

Sept. 25, 2019

Palazzo dei Congressi

GRAND DEBATE ON TRUST AND ETHICS IN DIGITAL EARTH

8: 45 10: 30

10: 30 11: 00

Coffee Break

11: 00 11: 30

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

11:00 11:40
Urban geomorphological heritage: digital data and management
Emmanuel Reynard - KEYNOTE

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

11:00 11:15
Satellite time series to detect marsh dieback events and potential environmental influences along coastal South Carolina, USA
(Susan) Wang Cuizhen

11:15 11:30
A process-oriented approach for mining global sea surface temperature abnormal variations
Cunjin Xue

11:30 11:45
Proposals on the development of China's Smart Ocean
Jin Liu

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

11:30 11:45
A participatory platform for comprehensive geographic problem solving
Zaiyang Ma

11:00 11:40
IEEE GRSS initiatives to share, understand and analyze EO data
Paolo Gamba - KEYNOTE

11:40 12:00
Digital Real-Time Sharing of Cultural Heritage
Grazia Caradonna

11:45 12:00
Digital Twin of Past Cityscapes
Chiara Piccoli

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

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

11:40 12:00
Developing Standards for Earth Observation Data Products
Siri Jodha Khalsa

12:00 12:20
Geospatial 3D modeling for sustainable safeguarding native Malay urban Architectural in Malaysia
Norzailawati Mohd Noor

12:00 12:15
Digital Twin of the Lekdiik
Martin Peersmann

12:00 12:15
Post-hurricane coastal inundation area mapping from bi-temporal SAR images based on deep convolutional neural networks
Bin Liu

12:00 12:15
O-PARK - A standardized platform for continuous monitoring of the Paneveggio Pale di San Martino Nature Park
Paolo Petrinca

12:00 12:20
The IEEE GRSS Data and Algorithms Standard Evaluation (DASE) platform and the IEEE GRSS Data Fusion Contest initiative
Gabriele Moser

12:20 12:40
HUSH app: digital tools to explore the natural patrimony of urban areas
Luisa Liucci

12:15 12:30
Data Cities and Astrospatial Architecture: An urban ethos from electromagnetic fluxes
Davina Jackson

12:15 12:30
East Antarctica Velocity Map of 1963-1989 Based on Historical Images
Rongxing Li

12:15 12:30
Sensor Web Evolution - Webs of Webs for NASA Science - Focus on small Uninhabited Aerial Systems (sUAS)
Don Sullivan

12:20 12:40
Big Data from Space for Precision Agriculture Applications
Yady Tatiana Solano Correa

12:40 13:00
Monitoring urbanization at global scale – the world settlement footprint
Mattia Marconcini

12:30 13:00
Open Discussion with speakers and audience: Opportunities, challenges, lessons learned

12:30 12:45
Assimilation of Satellite Remotely Sensed Winds for Typhoon Forecasting: Progress and Perspective
Xiaofeng Yang

12:45 13:00
Using satellite data to study the distribution and propagation characteristics of internal waves in the Andaman Sea
Shilin Tang

12:30 12:45
New Web-Based services for Earth Observation applications
Marie-Francoise Voidrot

12:45 13:00
RUS: A New Expert Service for Copernicus Sentinel Data Users
Eric Guzzonato

12:40 13:00
Improving information extraction in EO big data by image selection based on capacity investigation
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			
		14:30	15:10	The importance of continuous, comprehensive observations: the potential of SMEAR concept <u>Joni Kujansuu</u> KEYNOTE	14:30	14:50	Community-oriented Sharing Platforms in Space 4.0 <u>Erik P.M. Vermeulen</u>	14:30	14:35	Intro <u>Gregory Giuliani</u>	14:30	14:50	Digital Approach to Forest Cover Mapping: a Case Study of Forest-Tundra in near-Yenisei Siberia <u>Vera Ryzhkova</u>				
		14:50	15:10	How Earth Observation is fuelling the Digital Revolution <u>Martin Polak</u>	14:45	14:55	The Swiss Data Cube : Earth Observations for monitoring Switzerland's environment in space and time <u>Gregory Giuliani</u>	14:50	15:10	Spatiotemporal variations and regional differences of extreme climate events in the Coastal area of China <u>Xiaoli Wang</u>							
		15:10	15:30	In-Service Aircraft for a Global Observing System (IAGOS) Research Infrastructure <u>Hannah Clarks</u>	15:10	15:30	CLEOS (Cloud Earth Observation Services), e-GEOS concept of Satellite Data Platform <u>Domenico Grandoni</u>	15:05	15:15	Realtime Planetary-Scale Datacube Fusion <u>Vlad Merticariu</u>	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 <u>Fukui Hiromichi</u>				
		15:30	15:50	ACTRIS aerosol profiling database: new design and new products for a wider use of aerosol lidar data <u>Lucia Mona</u>	15:30	15:50	New ways of accessibility - Facilitating a Network of European EO Resources (NoR) <u>Maria Hochleitner</u>	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) <u>Sved Rizvi</u>	15:30	15:50	Vegetation phenology change and climate feedback: from earth observation to simulation <u>Xiyun Xu</u>				
		15:50	16:10	Cloud remote sensing in ACTRIS <u>Simo Tukiainen</u>	15:50	16:10	Open Earth Engine - a versatile cloud EO processing & analytic capability <u>Patrick Griffiths</u>	15:25	15:35	OGC Geospatial Data Cube Community Practice <u>Marie-Francoise Voidrot</u>	15:50	16:10	OBIA approach as support to vegetation change tracker algorithm for quantifying vegetation changes in a Mediterranean coastal ecosystem <u>Alessandra Capolupo</u>				
		16:10	16:30	Exploitation of ACTRIS/CLOUDNET in assessing the effect of thin cloud contamination on the retrieval of solar induced fluorescence <u>Giulia Saponaro</u>	16:10	16:30	DISCUSSION	15:45	15:55	Using Data Cubes and Jupyter notebooks in Docker containers to teach big Earth data <u>Martin Sudmanns</u>	16:10	16:30	Digital Earth and main conandrum of cartography <u>Eugene Eremchenko</u>				
16:30	17:30	Coffee Break & Poster Session															
17:30	19:00	GRAND DEBATE ON DIGITAL EARTH FOR UN SUSTAINABLE DEVELOPMENT GOALS															

Sept. 26, 2019

Palazzo dei Congressi

9:00 10:30 PLENARY SESSION

10:30 11:00 Coffee Break

11:00 13:00	<p>Digital Earth and Young Innovators: the Italian case Chair: Gabriele Ferrieri</p> <p>ROUND TABLE DISCUSSION (12:30 - 13:30) "From Da Vinci to Nakamoto: Innovation, Trust and Logic under the sign of Blockchain adoption" Moderator: Niccolò Quattrini</p>	<p>Multi-source satellite data for agronomical operational products Co-Chairs: Giovanni Laneve, Wenjiang Huang</p>	<p>Digital Earth contribution to Society through ISDE community collaboration Chair: Cheryl Desha</p>	<p>Earth Observation Data to Knowledge Value Chains Chair: Markus Stocker</p>
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11:00 13:00	<p>Moderator: Maria Antonietta Cruciani</p> <p>Presenters:</p> <p>Gabriele Ferrieri, ANGI</p> <p>Roberto Baldassari, GFP Inspiring Research</p> <p><u>Carlo Corazza</u>, European Parliament Offices in Italy</p> <p><u>Dino Fortunato</u>, UNIDO ITPO</p> <p><u>Anna Maria Pastore</u>, FAO</p> <p>Pierluigi Sassi, Earth Day Italia</p> <p>Stefano Maggi, University of Siena</p> <p><u>Enrico Nardelli</u>, Informatics Europe</p> <p>Antonio Ferrieri, Gruppo Mirica</p> <p>Alessandra Castelli, Sail Post - Gruppo Citypost Spa</p>	<p>11:00 11:25 <u>Multi-source EO data for supporting agriculture management in Africa</u> <u>Giovanni Laneve</u> KEYNOTE</p> <p>11:25 11:50 <u>Crop diseases and pests monitoring and forecasting system</u> <u>Wenjiang Huang</u> KEYNOTE</p> <p>11:50 12:00 Food Security TEP - Supporting Sustainable Intensification of Food Production from Space <u>Michael Holzapfel</u></p> <p>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 <u>Bhagawat Rimal</u></p> <p>12:10 12:20 <u>Clustering of multispectral satellite time series for constant pattern retrieval at the field level</u> <u>Simone Pascucci</u></p> <p>12:20 12:30 <u>A generalized classification approach for permanent and row crops</u> <u>Roberto Luciani</u></p> <p>12:30 12:40 <u>Development of a tool for automatic bare soil detection from multitemporal satellite optical imagery for digital soil mapping applications</u> <u>Nada Mzid</u></p> <p>12:40 12:50 <u>SIM: Smart Irrigation from Soil moisture forecast using satellite and hydro-meteorological modelling</u> <u>Nicola Paciolla</u></p> <p>12:50 13:00 <u>Efficient Corn Cultivation Area Identification with Multitemporal Synthetic Aperture Radar and Optical Images in the Google Earth Engine Cloud Platform</u> <u>Fuyou Tian</u></p>	<p>11:00 11:20 <u>An International Collaboration towards Transformed Engineering Practice in Digital Earth</u> <u>Cheryl Desha</u></p> <p>11:20 11:40 <u>Innovation journey of the Digital Earth Node (DEN): Experiences, ideas and future opportunities</u> <u>Luis Perez-Mora</u></p> <p>11:40 12:00 <u>Digital Earth - the next paradigm</u> <u>Richard Simpson</u></p> <p>12:00 12:20 <u>Three-Dimensional Mapping - When 3D Models of Real Environment Become 3D Maps</u> <u>Temenujka Bandrova</u></p> <p>12:20 12:40 <u>Unlock and use EO/geospatial data for SDG by empowering stakeholder engagement in a transformed society</u> <u>Gabor Remetey-Fülöpp</u></p> <p>12:40 13:00 <u>Grasping the Global with Digital Earth</u> <u>Mary Farqher</u></p>	<p>11:00 11:15 Welcome and introduction <u>Markus Stocker</u></p> <p>11:15 11:30 <u>The Minamata Knowledge Platform: from data to knowledge supporting Minamata Convention on Mercury</u> <u>Sergio Cinnirella</u></p> <p>11:30 11:45 <u>The ICOS Atmosphere use case: from raw data to knowledge of societal relevance</u> <u>Margareta Hellström</u></p> <p>11:45 12:00 <u>From Data to Knowledge using the the GEOSS platform to support Sustainable Development Goals</u> <u>Gregory Giuliani</u></p> <p>12:00 12:15 <u>Water data standards by the Hydrology Domain Working Group of WMO and OGC - from development to implementation and adoption</u> <u>Tony Boston</u></p> <p>12:15 12:30 <u>Achievements and challenges of the new Urban Centre Database derived from the Global Human Settlement Layer data</u> <u>Marcello Schiavina</u></p> <p>12:30 12:45 <u>Integrated capacity building for faster uptake of Earth observation data in knowledge value chains</u> <u>Bente Bye</u></p> <p>12:45 13:00 DISCUSSION</p>
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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
14:30	14:35	<u>Intro</u> <u>Cristina Nativi</u>				
14:30	14:40		14:30 14:50 <u>AHSI: The Hyperspectral Imager on Chinese GF-5 Satellite</u> <u>Yin-Nian Liu</u>		14:30 14:40 <u>CASEarth: concept and framework</u> <u>JIA Gensuo,</u> <u>YAN Dongmei</u>	14:30 14:45 <u>AI in Photogrammetry and Remote Sensing for Digital Earth</u> <u>Deren Li</u>
14:35	15:05	<u>Metabolomics: big data first need to be good data</u> <u>Claudio Luchinat - KEYNOTE</u>	14:30 15:10 <u>Highlights on the hyperspectral PRISMA mission: planned and ongoing scientific activities.</u> <u>Stefano Pignatti</u>	14:30 15:10 <u>Monitoring Urban Areas with Multi-Temporal SAR Data: Current and Future Trends</u> <u>Alessandro Ferretti - KEYNOTE</u>	14:40 14:50 <u>Digital Earth Science Platform of Chinese Academy of Sciences</u> <u>Xiaoping Du</u>	14:45 15:00 <u>Assessing below-ground carbon dynamics of green infrastructure using artificial intelligence, targeting sub-tropical bioretention basins.</u> <u>Cheryl Desha</u>
15:05	15:25	<u>Environmental microbiomics and big data</u> <u>Duccio Cavalieri</u>	15:10 15:30 <u>Application of Chinese new generation hyperspectral satellite in monitoring of inland water quality</u> <u>Junsheng Li</u>	15:10 15:25 <u>National Scale P-SBAS DInSAR Mapping within Cloud Computing Infrastructures</u> <u>Riccardo Lanari</u>	14:50 15:00 <u>CASEarth Cloud: architecture and services</u> <u>Jianhui Li</u>	15:00 15:15 <u>How Citizen Science and Artificial Intelligence can support Digital Earth</u> <u>Sven Schade</u>
15:25	15:45	<u>The value of and impediments to Open Data Sharing of microbial Whole Genome Sequences (WGS).</u> <u>Joergen Schlundt</u>	15:30 15:50 <u>The Pavia test site: a comparison of airborne and satellite data sets</u> <u>Paolo Gamba</u>	15:25 15:40 <u>Nationwide Sentinel-1 based Persistent Scatterer Interferometry datasets and products in the framework of the Ground Motion Service Germany</u> <u>Andre Cahyadi Kalia</u>	15:00 15:10 <u>The CAS Earth Three Poles Big Data Project</u> <u>Xiaoduo Pan</u>	15:15 15:30 <u>Using Social Media to Mine and Analyse Public Sentiment during a Disaster: A Case Study of the 2018 Shouquang City Flood in China</u> <u>Xuehua Han</u>
15:45	16:30	ROUND TABLE	15:50 16:10 <u>GF-5 Hyperspectral Image Enhancement using Sparse Tensor Robust Principal Component Analysis for Fine Classification of Coastal Wetlands in Yellow River Estuary, China</u> <u>Weiwei Sun</u>	15:40 15:55 <u>Building Maps derived from Sentinel-1 SAR Data</u> <u>Marco Chini</u>	15:10 15:20 <u>Challenges and Opportunities in Establishing China Infrastructure for Big Biodiversity Data</u> <u>Li Zhu</u>	15:30 15:45 <u>Linked Data Approach to Water Resources Management of Hydropower Reservoirs</u> <u>Mariana Damova</u>
			16:10 16:30 <u>Optimal Hyperspectral Vegetation Indices for Winter Wheat Fusarium Head Blight Detection in Canopy Scale</u> <u>Linyi Liu</u>	15:55 16:10 <u>Impervious Surface Mapping Using Sentinel-1 Cross-Pol Coherence and Decorrelation Time</u> <u>Francesco Asaro</u>	15:20 15:30 <u>CASEarth China sub-system and case studies</u> <u>Ting Yang</u>	15:45 16:00 <u>ADAM - Advanced geospatial data management data cube platform for environmental data</u> <u>Stefano Natali</u>
				16:10 16:30 <u>An Innovative Platform for the Monitoring and the Forecast in Real-Time of Water Resources: the Hydrocontroller Project</u> <u>Simonetta Paloscia</u>	15:30 15:40 <u>Big Earth data for assessing the Eco-environment along China-Pakistan economic corridor</u> <u>Ainong Li</u>	16:00 16:15 <u>EUMETSAT – Effective Search and Access APIs for EO Data to Knowledge Value Chains</u> <u>Uwe Voges</u>
					15:40 15:50 <u>Change characteristics of vegetation cover in global coastal areas based on GIMMS NDVI3g data</u> <u>Xiyong Hou</u>	16:15 16:30 <u>Towards a web service for rapid landslide mapping based on Copernicus data</u> <u>Florian Albrecht</u>
					15:50 16:00 <u>A Multiple Dag Workflow Scheduling and Execution Method Based on Predicted Runtime</u> <u>Yong Xue</u>	
					16:00 16:30 DISCUSSION	
16:30 17:30 Coffee Break & Poster Session						
17:30 19:00 GRAND DEBATE ON ISDE IN A TRANSFORMED SOCIETY						

Sept. 27, 2019

Palazzo dei Congressi

9:00		11:00		DIGITAL BELT and Road Programme Co-Chairs: John van Genderen, Jie Liu		Transforming society with Citizen Observatories Chair: Uta Wehn		Copernicus Session Chairs: Cristina Ananasso, Mario Hernandez, Simon Jutz		
9:00	9:15	Advanced multi-technique and multi-platform space technologies facilitate the development of "Digital Heritage" <i>Fulong Chen</i>		9:00	9:30	Introduction to citizen observatories & session structure <i>Uta Wehn</i>		9:00	9:10	<u>COPERNICUS programme and its Benefits for the citizen</u> <i>Cristina Ananasso</i>
9:15	9:25	Multi-temporal SAR and optical change detection with COSMO-SkyMed and Copernicus Sentinels for digital recording of cultural heritage at risk <i>Deodato Tapete</i>		9:30	9:45	CAROUSEL SESSION Pitch per station – All presenters - 1 min. each		9:10	9:20	<u>COPERNICUS Space fleet – Current & Future</u> <i>Simon Jutz</i>
9:25	9:35	Capturing crop marks in Apulia region based on the enhancement of multispectral satellite images. <i>Rosa Lasaponara</i>		9:45	10:00	15 minutes per session A data quality service for citizen observatories <i>Joan Masó</i>		9:20	9:30	<u>Copernicus In-Situ Component</u> <i>Matteo Mattiuzzi</i>
9:35	9:45	InSAR tool for the preventive monitoring and sustainable development of the historical center of Athens and a field check development Asimakis Fylaktos		10:00	11:00	Co-designing citizen observatories for sustainability: the Ground Truth 2.0 methodology <i>Uta Wehn</i>		9:30	9:40	<u>Copernicus Data and Information Access Service</u> <i>Daniel Quintart</i>
9:45	9:55	Detecting seismic damage scars in monuments through a joined use of historical sources and infrared thermography <i>Fabrizio Terenzio Gizzi</i>		10:00	11:00	Citizen observatories filling in knowledge gaps in local and global environmental monitoring and management objectives <i>Steven Loiselle</i>		9:40	9:50	<u>Copernicus Security Service(s)</u> <i>Rui Meneses</i>
9:55	10:05	The Open Source Framework of 4th Generation Digital World Heritage Sites: WikiHeritage <i>Annie, Yen-Lin Liu</i>		10:00	11:00	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 <i>Andrea Giacomelli</i>		9:50	10:00	<u>Copernicus Emergency Management Service</u> <i>Annett Wania</i>
10:05	10:15	A Web Based Lightweight Fully Automatic Cultural Heritage 3D Modelling and Visualization System <i>Xianfeng Huang</i>		10:00	11:00	RitmeNatura- A citizen observatory focused on phenology in Spain to better prepare for Climate Change "Ground Truth 2.0 session" <i>Elizabeth Gil-Roldán</i>		10:00	10:10	<u>Copernicus Atmosphere Monitoring Service</u> <i>Carlo Buontempo</i>
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 <i>Wei Zhou</i>		10:00	11:00	Building a Land User Mapper based on citizen contributions <i>Mark de Blois</i>		10:10	10:20	<u>Copernicus Climate Chance Service</u> <i>Carlo Buontempo</i>
10:25	11:00	Wrap up Discussion		10:00	11:00	A citizen observatory in Kenya that supports balancing sustainable livelihoods and biodiversity management <i>Simon Ndarao</i>		10:20	10:30	<u>Copernicus Land Monitoring Service - Global Component</u> <i>Annett Wania</i>
						ROUND TABLE DISCUSSION "How can Digital Earth contribute to the DBAR Programme?" Moderator: John van Genderen Panelists: Huadong Guo, Chairman, DBAR Programme <i>Massimo Menenti, TU Delft</i> Stefano Nativi, EC Joint Research Centre Fanan Ujoh, London South Bank University				
						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 <i>George Konstantakopoulos</i>		10:30	10:40	<u>Copernicus Land Monitoring Service - European Component</u> <i>Matteo Mattiuzzi</i>
						Capturing governance impact stories in citizen science initiatives, Citizen Observatories and community-based environmental monitoring projects <i>Mohammad Gharehsifard</i>		10:40	10:50	<u>Copernicus Marine Environment Monitoring Service</u> <i>Emanuela Clementi</i>
						Plenary discussion <i>Steven Loiselle</i>		11:00	11:30	<u>Copernicus Panel</u>

11:30 12:30

PLENARY SESSION

12:30 13:30

CLOSING CEREMONY