions to the geomatics community in over 135 countries.

PCI Geomatics is the developer of Geomatica® – a complete and

integrated desktop software that features tools for remote sensing, digital photogrammetry, geospatial analysis, map production, mosaicking and more.

Geomatica® software enables users to apply imagery in support of a wide range of applications such as the environment, agriculture, security and intelligence, defense, as well as in the oil and gas industries.

www.pcigeomatics.com



BOOTH 3

RUS COPERNICUS

The Research and User Support for Sentinel core products service (RUS), in operation since October 2017, is funded by the EC and managed by ESA, to provide users with ICT resources (Virtual Machines) supplying processing power and tools to handle Sentinel data. Offered at no cost to citizens of the Copernicus contributors, RUS runs within a scalable cloud environment allowing remote access and storage of the data.

The RUS environment offers a toolbox of free and open-source software specially customized for development and processing of the data.

In addition, technical and scientific support like expertise, assistance and training (online material, webinars, hands-on sessions) is provided to facilitate the exploitation of Copernicus resources.

www.rus-copernicus.eu



BOOTH 4

INTERNATIONAL SOCIETY FOR DIGITAL EARTH

The International Society for Digital Earth (ISDE), founded in Beijing in 2006, is a non-political, non-governmental and not-for-profit international organization principally promoting academic exchange, science and technology innovation, education, and international collaboration towards Digital Earth.

ISDE also explores Digital Earth as an enabling technology to play key roles in economic and social sustainable development, environmental protection, disaster mitigation, natural resources conservation and improvement of living standards.

The ISDE Secretariat is hosted by the Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences. ISDE is registered in the People's Republic of China as an NGO.

www.digitalearth-isde.org

LOCAL ORGANIZING COMMITTEE

Paolo Mazzetti

CNR-IIA, *Head of CNR-IIA Division of Florence, Symposium Manager*

Nicola Pirrone

CNR-IIA

Stefano Nativi

EC-JRC, *Big Data Lead Scientist*

Maria A. Liberti

CNR-IIA, *Scientific Secretariat*

Carlotta Ferrari

FCVB, *Director of Florence Convention Bureau*

Jiang Hao

RADI, CAS

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BRGM (Bureau de Recherches Géologiques et Minières), France

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Former Director, Group on Earth Observations (GEO), Switzerland

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University of Salzburg, Austria

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International Institute for aerospace Survey and Earth Sciences (ITC), The Netherlands

Changlin Wang

Institute of Remote Sensing and Digital Earth (RADI, CAS), China

David Wortley

Gamification and Enabling Technologies Strategic Solutions (GAETSS), UK



WELCOME FROM HUADONG GUO

ISDE president

Director-General of the Institute of Remote Sensing and Digital Earth (RADI, CAS) – Beijing (CHINA)

CELEBRATE THE 20TH ANNIVERSARY OF THE INTERNATIONAL SYMPOSIUM FOR DIGITAL EARTH (ISDE)

Dear Colleagues, The 11th International Symposium on Digital Earth will run from the 23rd to 27th September 2019 in Florence, one of Italy's most historically rich cities. On behalf of the International Society for Digital Earth (ISDE), I would like to invite you to attend this symposium, for which the theme is *"Digital Earth and Transformation of the Society"*.

Since the concept of Digital Earth was presented in 1998, the state of Digital Earth science and technology has thrived and provided prosperous growth in key areas. Digital Earth has been at the cutting edge of the development of Earth Science, Information Science, and Space Science and Technology. Today, a wave of big data has emerged, which is ushering in a new era for the understanding and utilization of Digital Earth through technologies such as cloud computing, artificial intelligence and the internet of things. Along with societal transformation, the concept of Digital Earth is also considered to be closely related to, and having an impact on,

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Big Earth data, which brings us fresh opportunities and challenges when it comes to promoting this concept. To meet these challenges posed by Big Earth data, it is necessary to advance Digital Earth technologies in areas which primarily include data sharing, processing and analysis, and also data-intensive discovery, thus facilitating the transformation of society – which has already occurred – and supporting the UN Sustainable Development Goals that have been partially achieved. We believe that Digital Earth is continuing to play a key pragmatic role in response to many and various socio-economic concerns, such as global changes, disaster mitigation and the digital economy.

ISDE was founded in 2006 and headquartered at the Chinese Academy of Sciences. The ISDE's mission is to promote academic exchange, scientific and technological innovation, education, and international collaboration, with the aim of developing the wider Digital Earth vision. ISDE is well recognized by the international community and became a member of the GEO and ICSU (ISC) in 2009 and 2017, respectively. The International Symposium on Digital Earth and the Digital Earth Summit are the academic conference platforms of the ISDE. Since 1999, 10 symposia and 7 summits have been organized in 11 countries all around the world. The ISDE publishes an SCI journal, the International Journal of Digital Earth (IJDE), which currently has an impact factor of 2.746 (2018). A new open access resource which is also the IJDE's sister journal, Big Earth Data, had its inaugural edition in December 2017. ISDE, together with our international partners, initiated the "Digital Silk Road Alliance" in 2016 with the purpose of building a network for collaboration and a think tank concerned with geospatial science and technological development of the countries along the Silk Road. These provide much needed international platforms designed for people from scientific, academic, and commercial communities. These platforms are aided by the progress of Digital Earth and the perspectives its vision affords.

The ISDE symposia series is one of the major scientific events aiming to establish a solid foundation for academic exchange and international collaboration with regard to the enrichment of the Digital Earth concept, the advancement of Digital Earth technology and the development of Digital Earth applications worldwide. In 1999 the first international symposium on Digital Earth was organized in Beijing. Following that, the symposium has been convened every two years: in New Brunswick (2001), Brno

(2003), Tokyo (2005), Berkeley (2007), Beijing (2009), Perth (2011), Kuching (2013), Halifax (2015) and Sydney (2017). The 2019 symposium in Florence marks the 20th anniversary of the ISDE symposium series. We are ready to celebrate this significant moment in ISDE history.

We believe this symposium will provide those attending with an unprecedented opportunity for sharing, communicating, and networking. We hope this symposium will be able to generate fruitful insights, discoveries, and output for Digital Earth's future development. We would like to thank our colleagues from the National Research Council of Italy, the Joint Research Centre of the European Commission, those who are in organizing and scientific committees, and all colleagues for their considerable efforts in realizing this Digital Earth symposium.

I sincerely look forward to hosting you in this city which served as a cradle of the Renaissance, and warmly welcoming you to be part of our community in a shared future.

Thank you!

Best Regards



GUO Huadong

President, International Society for Digital Earth



WELCOME FROM STEFANO NATIVI

Symposium Chair

Big Data Chief Scientist of the DG Joint Research Centre of
the European Commission – Ispra (ITALY)

THEME OF THIS YEAR'S CONFERENCE: DIGITAL EARTH IN A TRANSFORMED SOCIETY

On behalf of the Scientific and Programme Committee, I am pleased to invite you to attend the 11th International Symposium on Digital Earth (ISDE 11), from the 24th to the 27th of September 2019, in Florence (Italy). The choice of the Renaissance city, as the meeting venue, was not accidental but the natural frame to debate the challenging Symposium theme: “Digital Earth in a Transformed Society“. The meeting will celebrate the completion of the first 20 years of the International Symposium on Digital Earth (held first in 1999 in Beijing), and provide the first opportunity to introduce and discuss the future role of Digital Earth in a changing World - considering the Digital Transformation that effects our entire Society.

Digital Earth (the virtual representation of our planet) is a multidisciplinary collaborative effort that engages different sciences (e.g. Earth, Space, Information, and Human sciences) to monitor and forecast natural and human phenomena. The Symposium objective is to discuss the

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contribution of Digital Earth to the Digital Transformation of the Society and the opportunities raised by this revolution to the Digital Earth science.

During the Symposium, the participants will discuss the role of Digital Earth in: (a) the Datafication process of the elements representing the Earth; (b) knowledge (insights) generation, from Big Data, to monitor and forecast natural and human phenomena; (c) the interpretation and use of insights for contributing to the many different Societal sectors -including economy.

The present digital revolution can be considered as a Renaissance for the Digital Earth, and the Symposium is the first global event focusing on this cultural and technological evolution.

The Symposium programme considers interdisciplinary macro areas, to overcome the traditional disciplinary divisions and improve the attendees' experience. A couple of community areas, dealing with the International Society for Digital Earth (ISDE), are included to discuss the future of ISDE and the great debates that interest the Digital Earth Community.

Special sessions are organized to celebrate the 20 years of the ISDE Symposium, and joint sessions will be launched with "sister" organizations and Communities on themes of common interest.

I am looking forwards to meeting you in Florence and working together for the future of the Digital Earth science and the advancement of our Society.

Stefano Nativi

Co-Chair of the ISDE 11 Scientific and Programme Committee



WELCOME FROM PAOLO MAZZETTI

Symposium Manager

Head of the Division of Florence of the Institute of Atmospheric
Pollution Research – National Research Council of Italy – Florence (ITALY)

WELCOME FROM THE LOCAL ORGANIZING COMMITTEE

On behalf of the Local Organizing Committee, I am pleased to invite you to attend the 11th International Symposium on Digital Earth (ISDE 11), on 24 – 27 September 2019 in Florence, Italy.

The International Society for Digital Earth (ISDE), founded in Beijing in 2006, is a non-political, non-governmental and not-for-profit international organization principally promoting academic exchange, science and technology innovation, education, and international collaboration towards Digital Earth. The biyearly ISDE symposia are the major international events relating to the progress and advances in the science, technology and applications for the Digital Earth.

The theme of this year's conference is "Digital Earth in a Transformed Society". We will have technical sessions, invited talks and panels organized around this theme, focusing on the many benefits of Digital

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Earth to human beings and the planet. At ISDE 11, you will have the opportunity to meet world's leading scientists who will address past and present of the Digital Earth, and debate the future directions for the next decades.

The 11th ISDE Symposium in Florence is also a great opportunity to reach out the European scientific and industrial communities for increasing their involvement in the vision, elaboration and realization of the Digital Earth.

Florence is known worldwide as the cradle of the Renaissance, where the movement began and developed. The city was once home to great innovative thinkers and artists, such as Michelangelo, Dante, Leonardo da Vinci, Brunelleschi, Donatello, Botticelli, Lorenzo de' Medici, Machiavelli, and also home of Galileo (native of Pisa). A wealth of museum masterpieces and historical monuments, most famously Michelangelo's "David" and Botticelli's "The Birth of Venus," attests this magnificent past.

In 2019, Florence will celebrate the 500th anniversary of the death of Leonardo Da Vinci, – a perfect reason to celebrate his legacy of science, art and engineering.

Paolo Mazzetti

Chair of the ISDE 11 Local Organizing Committee

GENERAL INFORMATION



LANGUAGE

English is the official Conference language.



SMOKING POLICY

All the meeting rooms at the venue are non-smoking. We remind you that smoking in Italy is forbidden in all public areas.



BADGES

A name badge will be provided on site together with your congress kit. Badges must be visible and used at all times anywhere within the conference venue.



FOOD AND BEVERAGE

Coffee breaks are included in the registration fee. Lunches are not included.



DISCLAIMER

Organizers claim no liability for the act of any supplier to this meeting nor liability for personal injury, the safety of any attendee while in transit to or from this event, for any loss or damage, for delays in transport by air, sea, rail, road, weather, strikes, sickness, war or other causes.



PHONE CALLS

For international calls to Italy, dial the international code +39 and the telephone number (with the 0).



CURRENCY

The unit of currency is Euro. Currency can be changed at banks and AMTs. Normal bank opening times are Monday to Friday, 8.30 to 13.30 and 14.30 to 15.30. Credit cards are widely accepted.



ELECTRICITY

Electricity used in Italy is 220 Volts, its frequency is 50 Hz and the plugs have two or three male contacts points. Plan to bring a transformer if your electrical device has a different voltage.



EMERGENCY

Dial 118 – Call free (only from within Italy).



TAXIS

In Italy you cannot catch a taxi by raising your hand like in USA or UK. Taxis must be called by phone or taken at their parking areas. Here are taxi phone numbers: +39-055-4390 | +39-055-4499 | +39-055-4798 | +39-055-4242 For information please visit www.socota.it

PLENARY SPEAKERS



ALESSANDRO ANNONI

Head of the Digital Economy Unit European
Commission – Joint Research Centre

Alessandro Annoni is the Head of the Digital Economy Unit at the European Commission – Joint Research Centre. His unit provides techno-socio-economic research in support to the Digital Economy and ensure the technical coordination of the INSPIRE Directive developing a European Spatial Data Infrastructure.

Alessandro graduated in Physics from the University of Milan and before joining the EC, he worked for several years in the private sector and managed companies specialises in Remote Sensing, Geomatics, Software and Information Systems development.

He is member of the Group on Earth Observations (GEO) Programme Board and has been awarded the 2013 Ian McHarg Medal of the European Geosciences Union reserved for distinguished research in Information Technology applied to Earth and space sciences.

In 2016 he received the Digital Earth Science and Technology Contribution Award from Chinese Academy of Science for outstanding contribution to advancing the development of Digital Earth.



GEOFFREY BOULTON

**Glaciologist and Open Science Advocate,
University of Edinburgh**

Geoffrey Boulton is Professor of Geology in the University of Edinburgh, a member of the Governing Board of the International Science Council and has recently stepped down as President of CODATA, where he was a champion of Open Data and Open Science.

He has been a member of the UK Prime Minister's Council for Science and Technology and Chair of the Royal Society's Science Policy Centre. He is a much decorated glaciologist, where which Earth Observation Data is of vital importance.



GILBERTO CÂMARA
Secretariat Director,
Group on Earth Observations (GEO)

Prof. Dr. Gilberto Câmara is Director of the Group on Earth Observations (GEO) Secretariat.

He is a leading researcher in Geoinformatics, Geographical Information Science and Land Use Change with Brazil's National Institute for Space Research (INPE).

He has been recognised internationally for promoting free access and open source software for Earth observation data.



ENRICO GIOVANNINI

Full Professor of Economic Statistics, University of Rome Tor Vergata

Enrico Giovannini is an Italian economist and statistician, full professor at the University of Rome Tor Vergata.

He was Minister of Labour and Social Policies (2013-2014), President of the Italian Statistical Institute (2009-2013), Director of Statistics and Chief Statistician of the OECD (2001-2009).

He is the founder and director of the Italian Alliance for Sustainable Development, a coalition established to implement in Italy the UN 2030 Agenda for sustainable development.

He is President of the European Statistical Governance Advisory Board, member of the Global Commission on the future of work at the ILO and of boards of several Italian and international institutions. He is the author of more than 100 articles on statistical and economic topics, as well as of five books.



HUADONG GUO

President, International Society
for Digital Earth

Prof. Huadong Guo is an Academician of Chinese Academy of Sciences, a Foreign Member of Russian Academy of Sciences, a Foreign Member of Finnish Society of Sciences and Letters, and a Fellow of TWAS.

He serves as a Member of United Nations 10-Member Group to support Technology Facilitation Mechanism for SDGs, Chairman of the International Committee on Remote Sensing of Environment, and Editor-in-Chief of the International Journal of Digital Earth and Editor-in-Chief of the Big Earth Data Journal.

He served as the President of ICSU/CODATA from 2010 to 2014. Prof. Guo specializes in remote sensing and digital Earth science.



SANJAY KUMAR

**Founder, Secretary General and CEO of the
World Geospatial Industry Council (WGIC)**

Mr. Sanjay Kumar is the CEOA of Geospatial Media and Communications, a geospatial media and market intelligence company. Mr. Kumar co-founded GIS Development Private Limited (now Geospatial Media and Communications) in 1999.

Mr. Kumar has also been associated with many geospatial professional societies. He founded the Association of Geospatial Industries of India and served as its President from 2016-2018. He is a member of the National Task Force on Evolving Geospatial Strategy, Government of India.

He also serves as Board Member and Co-Chair of the Global Advisory Council of the Open Geospatial Consortium (OGC) and Board Member of Radiant Earth Foundation. He has been associated with the United Nations Global Geospatial Information Management (UNGGM) since its inception.

Mr. Kumar co-founded the World Geospatial Industry Council in partnership with an initial 21 companies originating from five continents. Mr. Kumar received a Masters in Political Science from the University of Delhi, and a M.Phil in International Studies from the University of Delhi.



HUI LIN

Dean, School of Geography and
Environment, Jiangxi Normal University,
Nanchang, China

Hui Lin is Professor and Dean of the School of Geography and Environment, Jiangxi Normal University in China. He received Ph.D. degrees from University at Buffalo in 1992.

His major research interests in satellite remote sensing, virtual geographic environments (VGE), and spatially integrated humanities and social science.

He has published more than 300 research papers in peer reviewed academic journals and co-authored 12 books.

He was elected academician of International Eurasia Academy of Sciences in 1995.

Hui Lin received the Outstanding Contribution Award from Asia Association of Remote Sensing in 2009 and AAG Miller Award in 2017.



GRACIELA METTERNICHT

Professor of Environmental Geography University of New South Wales, Sydney

Graciela Metternicht is Professor at the University of New South Wales Sydney, with expertise and leadership in applications of geospatial technologies for environmental management and sustainability.

Land degradation adviser to the UN Global Environmental Facility (STAP), she is also Deputy Chair of the Australian Academy of Sciences National Committee of Geographical Sciences.

Co-leads the Dryland Ecosystems Specialist Group of the IUCN Commission on Ecosystem Management, and is member of the Science Policy Interface of the UN Convention to Combat Desertification.

2018 awardee of the President's International Initiative, Chinese Academy of Science.

Past appointments include Regional Coordinator of Early Warning and Assessment at UN Environment.



STEFANO NATIVI

**Big Data Lead Scientist – Joint Research
Centre of the European Commission**

Stefano NATIVI is the Big Data Lead Scientist of the Joint Research Centre of the European Commission.

His present research activity deals with the Digital Transformation of our Society (Datafication and Virtualization processes, Edge/Smart Computing, Intensive Data Processing and Energy Efficiency).

For more than 10 years, he has served as Head of Unit for the National Research Council of Italy, coordinating research programs (funded by EC, US NSF, and National R&I frameworks) on Digital Technology applications to trans and multidisciplinary areas –noticeably, the Sustainable Development of our Planet and the Earth System Science. His educational background is in Telecommunication Engineering, Data Science, Computer Science and Remote Sensing.

He worked for the University of Bristol (UK), University of Padua (IT), and NCAR (National Center for Atmospheric Research) in Colorado (USA), and the University of Florence (IT).



BARRY O'SULLIVAN

President, European AI Association
Vice Chair, European Commission High-Level Expert Group AI
Professor, University College Cork, Ireland

Professor Barry O'Sullivan is an award-winning academic working in artificial intelligence, operations research, ethics, and public policy for AI and data analytics.

He is a full professor at the School of Computer Science & IT at University College Cork, where is the founding director of the Insight Centre for Data Analytics, principal investigator at the Confirm Centre for Smart Manufacturing, and director of the Science Foundation Ireland Centre for Research Training in Artificial Intelligence.

Professor O'Sullivan is President of the European Artificial Intelligence Association and vice chair of the European Commission High-Level Expert Group on AI.

He is an Adjunct Professor at Monash University, Australia.



ERIKA WIDEGREN

Chief Executive, of Re-Imagine Europa

Erika has been working in the field of connecting policy, science and society for over a decade specialising in developing new approaches to strategic challenges for Europe.

She is a frequent speaker and moderator at European conferences on these topics and has written several reports and articles.

She is Chief Executive of Re-Imagine Europa (RIE), co-founded together with President Valéry Giscard d'Estaing, to redefine how long-term policy and vision is developed through the use of new technologies to foster a dynamic public discourse, collective intelligence and realistic solutions for the benefit of a stronger, fairer and more competitive Europe.

SESSIONS LEGENDA

To facilitate attendees, the Sessions are organized on Thematic Multidisciplinary Paths:

Remote Sensing and GIS

- Hyperspectral Remote Sensing
- Role of Geoscience and Remote Sensing in a transformed Society

Digital Transformation in Society

- Twin cities
- Earth Observation Data to Knowledge Value Chains
- Space 4.0

Communities and International Programmes

- Big Earth Data and Digital Earth
- Copernicus Session
- DIGITAL BELT and Road Programme
- Digital Earth and Young Innovators: the Italian case
- Digital Earth contribution to Society through ISDE community collaboration
- Life Science & OMICS and Digital Earth

Enabling Technologies and Processes

- Transforming Society with Citizen observatories
- Earth Observations Data Cubes (EODC)
- Science as a Service bringing together data and tools

Applications

- Big SAR and InSAR data for sustainable urbanization and management of urban environments
- Digital Data for Urban Scientific Heritage
- Digital Ocean information from Satellite Remote Sensing
- Multi-source satellite data for agronomical operational products
- Multi-technique and multi-platform approaches for digital heritage
- The impact of Digital Transformation on atmospheric composition monitoring for the environmental and human welfare

ISDE11 PROGRAMME-AT-A-GLANCE

MONDAY, SEP 23, 2019 (PALAZZO DEI CONGRESSI - ROOM 103)					
09:30 - 10:30	ISDE Council Meeting (open only to Members)				
10:30 - 11:30	ISDE Council Meeting				
11:30 - 12:30	ISDE Council Meeting				
12:30 - 14:00	Lunch				
14:00 - 15:00	ISDE Council Meeting				
15:00 - 16:00	ISDE Council Meeting				
16:00 - 17:00	ISDE Council Meeting				
19:00 - 20:00	ISDE Council Dinner				

TUESDAY, SEP 24, 2019	
TIME	PALAZZO DEI CONGRESSI
09:30 - 12:30	Registration
TIME	PALAZZO VECCHIO
15:00 - 16:00	Opening Ceremony
16:00 - 18:00	Plenary Session
18:00 - 20:00	Welcome Cocktail

WEDNESDAY, SEP 25, 2019 (PALAZZO DEI CONGRESSI)					
09:00 - 10:30	Grand Debate on Trust and Ethics in Digital Earth AUDITORIUM				
10:30 - 11:00	Coffee Break				
	ROOM 4	ROOM ONICE	LIMONAIA	ROOM VERDE	AUDITORIUM
11:00 - 13:00	Digital Data for Urban Scientific Heritage Chair: Laura Melelli	Twin cities Chair: Massimo Craglia	Digital Ocean information from Satellite Remote Sensing Chair: Xiaofeng Li	Science as a Service bringing together data and tools Chair: Mohan Ramamurthy	Role of Geoscience and Remote Sensing in a transformed Society Chair: Paolo Gamba
13:00 - 14:30	Break				
14:30 - 16:30		The impact of Digital Transformation on atmospheric composition monitoring for the environmental and human welfare Chair: Giulia Saponaro	Space 4.0 Chair: Guenther Landgraf	Earth Observations Data Cubes (EODC) Chair: Gregory Giuliani	Role of Geoscience and Remote Sensing in a transformed Society Chair: Paolo Gamba
16:30 - 17:30	Coffee Break & Poster Session				
17:30 - 19:00	Grand Debate on Digital Earth for UN Sustainable Development Goals AUDITORIUM				

THURSDAY, SEP 26, 2019 (PALAZZO DEI CONGRESSI)

09:00 - 10:30		Plenary Session - AUDITORIUM			
10:30 - 11:00		Coffee Break			
	ROOM 4	ROOM ONICE	LIMONAIA	ROOM VERDE	AUDITORIUM
11:00 - 13:00		Digital Earth and Young Innovators: the Italian case Chair: Gabriele Ferrieri Round Table Discussion (12:30 - 13:30)	Multi-source satellite data for agronomical operational products Co-Chairs: Giovanni Laneve, Wenjiang Huang	Digital Earth contribution to Society through ISDE community collaboration Chair: Cheryl Desha	Earth Observation Data to Knowledge Value Chains Chair: Markus Stocker
13:00 - 14:30		Break			
14:30 - 16:30	Life Science & OMICS and Digital Earth Chair: Cristina Nativi	Hyperspectral Remote Sensing Co-Chairs: Bing Zhang, Paolo Gamba, Yinnian Liu, Stefano Pignatti	Big SAR and InSAR data for sustainable urbanization and management of urban environments Co-Chairs: Dedodato Tapete, Francesca Cigna	Big Earth Data and Digital Earth Co-Chairs: Gensuo Jia, Dongmei Yan	Earth Observation Data to Knowledge Value Chains Chair: Markus Stocker
16:30 - 17:30		Coffee Break & Poster Session			
17:30 - 19:00	Grand Debate on Digital Earth for UN Sustainable Development Goals AUDITORIUM				
19:30	Symposium Dinner at Grand Hotel Baglioni Terrace				

FRIDAY, SEP 27, 2019 (PALAZZO DEI CONGRESSI)

	ROOM 4	ROOM ONICE	LIMONAIA	ROOM VERDE	AUDITORIUM
9:00 - 11:00		Multi-technique and multiplatform approaches for digital heritage Co-Chairs: Fulong Chen, Rosa Lasaponara	DIGITAL BELT and Road Programme Co-Chairs: John van Genderen, Jie Liu	Transforming society with Citizen Observatories Chair: Uta Wehn	Copernicus Session Chair: Cristina Ananasso Co-Chairs: Mario Hernandez, Simon Jutz
11:00 - 11:30					Copernicus Panel
11:30 - 12:30		Plenary Session - AUDITORIUM			
12:30 - 13:30		Closing Ceremony - AUDITORIUM			
13:30 - 14:30		Closing Reception			

DETAILED PROGRAMME

Tuesday, Sep 24, 2019

OPENING CEREMONY

PALAZZO VECCHIO - SALONE DE' CINQUECENTO

15:00 - 16:00

CEREMONY FOR THE 20TH ANNIVERSARY OF THE ISDE SYMPOSIA

Opening by Symposium Manager
Welcome from Local Authorities
Welcome from Organizers

ANNOUNCEMENT OF THE NEW ISDE PRESIDENT

ISDE AWARDS CEREMONY

Award to the Honorary President
Awards to the ISDE Fellows

SYMPOSIUM PROGRAMME INTRODUCTION

ISDE11 Programme Chair

WELCOME FROM ASSOCIATE PARTNERS AND SPONSOR

National Association of Young Innovators of Italy
Geovis Technology Co., Ltd.

PLENARY SESSION

PALAZZO VECCHIO - SALONE DE' CINQUECENTO

16:00 - 18:00

DIGITAL EARTH RETROSPECTIVE AND FUTURE CHALLENGES

Huadong Guo - *ISDE Outgoing President*
Alessandro Annoni - *ISDE Incoming President*

SOCIETAL SUSTAINABLE DEVELOPMENT

Enrico Giovannini - *Italian Alliance for Sustainable Development*
Gilberto Câmara - *GEO Secretariat Director*

WELCOME COCKTAIL

PALAZZO VECCHIO - SALA D'ARME

18:00 - 20:00

Wednesday, Sep 25, 2019

GRAND DEBATE ON TRUST AND ETHICS IN DIGITAL EARTH

AUDITORIUM

9:00 - 10:30

Moderator:

Stefano Nativi - *EC Joint Research Centre*

Keynote:

Miguel Poiaras Maduro - *European University Institute*
Erika Widegren - *Re-Imagine Europa*

PANEL DISCUSSION

COFFEE BREAK

LOWER FLOOR

10:30 - 11:00

Digital Data for Urban Scientific Heritage

Chair: Laura Melelli

ROOM 4

11:00 - 11:40

KEYNOTE

Urban geomorphological heritage: digital data and management

Emmanuel Reynard

11:40 - 12:00

Digital Real -Time Sharing of Cultural Heritage

Grazia Caradonna

Eufemia Tarantino

12:00 - 12:20
Geospatial 3D modeling for sustainable safeguarding native Malay urban Architectural in Malaysia Norzailawati Mohd Noor <i>Alias Abdullah - Ilyani Ibrahim - Muhammad Afiq Aiman Abdullah</i>
12:20 - 12:40
HUSH app: digital tools to explore the natural patrimony of urban areas Luisa Liucci <i>Giulio Bianchini - Livio Fanò - Laura Melelli - Sabrina Nazzareni - Diego Perugini - Daniele Spiga - Tommaso Tedeschi - Francesca Vercillo</i>
12:40 - 13:00
Monitoring urbanization at global scale - the world settlement footprint Mattia Marconcini <i>Noel Gorelick - Thomas Esch - Annekatrin Metz-Marconcini</i>

Twin Cities Chair: Massimo Craglia
ROOM ONICE
11:00 - 11:15
Introduction and welcome from the Chair Massimo Craglia
11:15 - 11:30
The Digital Twin and Smart City Dashboard of Amsterdam: a DigiTranScope Experiment Henk Scholten
11:30 - 11:45
Digital Twin of City of Cagliari Matteo Vocale

11:45 - 12:00

Digital Twin of Past Cityscapes

Chiara Piccoli

12:00 - 12:15

Digital Twin of the Lekdijk

Martin Peersmann

Cecile Frujtier - Leon Nieuwland

12:15 - 12:30

Data Cities and Astrospace Architecture: An urban ethos from electromagnetic fluxes

Davina Jackson

12:30 - 13:00

Open Discussion with speakers and audience:
Opportunities, challenges, lessons learned

Digital Ocean information from Satellite Remote Sensing

Chair: Xiaofeng Li

LIMONAIA

11:00 - 11:15

Satellite time series to detect marsh dieback events and potential environmental influences along coastal South Carolina, USA

Cuizhen (Susan) Wang

Huixuan Li

11:15 - 11:30

A process-oriented approach for mining global sea surface temperature abnormal variations

Cunjin Xue

Yangfeng Xu - Jingyi Liu - Changfeng Jing - Guanghui Yang

11:30 - 11:45

Proposals on the development of China's Smart Ocean

Jin Liu

Suixiang Shi - Xiaojian Cui - Xiaoyi Jiang

11:45 - 12:00
Sea Ice and Snow Interaction Revealed by Combined Retrieval of Sea Ice Thickness and Snow Depth with CryoSat-2 and SMOS Shiming Xu
12:00 - 12:15
Post-hurricane coastal inundation area mapping from bi-temporal SAR images based on deep convolutional neural networks Bin Liu <i>Xiaofeng Li</i>
12:15 - 12:30
East Antarctica Velocity Map of 1963-1989 Based on Historical Images Rongxing Li <i>Yuan Cheng - Gang Qiao - Xuwei Li - Wenkai Ye - Yixiang Tian - Xiaohua Tong</i>
12:30 - 12:45
Assimilation of Satellite Remotely Sensed Winds for Typhoon Forecasting: Progress and Perspective Xiaofeng Yang <i>Xiaofeng Li</i>
12:45 - 13:00
Using satellite data to study the distribution and propagation characteristics of internal waves in the Andaman Sea Shilin Tang <i>Ping Shi - Wenli Zhang</i>

Science as a Service bringing together data and tools Chair: Mohan Ramamurthy
ROOM VERDE
11:00 - 11:15
Unidata Science Gateway for Enabling Science as a Service to Facilitate Open Science and Reproducible Research Mohan Ramamurthy

11:15 - 11:30
SeaDataNet, an enhanced ocean data infrastructure giving services to scientists and society Leda Pecci <i>Michele Fichaut - Dick Schaap</i>
11:30 - 11:45
A participatory platform for comprehensive geographic problem solving Zaiyang Ma <i>Min Chen - Songshan Yue - Yuchen Lu - Beichen Zhang - Yongning Wen</i>
11:45 - 12:00
Commercial Cloud and EO services usage: opening the gates to the research community Open Clouds for Research Environments (OCRE) Jose Manuel Delgado Blasco <i>Antonio Romeo - Andres Steijaert - Joao Fernandes - Sara Pittonet - Geoff Sawyer - Lefteris Mamais - Marc-Elian Bégin</i>
12:00 - 12:15
O-PARK - A standardized platform for continuous monitoring of the Paneveggio Pale di San Martino Nature Park Paolo Petrinca <i>Vittorio Ducoli - Gonzalo Rodriguez - Francesco Salvati - Piergiovanni Partel - Gino Taufer</i>
12:15 - 12:30
Sensor Web Evolution - Webs of Webs for NASA Science - Focus on small Uninhabited Aerial Systems (sUAS) Don Sullivan
12:30 - 12:45
New Web-Based services for Earth Observation applications Marie-Francoise Voidrot <i>Bente Lilja Bye</i>
12:45 - 13:00
RUS: A New Expert Service for Copernicus Sentinel Data Users Mora Brice <i>Guzzonato Eric</i>

Role of Geoscience and Remote Sensing in a transformed Society
Chair: Paolo Gamba

AUDITORIUM

11:00 - 11:40

KEYNOTE

IEEE GRSS initiatives to share, understand and analyze EO data
Paolo Gamba

11:40 - 12:00

Developing Standards for Earth Observation Data Products
Siri Joda Khalsa

Chris Durell - Leland Pierce - Maria Paola Clarizia - Derek Houtz

11:40 - 12:00

The IEEE GRSS Data and Algorithms Standard Evaluation (DASE) platform and the IEEE GRSS Data Fusion Contest initiative
Gabriele Moser

Fabio Dell'Acqua - Ronny Hänsch - John Kerekes - Bertrand Le Saux - Leland Pierce - Naoto Yokoya

12:20 - 12:40

Big Data from Space for Precision Agriculture Applications
Yady Tatiana Solano-Correa

Francesca Bovolo - Lorenzo Bruzzone - Diego Fernández-Prieto - Claudia Paris - Espen Volden - Massimo Zanetti

12:40 - 13:00

Improving information extraction in EO big data by image selection based on capacity investigation

Andrea Marinoni

Eduard Khachatrian - Saloua Chlaily - Paolo Gamba

BREAK

13:00 - 14:30

**The impact of Digital Transformation
on atmospheric composition monitoring for
the environmental and human welfare
Chair: Giulia Saponaro**

ROOM ONICE

14:30 - 15:10

KEYNOTE

The importance of continuous, comprehensive observations:
the potential of SMEAR concept

Joni Kujanso

15:10 - 15:30

In-Service Aircraft for a Global Observing System (IAGOS) Research
Infrastructure

Hannah Clarks

15:30 - 15:50

ACTRIS aerosol profiling database: new design and new products for
a wider use of aerosol lidar data

Lucia Mona

15:50 - 16:10

Cloud remote sensing in ACTRIS

Simo Tukiainen

Ewan O'Connor - Anniina Korpinen

16:10 - 16:30

Exploitation of ACTRIS/CLOUDNET in assessing the effect of thin
cloud contamination on the retrieval of solar induced fluorescence

Giulia Saponaro

*Pekka Kolmonen - Neus Sabater - Larisa Sogacheva - Luis Alonso -
José Moreno*

Space 4.0 Chair: Guenther Landgraf
LIMONAIA
14:30 - 14:50
How Earth Observation is fuelling the Digital Revolution Martin Polak
14:50 - 15:10
CLEOS (Cloud Earth Observation Services), e-GEOS concept of Satellite Data Platform Domenico Grandoni <i>Dino Quattrociochi - Marco Corsi - Pier Francesco Cardillo</i>
15:10 - 15:30
New ways of accessibility - Facilitating a Network of European EO Resources (NoR) Maria Hochleitner <i>Ursula Dr. Benz</i>
15:30 - 15:50
Community-oriented Sharing Platforms in Space 4.0 Erik Vermeulen <i>Alessandro Marin - Guenther Landgraf - Antonio Romeo - Itziar Alonso - Jolanda Patruno - Francesco Barchetta - Marco Leonardi - Paulo Sacramento</i>
15:50 - 16:30
Discussion

Earth Observations Data Cubes (EODC)
Chair: Mohan Ramamurthy

ROOM VERDE

14:30 - 14:35

Intro

Gregory Giuliani

14:35 - 14:45

Introducing the Data Cube Facility Service – towards a turnkey solution to Earth Observation data use cases

Gunnar Brandt

Norman Fomferra - Carsten Brockmann - Grega Milcinski - Gerhard Triebnig - Stephan Meißl - Lubos Kucera - Rene Griesbach

14:45 - 14:55

The Swiss Data Cube : Earth Observations for monitoring Switzerland's environment in space and time

Gregory Giuliani

Pascal Peduzzi - Bruno Chatenoux - Jean-Philippe Richard - Charlotte Poussin - Michael Schaepman - David Small - Charlotte Steinmeier - Achilleas Psomas - Christian Ginzler

14:55 - 15:05

Next generation datacube service based on cloud-native architecture

Grega Milcinski

Primož Kolaric - Rok Mocnik - Marko Repse - Miha Kadunc - Matej Snuderl

15:05 - 15:15

Realtime Planetary-Scale Datacube Fusion

Vlad Merticariu

Peter Baumann

15:15 - 15:25

Building a Large-scale Earth Observations Data Cube: Lessons Learned from the Africa Regional Data Cube (ARDC) on Amazon Web Services (AWS)

Syed Rizvi

Brian Killough - Andrew Cherry

15:25 - 15:35
OGC Geospatial Data Cube Community Practice Marie-Francoise Voidrot <i>George Percivall</i>
15:35 - 15:45
Time series exploration tools for Earth Observation Heritage Missions and beyond Simone Mantovani <i>Damiano Barboni - Mario Cavicchi - Stefano Natali - Andrea Della Vecchia - Mirko Albani - Damiano Guerrucci - Giuseppe Troina</i>
15:45 - 15:55
Using Data Cubes and Jupyter notebooks in Docker containers to teach big Earth data Martin Sudmanns <i>Hannah Augustin - Dirk Tiede - Stefan Lang</i>
15:55 - 16:30
Discussion

Role of Geoscience and Remote Chair: Paolo Gamba
AUDITORIUM
14:30 - 14:50
Digital Approach to Forest Cover Mapping: a Case Study of Forest-Tundra in near-Yenisei Siberia Vera Ryzhkova <i>Irina Danilova - Michael Korets</i>
14:50 - 15:10
Spatiotemporal variations and regional differences of extreme climate events in the Coastal area of China Xiaoli Wang <i>Xiyong Hou</i>

15:10 - 15:30

Electricity demand monitoring in Japan by using time-series DMSP stable lights images and its application to long-term damage assessment of natural disasters

Chuc Man Duc

Hirohichi Fukui

15:30 - 15:50

Vegetation phenology change and climate feedback: from earth observation to simulation

Xiyan Xu

Gensuo Jia - William Riley - Charles Koven

15:50 - 16:10

OBIA approach as support to vegetation change tracker algorithm for quantifying vegetation changes in a Mediterranean coastal ecosystem

Alessandra Capolupo

Eufemia Tarantino

16:10 - 16:30

Digital Earth and main conandrum of cartography

Eugene Eremchenko

Vladimir Tikunov

COFFEE BREAK & POSTER SESSION**LOWER FLOOR****16:30 - 17:30**

GRAND DEBATE ON DIGITAL EARTH FOR UN SUSTAINABLE DEVELOPMENT GOALS

AUDITORIUM

17:30 - 19:00

Moderator:

Zaffar Sadiq Mohamed-Ghouse - *Surveying Spatial Sciences Institute*

Keynote:

Greg Scott - *UN Committee of Experts on Global Geospatial Information Management*

PANEL DISCUSSION

Thursday, Sep 26, 2019

PLENARY SESSION

AUDITORIUM

09:00 - 10:30

A TRANSFORMED SOCIETY: CHALLENGES AND OPPORTUNITIES

Barry O'Sullivan - *European Artificial Intelligence Association*

Stefano Nativi - *EC Joint Research Centre*

Graciela Metternicht - *University of New South Wales*

COFFEE BREAK

LOWER FLOOR

10:30 - 11:00

Digital Earth and Young Innovators: the Italian case
Chair: Gabriele Ferrieri

ROOM ONICE

11:00 - 12:30

Moderator:

Maria Antonietta Cruciata

Presenters:

Gabriele Ferrieri - ANGI

Roberto Baldassari - GPF Inspiring Research

Carlo Corazza - European Parliament Offices in Italy

Dino Fortunato - UNIDO ITPO

Roberto Ridolfi - FAO

Pierluigi Sassi - Earth Day Italia

Stefano Maggi - University of Siena

12:30 - 13:30

ROUND TABLE DISCUSSION

“From Da Vinci to Nakamoto: Innovation, Trust and Logic under the sign of Blockchain adoption”

Moderator:

Niccolo Quattrini

Panelists:

Andrea Della Croce - Affidaty S.p.A.

Paolo Santancini - Affidaty S.p.A.

Gabriele Ferrieri - ANGI

Jacopo Aldighiero Caucci Von Saucken - University of Florence

Gianluca Baldassarre - ISTC-CNR

Riccardo Fedriga - University of Bologna

**Multi-source satellite data
for agronomical operational products
Co-Chairs: Giovanni Laneve, Wenjiang Huang**

LIMONAIA

11:00 - 11:25

KEYNOTE

Multi-source EO data for supporting agriculture management in Africa

Giovanni Laneve

Roberto Luciani - Lorenzo Fusilli - Riccardo Orsi - Mariangela Dejana

11:25 - 11:50

KEYNOTE

Crop diseases and pests monitoring and forecasting system

Wenjiang Huang

11:50 - 12:00

Food Security TEP - Supporting Sustainable Intensification of Food Production from Space

Michael Holzapfel

Silke Migdall - Martina Hodrius - Fabian Niggemann - Heike Bach - Tom van Roey - Sven Gilliams - Antonio Cuomo - Philip Harwood - Colapicchioni Andrea - Nino Pace - Ignacio San Miguel Sanchez - Jason Suwala - Andrew Dean - Antonio Romeo - Itziar Alonso - Philippe Mougnaud - Espen Volden

12:00 - 12:10

Evaluation of MODIS Vegetation Index Data for Crop Classification of Nepal with Multi-Dimensional Data Format (MDD) Structure and Analysis Tool

Bhagawat Rimal

Lifu Zhang

12:10 - 12:20

Clustering of multispectral satellite time series for constant pattern retrieval at the field level

Stefano Pignatti

Mirco Boschetti - Raffaele Casa - Angelo Palombo - Monica Pepe - Simone Pascucci

12:20 - 12:30

A generalized classification approach for permanent and row crops

Roberto Luciani

Giovanni Laneve - Mariangela Dejana

12:30 - 12:40

Development of a tool for automatic bare soil detection from multitemporal satellite optical imagery for digital soil mapping applications

Nada Mzid

Stefano Pignatti - Simone Pascucci - Wenjiang Huang - Raffaele Casa

12:40 - 12:50

SIM: smart irrigation from Soil moisture forecast using satellite and hydro-meteorological modelling

Marco Mancini

Chiara Corbari - Alessandro Ceppi - Giovanni Ravazzani - Gabriele Lombardi - Massimo Menenti - Li Jia - Josè Sobrino - Drazen Skokovic - Giacomo Branca - Raffaele Salerno - Romualdo Romero - Raffaella Zucaro

12:50 - 13:00

Efficient Corn Cultivation Area Identification with Multitemporal Synthetic Aperture Radar and Optical Images in the Google Earth Engine Cloud Platform

Fuyou Tian

**Digital Earth contribution to Society
through ISDE community collaboration**
Chair: Cheryl Desha

ROOM VERDE

11:00 - 11:20

An International Collaboration towards Transformed Engineering Practice in Digital Earth

Cheryl Desha

11:20 - 11:40

Innovation journey of the Digital Earth Node (DEN): Experiences, ideas and future opportunities

Luis Perez-Mora

11:40 - 12:00

Digital Earth - the next paradigm

Richard Simpson

12:00 - 12:20

Three-Dimensional Mapping – When 3D Models of Real Environment Become 3D Maps

Temenoujka Bandrova

Davis Dinkov

12:20 - 12:40

Unlock and use EO/geospatial data for SDG by empowering stakeholder engagement in a transformed society

Gabor Remetey-Fülöpp

Szabolcs Mihály - Tamás Palya - László Zentai - Péter Hargitai - Gyula Iván

12:40 - 13:00

Grasping the Global with Digital Earth

Mary Fargher

Earth Observation Data to Knowledge Value Chains
Chair: Markus Stocker

AUDITORIUM

11:00 - 11:15

Welcome and introduction
Markus Stocker

11:15 - 11:30

The Minamata Knowledge Platform: from data to knowledge supporting Minamata Convention on Mercury
Sergio Cinnirella
Francesco D'Amore - Francesco De Simone - Mariantonia Bencardino - Ian M. Hedgecock - Francesca Sprovieri - Nicola Pirrone

11:30 - 11:45

The ICOS Atmosphere use case: from raw data to knowledge of societal relevance
Maggie Hellström
Ute Karstens - Alex Vermeulen - Karolina Pantazatou - Naomi Smith

11:45 - 12:00

From Data to Knowledge using the GEOSS platform to support Sustainable Development Goals
Gregory Giuliani
Paolo Mazzetti - Mattia Santoro - Stefano Nativi - Joost van Bemmelen - Guido Colangeli - Anthony Lehmann

12:00 - 12:15

Water data standards by the Hydrology Domain Working Group of WMO and OGC – from development to implementation and adoption
Silvano Pecora
Tony Boston

12:15 - 12:30

Achievements and challenges of the new Urban Centre Database derived from the Global Human Settlement Layer data
Marcello Schiavina
Christina Corbane - Daniele Ehrlich - Aneta J. Florczyk - Sergio Freire - Michele Melchiorri - Thomas Kemper

12:30 - 12:45

Integrated capacity building for faster up-take of Earth observation data in knowledge value chains

Bente Bye

12:45 - 13:00

Discussion

BREAK

13:00 - 14:30

**Life Science & OMICS and Digital Earth
Chair: *Cristina Nativi***

ROOM 4

14:30 - 14:35

Intro

Cristina Nativi

14:35 - 15:05

KEYNOTE

Metabolomics: big data first need to be good data

Claudio Luchinat

15:05 - 15:25

Environmental microbiomics and big data

Duccio Cavalieri

15:25 - 15:45

The value of and impediments to Open Data Sharing of microbial Whole Genome Sequences (WGS)

Joergen Schlundt

15:45 - 16:30

Round Table

Hyperspectral Remote Sensing Co-Chairs: Bing Zhang, Paolo Gamba, Yinnian Liu, Stefano Pignatti	
ROOM ONICE	
14:30 - 14:50	AHSI: The Hyperspectral Imager on Chinese GF-5 Satellite Yin-Nian Liu <i>Xiang Ye - Dexin Sun - Xiao-Ning Hu</i>
14:50 - 15:10	Highlights on the hyperspectral PRISMA mission: planned and ongoing scientific activities Stefano Pignatti <i>Raffaele Casa - Giovanni Laneve - Angelo Palombo - Simone Pascucci - Victoria Ionca - Federico Santini</i>
15:10 - 15:30	Application of Chinese new generation hyperspectral satellite in monitoring of inland water quality Junsheng Li <i>Bing Zhang</i>
15:30 - 15:50	The Pavia test site: a comparison of airborne and satellite data sets Paolo Gamba
15:50 - 16:10	GF-5 Hyperspectral Image Enhancement using Sparse Tensor Robust Principal Component Analysis for Fine Classification of Coastal Wetlands in Yellow River Estuary, China Weiwei Sun <i>Gang Yang - Yinnian Liu</i>
16:10 - 16:30	Optimal Hyperspectral Vegetation Indices for Winter Wheat Fusarium Head Blight Detection in Canopy Scale Linyi Liu <i>Wenjiang Huang - Yingying Dong - Stefano Pignatti - Raffaele Casa - Giovanni Laneve</i>

<p>Big SAR and InSAR data for sustainable urbanization and management of urban environments Co-Chairs: Dedodato Tapete, Francesca Cigna</p>
<p>LIMONAIA</p>
<p>14:30 - 15:10</p> <p>KEYNOTE Monitoring Urban Areas with Multi-Temporal SAR Data: Current and Future Trends Alessandro Ferretti</p>
<p>15:10 - 15:25</p> <p>National Scale P-SBAS DInSAR Mapping within Cloud Computing Infrastructures Riccardo Lanari <i>Francesco Casu - Manuela Bonano - Sabatino Buonanno - Claudio De Luca - Michele Manunta - Mariarosaria Manzo - Giovanni Onorato - Ivana Zinno</i></p>
<p>15:25 - 15:40</p> <p>Nationwide Sentinel-1 based Persistent Scatterer Interferometry datasets and products in the framework of the Ground Motion Service Germany Andre Cahyadi Kalia <i>Michaela Frei - Thomas Lege</i></p>
<p>15:40 - 15:55</p> <p>Building Maps derived from Sentinel-1 SAR Data Marco Chini <i>Ramona Pelich - Renaud Hostache - Patrick Matgen - Carlos Lopez-Martinez</i></p>
<p>15:55 - 16:10</p> <p>Impervious Surface Mapping Using Sentinel-1 Cross-Pol Coherence and Decorrelation Time Francesco Asaro <i>Claudio Prati</i></p>

16:10 - 16:30

An Innovative Platform for the Monitoring and the Forecast in Real-Time of Water Resources: the Hydrocontroller Project

Simonetta Paloscia

Emanuele Santi - Simone Pettinato - Giacomo Fontanelli - Ciro Lanzetta

Big Earth Data and Digital Earth
Co-Chairs: Gensuo Jia, Dongmei Yan

ROOM VERDE**14:30 - 14:40**

CASEarth: concept and framework

Gensuo Jia, Yan Dongmei

14:40 - 14:50

Digital Earth Science Platform of Chinese Academy of Sciences

Bing Zhang

Xiaoping Du - Xiangtao Fan - Xianqing Tai - Wenjiang Huang - Zhenzhen Yan

14:50 - 15:00

CASEarth Cloud: architecture and services

Jianhui Li

Xuebing Chi - Xin Chen

15:00 - 15:10

The CAS Earth Three Poles Big Data Project

Xiaduo Pan

Xin Li

15:10 - 15:20

Challenges and Opportunities in Establishing China Infrastructure for Big Biodiversity Data

Li Zhu

Keiping Ma

15:20 - 15:30
CASEarth China subsystem and case studies Zifa Wang
15:30 - 15:40
Big Earth data for assessing the Ecoenvironment along China-Pakistan economic corridor Ainong Li <i>Jinhu Bian - Guangbin Lei - Xi Nan - Zhengjian Zhang</i>
15:40 - 15:50
Change characteristics of vegetation cover in global coastal areas based on GIMMS NDVI3g data Xiyong Hou <i>Wan Hou</i>
15:50 - 16:00
A Multiple Dag Workflow Scheduling and Execution Method Based on Predicted Runtime Yong Xue <i>Zixiang Wang</i>
16:00 - 16:30
Discussion

Earth Observation Data to Knowledge Value Chains Chair: Markus Stocker
AUDITORIUM
14:30 - 14:45
AI in Photogrammetry and Remote Sensing for Digital Earth Deren Li <i>Yixuan Zhu - Lite Shi</i>

14:45 - 15:00

Assessing below-ground carbon dynamics of green infrastructure using artificial intelligence, targeting sub-tropical bioretention basins

Cheryl Desha

Emad Kavehei - Abdul Karim - Graham Jenkins - Fernanda Adame - Abdul Sattar

15:00 - 15:15

How Citizen Science and Artificial Intelligence can support Digital Earth

Sven Schade

Alexander Kotsev - Blagoj Delipetrev

15:15 - 15:30

Using Social Media to Mine and Analyse Public Sentiment during a Disaster: A Case Study of the 2018 Shouguang City Flood in China

Xuehua Han

Juanle Wang

15:30 - 15:45

Linked Data Approach to Water Resources Management of Hydropower Reservoirs

Mariana Damova

Emil Stoyanov - Mihail Kopchev - Stefano Natali - Ekaterina Kuzmanova

15:45 - 16:00

ADAM - Advanced geospatial data management data cube platform for environmental data

Simone Mantovani

Stefano Natali - Marco Folegani

16:00 - 16:15

EUMETSAT – Effective Search and Access APIs for EO Data to Knowledge Value Chains

Uwe Voges

Michael Schick - Udo Einspanier - Gaetano Pace

16:15 - 16:30

Towards a web service for rapid landslide mapping based on Copernicus data

Florian Albrecht

Daniel Hölbling - Elisabeth Weinke

COFFEE BREAK & POSTER SESSION**LOWER FLOOR****16:30 - 17:30****GRAND DEBATE ON ISDE
IN A TRANSFORMED SOCIETY****AUDITORIUM****17:30 - 19:00****Moderator:***Alessandro Annoni - EC Joint Research Centre***Keynote:***Alessandro Annoni - EC Joint Research Centre***PANEL DISCUSSION****SYMPOSIUM DINNER****GRND HOTEL BAGLIONI TERRACE****19:30****Friday, Sep 27, 2019****Multi-technique and multiplatform approaches
for digital heritage****Co-Chairs: Fulong Chen, Rosa Lasaponara****ROOM ONICE****09:00 - 09:15**

Advanced multi-technique and multi-platform space technologies facilitate the development of "Digital Heritage"

Fulong Chen

09:15 - 09:25

Multi-temporal SAR and optical change detection with COSMO-SkyMed and Copernicus Sentinels for digital recording of cultural heritage at risk

Deodato Tapete

Francesca Cigna

09:25 - 09:35

Capturing crop marks in Apulia region based on the enhancement of multispectral satellite images

Rosa Lasaponara

Athos Agapiou - Nicola Masini

09:35 - 09:45

InSAR tool for the preventive monitoring and sustainable development of the historical center of Athens and a field check development.

Asimakis Fylaktos

Athanasios Mourampetzis - Fulong Chen - Pavlos Krassakis - Issaak Parcharidis

09:45 - 09:55

Detecting seismic damage scars in monuments through a joined use of historical sources and infrared thermography

Fabrizio Terenzio Gizzi

Edoardo Geraldi - Maria Sileo - Maria Rosaria Potenza

09:55 - 10:05

The Open Source Framework of 4th Generation Digital World Heritage Sites: WikiHeritage

Annie, Yen-Lin Liu

10:05 - 10:15

A Web Based Lightweight Fully Automatic Cultural Heritage 3D Modelling and Visualization System

Xianfeng Huang

Chong Yang - Yunlong Gao - Fan Zhang - Liang Li - Deren Li - Yixuan Zhu

10:15 - 10:25

Deformation monitoring on Shanhaiguan Great Wall using an advanced small-baseline SAR interferometry approach dedicated to sentinel-1 data in mountainous areas

Wei Zhou

Fulong Chen

10:25 - 11:00

Wrap up Discussion

DIGITAL BELT and Road Programme (Special Session)

Co-Chairs: John van Genderen, Jie Liu

LIMONAIA

09:00 - 09:30

Digital Cultural Heritage for the Belt and Road

Deren Li

Yixuan Zhu

09:30 - 09:45

Observing Water Fluxes and Water Stress in the Ecosystems of Asia and Africa by Satellites

Li Jia

Guangcheng Hu - Chaolei Zheng - Qiting Chen - Massimo Menenti

09:45 - 10:00

ODINWESTPAC Marine Data Sharing System helps to accelerate Digital Belt and Road Programme

Xiaoyi Jiang

Yi Wang - Miao Sun

10:00 - 11:00

ROUND TABLE DISCUSSION

“How can Digital Earth contribute to the DBAR Programme?”

Moderator:

John Van Genderen

Panelists:

Huadong Guo, *Chairman, DBAR Programme*

Massimo Menenti, *the Netherlands*

Alessandro Annoni, *JRC Italy*

Fanan Ujoh, *Nigeria*

Transforming society with Citizen Observatories

Chair: Uta Wehn

ROOM VERDE

09:00 - 09:05

Introduction to citizen observatories & session structure

Uta Wehn

09:05 - 09:15

CAROUSEL SESSION

Pitch per station - All presenters

A data quality service for citizen observatories

Joan Masó

Núria Julià - Alaitz Zabala

Co-designing citizen observatories for sustainability: the Ground Truth 2.0 methodology

Uta Wehn

Ellen Pfeiffer - Stijn Vranckx - Rianne Giesen - Somya Joshi - Hans van der Kwast - Conrad Muyaule - Elizabeth Gil-Rolán Little

Citizen observatories filling in knowledge gaps in local and global environmental monitoring and management objectives

Steven Loiselle

Luigi Ceccaroni

An Italian interdisciplinary citizen observatory for the protection and promotion of night skies on year 12 of its evolution: challenges and opportunities from a Digital Earth perspective

Andrea Giacomelli

Luciano Massetti - Elena Maggi - Dario Canal - Simone Sandrucci - Wolfgang Scheibe

RitmeNatura- A citizen observatory focused on phenology in Spain to better prepare for Climate Change

Elizabeth Gil-Roldán Little

Camille Pelloquin - Joan Masó - Ester Prat - Joan Pino - Alberto Masa - Cristina Muñoz - Uta Wehn

Building a Land User Mapper based on citizen contributions

Mark de Blois

Johannes van der Kwast

Station 2: a citizen observatory in Kenya that supports balancing sustainable livelihoods and biodiversity management

Simon Ndarao

Mark de Blois - Johannes van der Kwast - Frank Annor - Uta Wehn

The pioneers: CSEOL pilot projects exploring how Citizen Science can help validate Earth Observations

Uta Wehn

Cathy Cotton - Elizabeth Gild-Roldán Little

GROW Citizens' Observatory: Leveraging the power of citizens, open data and technology to generate engagement, innovative datasets and action on soil policy and soil moisture monitoring. George Konstantakopoulos <i>Mel Woods - Drew Hemment - Raquel Ajates Gonzalez - Andy Cobley - Angelika Xaver</i>
Capturing governance impact stories in citizen science initiatives, Citizen Observatories and community-based environmental monitoring projects Mohammad Gharesifard <i>Raquel Ajates Gonzalez - Uta Wehn - Dilek Fraisl</i>
10:30 - 11:00
Plenary Discussion Steven Loiselle

Copernicus Session
Chair: Cristina Ananasso Co-Chairs: Mario Hernandez, Simon Jutz
AUDITORIUM
09:00 - 09:10
COPERNICUS programme and its Benefits for the citizen Cristina Ananasso
09:10 - 09:20
COPERNICUS Space fleet - Current & Future Simon Jutz
09:20 - 09:30
Copernicus In-Situ Component Henrik Steen Andersen
09:30 - 09:40
Copernicus Data and Information Access Service Daniel Quintard

09:40 - 09:50
Copernicus Security Service(s) Rui Meneses
09:50 - 10:00
Copernicus Emergency Management Service Peter Salamon
10:00 - 10:10
Copernicus Atmosphere Monitoring Service Vincent-Henri Peuch
10:10 - 10:20
Copernicus Climate Change Service Carlo Buontempo
10:20 - 10:30
Copernicus Land Monitoring Service - Global Component Michael Cherlet
10:30 - 10:40
Copernicus Land Monitoring Service - European Component Hans Dufourmont
10:40 - 11:00
Copernicus Marine Environment Monitoring Service Pierre Bahurel
11:00 - 11:30
Copernicus Panel

PLENARY SESSION

AUDITORIUM

11:30 - 12:30

NEW KNOWLEDGE ECOSYSTEMS: CHALLENGES AND OPPORTUNITIES

Geoffrey Boulton - *University of Edinburgh*

Hui Lin - *Jiangxi Normal University*

Sanjay Kumar - *World Geospatial Industry Council (WGIC)*

CLOSING CEREMONY

AUDITORIUM

12:30 - 13:30

ISDE11 STATEMENT

3RD ISDE VIDEO AWARDS

ISDE12 ANNOUNCEMENT

CLOSING RECEPTION

PALAZZO DEI CONGRESSI

13:30 - 14:30

LIST OF POSTERS

Posters will be exhibited on Wednesday, September 25th and on Thursday, September 26th.

DIGITAL EARTH APPLICATIONS

A multidisciplinary approach to archaeological research in Sant'Arzenio (Salerno, Italy): new methodologies and consolidated practices for the knowledge of Cultural Heritage.

Abate Nicodemo, Aromando Angelo, Lasaponara Rosa

Long-term influence of anthropogenic activities in the coastal wetlands in China

Chu Lixia, Blaschke Thomas, Oloo Francis

Simulation of the Coverage of the complete Earth from Multiple Satellites in Geostationary and Polar Orbits

Cullingworth Christopher, Muller Jan-Peter

Application of Inpainting Technique for Reconstruction of Partially Detected Curvilinear Features Derived from the Process of Extraction of Cartographic Features

Da Silva Erivaldo, Figueira Ana

Mathematical Morphology Applied to the Extraction of Airport Tracks in Digital Images

Da Silva Erivaldo, Cardim Guilherme, Ferreira Allan, Thamires Godoy

Tibetan Plateau and Asian summer monsoon

Duan Anmin, Wu Guoxiong

Using Open Remote Sensing and Geographic Data for SMART Monitoring of Nature-based TOURISM in the Azores Islands Natural Parks: towards (more) Sustainability

Gil Artur, Fernández-Urrutia Manuel, Tiago Flávio, Borges-Tiago Teresa

A New Three-Component Decomposition for Urban Areas

Han Wentao, Zhu Jianjun, Fu Haiqiang, Xie Qinghua

Leaf area index inversion by considering the anisotropic Features of different wheat varieties

Huang Wenjiang

The Impact of Earthquake on Poverty: Learning from the 12 May 2008 Wenchuan Earthquake

Jia Huicong, Chen Fang, Pan Donghua

Assessment of MODIS phenological metrics performance to identify the behavior of agricultural systems

Lebrini Youssef, Boudhar Abdelghani, Hadria Rachid, Lionboui Hayat, Httitiou Abdelaziz, Benabdelouahab Tarik

Acoustic Mapping and Classification of Benthic Habitat Using Unsupervised Learning

Li Dong, Hou Xiyong, Zhang Hua

Visualization method of ocean multi-layer temperature data field superimposed sea surface height based on digital earth

Liu Jian, Fan Xiangtao, Jian Hongdeng, Jin Qingwen

Application and Exploration of Multi-Digital Technology in Heritage Impact Assessment of Great Wall related Construction Projects

Liu Baoshan, Zhang Jianwei

Geomorphological map of downtown Perugia: digital data as a tool to explore how the natural environment affects the urban development

Liucci Luisa, Melelli Laura, Bracaglini Michele, Antonini Guendalina, Del Monte Maurizio

Monitoring of the active layer thickness over the Qinghai-Tibetan Plateau Permafrost Region

Lu Ping, Li Rongxing, Hao Tong, Qiao Gang

Near real-time detection of abnormal vessels' behaviors and vessel sourced pollution in Sri Lanka's maritime zones: An investigation

Mahindapala Kamal

Assessment and comparison of landslide susceptibility at open-pit mines in North Korea using GIS

Koo Younghyun, Oh Myeongchan, Yang Aran, Park Hyeong-Dong

Measuring the diffusion of influence among ports using real time data

Peng Peng, Lu Feng

Mapping of wildfire occurrence and analysis of its yearly variation factors the peat swamp forest in Indonesia

Takayama Naru, Terao Tsubasa, Segah Hendrik, Gumiri Sulmin

Using satellite remote sensing to study the effect of sand excavation on the suspended sediment in the Hong Kong-Zhuhai-Macau Bridge region

Tang Shilin, Chen Chuqun, Zhang Tonghui

Relationship between land use and water quality - A case study of the Mun River Basin in Thailand

Liu Gaohuan, Zhao Zhonghe

Flood vulnerability calculation in urban areas using High-Resolution Digital Earth data and model

Masoumi Zohreh, van Genderen John, Maleki Jamshid

Applying multi-classification techniques using satellite imagery to detect and evaluate the land-use/land-cover changes and its effects on the heritage site of Naqsh-e Jahan Square at Isfahan, Iran

Elfadaly Abdelaziz, Molaei Qelichi Mohamad, Safdari Molan Amin, Murgante Beniamino, Lasaponara Rosa

Identifying the original Pharaonic land boundary around the historical tells using remote sensing indices and change detection method according to multi-sensors at Kafr El-Shaikh governorate, Egypt

Elfadaly Abdelaziz, A. R. Abouarab Mohamed, R. M. El Shabrawy Radwa, Lasaponara Rosa

Proposals on the development of China's Smart Ocean

Shi Suixiang, Cui Xiaojian, Jiang Xiaoyi

DIGITAL TRANSFORMATION PROCESSES AND TECHNOLOGIES FOR DIGITAL EARTH

The Implementation of OGC Vision of Data Cubes in EarthCube CyberWay

Di Liping, Sun Ziheng, Yu Eugene, Guo Liying

SafeScale, a cloud agnostic solution

Dorgan Sébastien

Knowledge Extracted from Copernicus Satellite Data

Dumitru Octavian, Schwarz Gottfried, Eltoft Torbjørn, Kræmer Thomas, Wagner Penelope, Hughes Nick, Arthus David, Fleming Andrew, Koubarakis Manolis, Datcu Mihai

Data hypercubes in orbit

Fantin Daniele, Aas Christina, Thorvaldsen Andreas, Gailis Janis, Soukup Michael, Jozefiak Maria

(Sub)mesoscale Oceanic Eddy Detection and Analysis Based on Artificial Intelligence AI

Le Gao, Li Xiaofeng

Quality Assessment of Semantic Tags in OpenStreetMap

Hoffmann Eike Jens, Werner Martin, Zhu Xiao Xiang

A Docker-based HPC architecture for remote sensing imagery processing

Hu Fenghua, Zhang Jingliang

Artificial Intelligence at the service of Geospatial Information (AI4GEO)

Hutin Lydia, Souille Gwénaél

3D Indoor Path Analysis in Digital Earth Science Platform: 3D Modelling, Path Routing and Visualization

Jian Hongdeng, Fan Xiangtao, Liu Jian, Jin Qingwen, Kang Xujie

Establishment and Application of Marine Scientific Data Sharing Service

System of China

Jiang Xiaoyi, Kang Linchong, Wang Yi, Fu Yu

Measuring public transport accessibility based on Google Direction API

Jin Fengjun

The Study and Application of Marine Environmental Visualization based on WebGL

Kang Linchong, Jiang Xiaoyi, He Long, Guo Xue

Practices of Ocean Information Resource Sharing at SCSIO

Xu Chao, Li Sha

Seasonal prediction of summer hot days over China and Indochina peninsula using CAS-ESM component models

Lin Zhaohui, Yu Yue, Torsri Kritanai, Zhang He

EarthDataMiner: A Cloud-Based Big Earth Data Intelligence Analysis Platform

Liu Jie, Wang Shuai, Yang Guang, Wang Wei, Zhong Hua, Ye Dan

EOxCloudless - Exploitation Ready Satellite Imagery, Source Data for Viewing and Analysis

Meißl Stephan, Ungar Joachim, Ševčík Petr, Pari Silvester, Schindler Fabian, Santillan Daniel

Digital solution for enhancing geotourism around urban areas: GFOSS for geosites promotion in “Quebrada de Las Conchas” (Salta, NW Argentina)

Cencetti Corrado, De Rosa Pierluigi, Fredduzzi Andrea, Melelli Laura, Rivelli Felipe, Armata Carolina

Big Earth Datacube Services: Concepts, Standards, Tools

Baumann Peter, Merticariu Vlad

In a Nutshell: The Miraculous World of Coverages

Baumann Peter, Merticariu Vlad

Long-Term Software Preservation: a practical case

Sacramento Paulo, Iozzino Daniele, Albani Mirko

Digital Image Improvement by Integrating Images of Different Resolutions
Scarmata Gabriel

PPresil: a tool to estimate seasonality trend in uneven and sparse time series

Vicario Saverio, Adamo Maria, Tarantino Cristina, Blonda Palma

The Resource Discipline Innovation Platform driven by Big Data and Application Scenarios

Wang Juanle

Location-based Immersive Experiences and Digital Heritage

Wortley David

Machine-Learning Based LIDAR-Aided Dual-Baseline PolInSAR Method for Forest Height Estimation

Xie Yanzhou, Zhu Jianjun, Fu Haiqiang, Xie Qinghua

Data Curation of Scientific Investigation over the South China Sea

Xu Chao, Li Sha

A novel process-oriented graph storage for dynamic geographic phenomena

Xue Cunjin, Wu Chengbin

An innovative full-scale nested air quality prediction modeling and displaying system in China

Yang Ting

Intellectual information platform bringing together diverse data and models for the interdisciplinary projects implementation and environmental management

Zelentsov Viacheslav, Ptryasaev Semen, Pimanov Ilya

Remote Sensing data for the investigation of geo-hazard: EO4GEO project and the knowledge sharing challenges

Cipolloni Carlo, Comerci Valerio, Delfini Claudia, Ferrigno Federica, Guerrieri Luca, Leoni Gabriele, Spizzichino Daniele, Ventura Renato

Looking forward, the digital future is upon us: Earth Observation as a pivotal element for Next Gen Education and Employment
Chisholm Laurie

BigDataCube: Introducing Public/Private Datacube Partnerships
Baumann Peter, Merticariu Vlad

EO Exploitation Platform Common Architecture
Conway Richard, Aragon Trujillo Ana Helena

Building capacity for local food resilience: A case study in Queensland, Australia
Reis Kimberley, Desha Cheryl

Open Data Cube (ODC) Benchmarking: Approaches, Challenges, and Experience
Rizvi Syed, Killough Brian, Cherry Andrew, Rattz John

SENSORS AND REMOTE SENSING TECHNIQUES FOR DIGITAL EARTH

Cultural Heritage Mapping on Malay Sultanate Kingdom using Mobile Laser Scanner in Alor Setar, Kedah.
Abdullah Alias, Mohd Noor Norzailawati, Abdullah Muhammad Afiq Aiman

Inter-Calibration of Nighttime Light Data Between DMSP/OLS And NPP/VIIRS in the Economic Corridors of Belt And Road Initiative
Bian Jinhui, Li Ainong, Lei Guangbin, Zhang Zhengjian, Nan Xi

DCS4COP and EODataBee: a novel EO data interaction capability
Brandt Gunnar, Brockmann Carsten, Van Der Zande Dimitry, Knaeps Els, Forster Rodney, Doxaran David, Silva Tiago, Sørensen Kai, Perez Ana, Fomferra Norman

Floodwater detection in urban areas using Sentinel-1 InSAR coherence
Chini Marco, Pelich Ramona, Pulvirenti Luca, Pierdicca Nazzareno, Hostache Renaud, Matgen Patrick

Wide-area observations of surface deformation in Mexican urban areas and geothermal fields using ENVISAT InSAR
Cigna Francesca, Tapete Deodato, Muñiz-Jauregui Jesús Arturo, Garduño-Monroy Víctor Hugo, García Oscar, Jimenez Haro Adrian

The Norwegian National Ground Segment for Satellite Data; Exploiting the Sentinels.
Halsne Trygve, Saadatnejad Bard, Dinessen Frode, Godøy Øystein, Breivik Lars-Anders, Budewitz Nico

A process for the accurate reconstruction of pre-filtered and compressed digital aerial images
Scarmana Gabriel, Mcdougall Kevin

Quick and Low-cost High Resolution Remote Sensing using UAV and Aircraft to Address Initial Stage of Disaster Response
Sugita Satoru, Fukui Hiromichi, Inoue Hiroshi, Asahi Yuji, Furuse Yuichi

Mapping impact of urbanization in Shahat-Cyrene (Libya) using a big SAR data approach of change detection with COSMO-SkyMed time series
Tapete Deodato, Cigna Francesca

The Great Wall Deformation Monitoring Research and Application Based on TLS
Wang Liwei, Xiong Xiaokang, Hao Shengwang, Wang Ding

Multi-platform multi-scale InSAR-based surface displacement measurements over Mexico City for supporting ground and infrastructure stability evaluations
Solano-Rojas Dario, Wdowinski Shimon, Cabral-Cano Enrique, Havazli Emre, Osmanoglu Batuhan

Estimation of winter wheat leaf area index at different growth stages using optimized red-edge hyperspectral vegetation indices
Xing Naichen, Huang Wenjiang, Pignatti Stefano, Casa Raffaele, Laneve Giovanni

Fine land-cover mapping at 30 m using an operational SPECLib-based classification approach

Zhang Xiao, Liu Liangyun

GF5-Based water quality monitoring of China East Dongting Lake

Zhang Qing, Zhou Mei, Liu Yinnian, Sun Dexin, Li Qingli

Methods and Research Progress of Underlying Topography Estimation over Forest Areas by InSAR

Zhu Jianjun, Fu Haiqiang, Wang Changcheng

Mapping the succession rate of Mangroves from *Nypa Fruticans* using Landsat and NigeriaSat-X: A Sustainability Discourse

Ujoh Fanan, Kwabe Isa Dlama, Ebohon Obas John

3D measurements of geomorphic fault offsets based on High-Resolution satellite images: implication for seismogenic active faulting

Abedi Farzaneh, Masoumi Zohre, Shabani Esmaeil, Salvi Stefano, van Genderen John

SOCIAL PROGRAMME

The social programme complements the scientific programme of the Symposium and it will create many enjoyable occasions to mingle, talk, meet old friends and make new ones, in the special atmosphere of Florence.

The social programme consists of a welcome cocktail on **Tuesday, September 24th** and a closing reception on **Friday, September 27th** – both included in the registration fee. The Symposium social dinner (with additional admission fee) will take place on **Thursday, September 26th** in a magnificent panoramic location representative of Florence and its enchanting beauty.

WELCOME COCKTAIL
Tuesday, September 24th 2019
18:00 - 20:00

Palazzo Vecchio - Sala d'Arme



The Symposium opening ceremony and welcome cocktail will take place in Palazzo Vecchio, the historical town hall of Florence dating back to 1299. The Opening Ceremony will be hosted in the grandiose **Salone dei Cinquecento**, the largest and most important hall of the palace, which was used for the assemblies of the General Council of the People, after the State reforms brought about by Girolamo Savonarola. Paneled ceilings and large wall frescoes by Leonardo and Michelangelo, golden decorations and imposing sculptures will leave you admiring in marvel. The welcome cocktail shall follow right afterwards.

SOCIAL DINNER
Thursday, September 26th 2019
19:30 - 22:00

Grand Hotel Baglioni



The Symposium Social Dinner will take place on the rooftop of the **Grand Hotel Baglioni**, just a few steps away from the Symposium venue.

It will be a great opportunity to mingle, savor food and wine of the Tuscan tradition and enjoy a spectacular panoramic view of Florence's skyline. Participants will feel like they can almost touch Brunelleschi's dome and Giotto's Tower!

Price per person: € 70,00

CLOSING RECEPTION
Friday, September 27th 2019
13:30 - 14:30

Villa Vittoria



The Closing Reception of the Symposium will take place in the beautiful, centuries-old garden of **Villa Vittoria**, where participants can enjoy a glass of prosecco for a final toast to the Symposium.

SYMPOSIUM VENUE



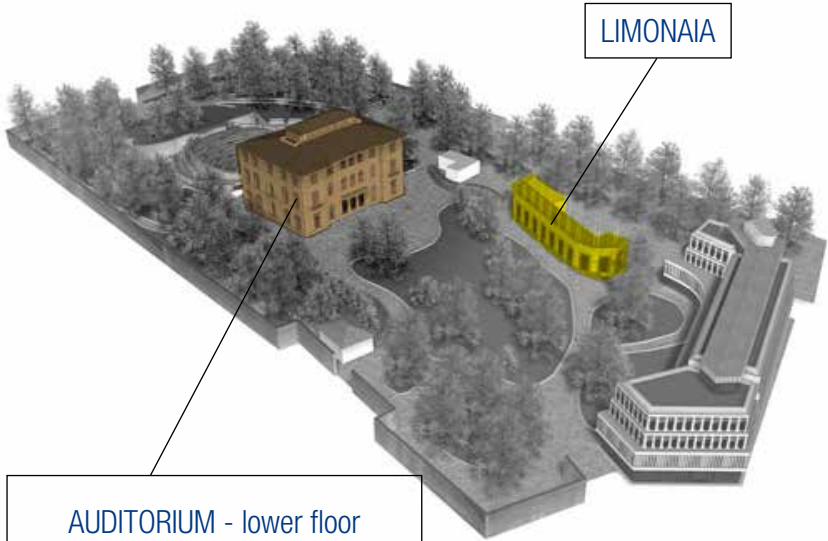
The congress center is just a few steps from the Central Railway Station of Santa Maria Novella and 4 km from the motorway exit (A1 Firenze Nord) and the International Airport “Amerigo Vespucci”.

The **Palazzo dei Congressi** (Congress Center) is hosted in a 19th century villa, **Villa Vittoria**, which is located very close to the historical center of the city and it is surrounded by a centuries-old park with rare and original trees and plants, according to the original project by architect Poggi. The building boasts a prestigious congress hall, the Auditorium, with an overall capacity of 1,000 seats and a 920 sqm annexed area available for exhibitions.

The meeting halls are all equipped with the latest and most advanced comforts and technical solutions, such as the 4th-generation Wi-Fi system, offering to all participants a safe and high-density connectivity, and a complete range of customized services. Access to all public premises and halls is guaranteed for persons with reduced mobility.

PALAZZO DEI CONGRESSI

SYMPOSIUM AREA

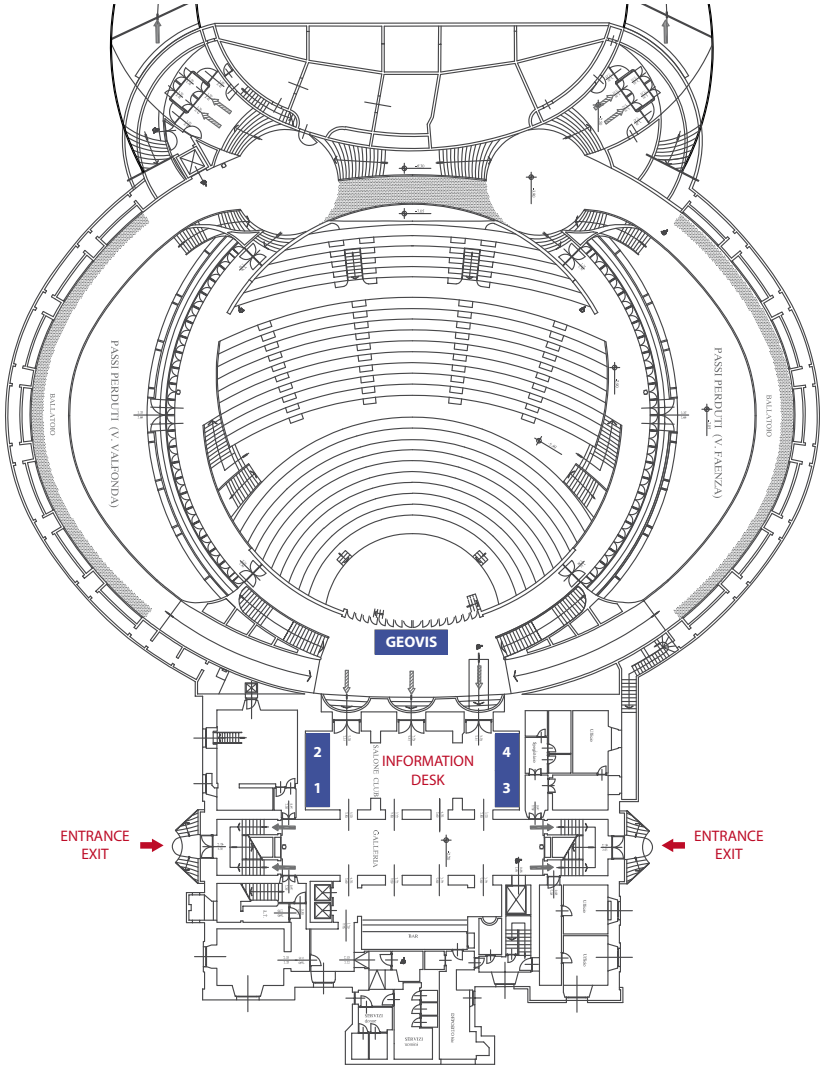


LIMONAIA

AUDITORIUM - lower floor
POSTER AREA - lower floor
EXHIBITION AREA - lower floor
ROOM ONICE - ground floor
ROOM 4 - ground floor
ROOM 103 - first floor
ROOM VERDE - second floor

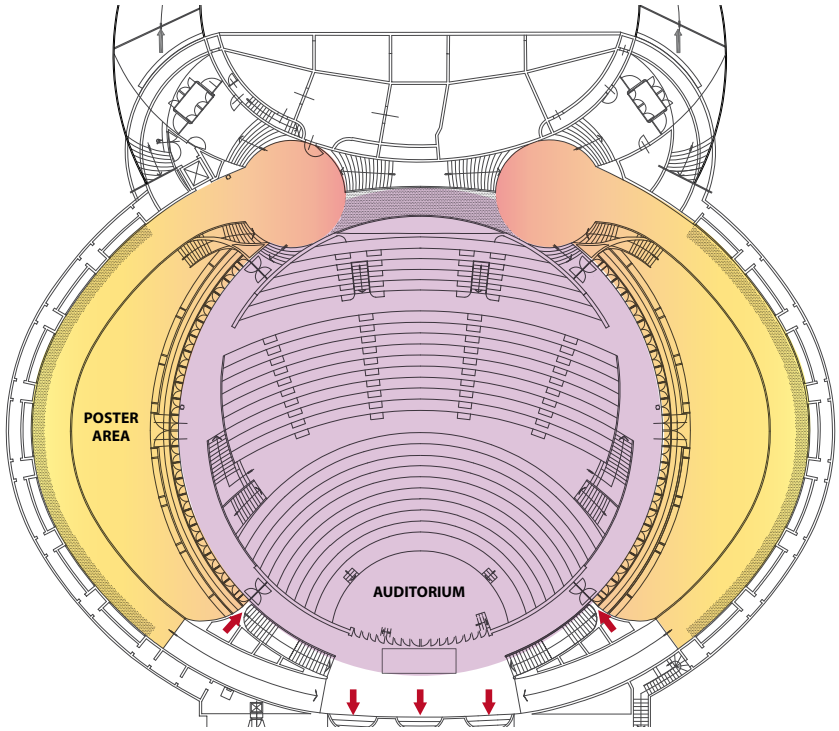
EXHIBITION AREA

PALAZZO DEI CONGRESSI - LOWER FLOOR



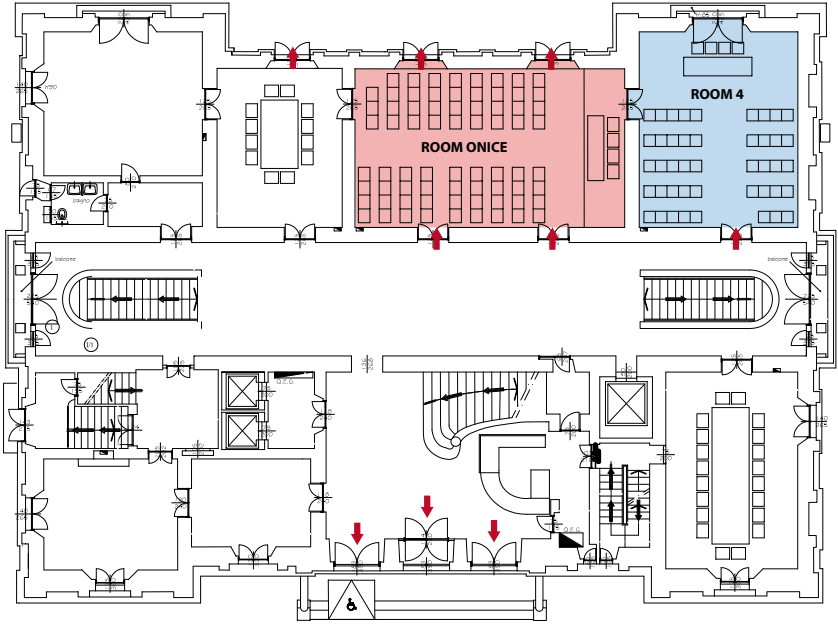
LOWER FLOOR

AUDITORIUM & POSTER AREA



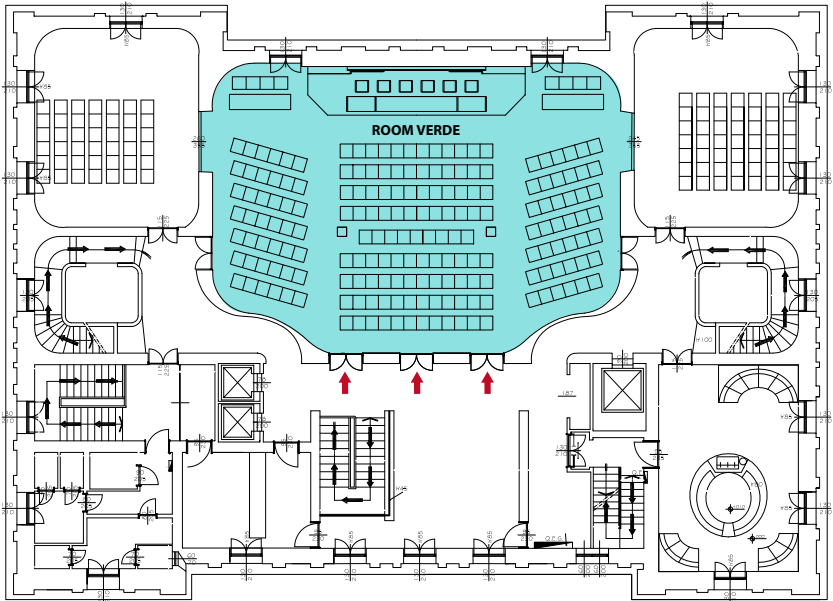
GROUND FLOOR

ROOM ONICE & ROOM 4

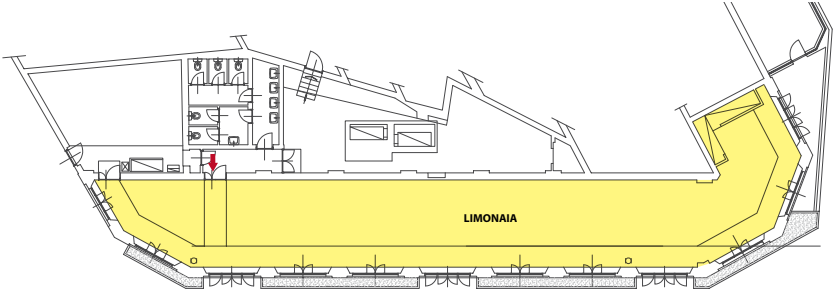


SECOND FLOOR

ROOM VERDE



LIMONAIA



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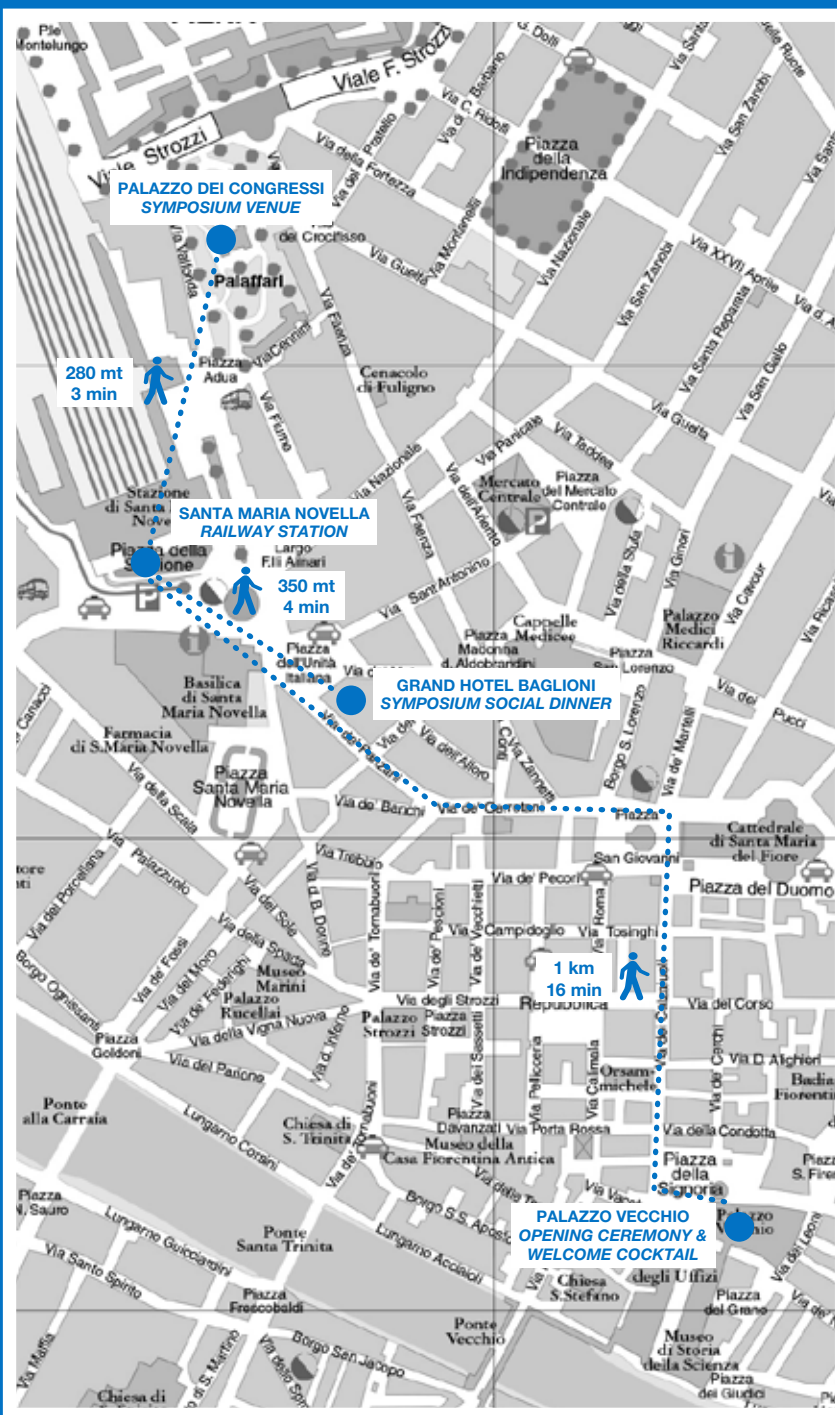
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**PALAZZO DEI CONGRESSI
SYMPOSIUM VENUE**

280 mt
3 min

**SANTA MARIA NOVELLA
RAILWAY STATION**

350 mt
4 min

**GRAND HOTEL BAGLIONI
SYMPOSIUM SOCIAL DINNER**

1 km
16 min

**PALAZZO VECCHIO
OPENING CEREMONY &
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