### Day 1: Wednesday, 2024 May 29: Magellan Room

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>11:45</td>
<td><em>Bus departure from Frascati (Piazza Marconi)</em></td>
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<tr>
<td>12:30</td>
<td>Registration opens</td>
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</table>
| 14:00–14:05 | Opening and General Information   
Zoltan Bartalis, Nicolas Longépé (ESA)  |
| 14:05–14:15 | Welcome and Introduction   
Rune Floberghagen (ESA)  |
| 14:15–14:30 | Overview of ESA EO Activities   
Zoltan Bartalis, Nicolas Longépé (ESA)  |

#### Session 1: Advanced Artificial Intelligence and Deep Learning for Super-Resolution Applied to Sentinel-2

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<thead>
<tr>
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| 14:30–14:50 | Sentinel-2 and Related Missions: Status Update   
Ferran Gascon (ESA)  |
| 14:50–15:10 | Super-Resolution of Multispectral Sentinel-2 Imagery with Latent Diffusion Models   
Simon Donike (University of Valencia, Spain)  |
Yosef Akhtman (Gamma Earth, Switzerland)  |
| 15:30–15:50 | Super-Resolution of Sentinel-2 Images Using the Second-order Attention Network and Geosat Images as Real Ground Truth Data   
Rubén Sesma (Tracasa Instrumental, Spain)  |
| 15:50–16:10 | Real-World Sentinel-2 Super-Resolution Relying on Task-Driven Training   
Michal Kawulok (KP Labs, Poland)  |
| 16:10–16:40 | Coffee Break  |
| 16:40–17:00 | Reasonable Super-Resolution and Self-Supervision   
Jérémy Anger (Kayros / ENS Paris-Saclay, France)  |
| 17:00–17:20 | From Multispectral to Hyperspectral: A Deep Learning Architecture Integrating GAN and Channel Attention for Enhanced Spectral Super-Resolution   
Zuzana Gawrysiak (Four Point, Poland)  |
| 17:20–17:40 | SEN2NAIP: Sentinel-2 Super-Resolution Dataset Using a Realistic Degradation Model   
Cesar Luis Aybar Camacho (University of Valencia, Spain)  |
| 17:40–18:00 | Building an Operational Shallow Sentinel-2 Single Image Super-Resolution Network for EVOLAND Prototypes: Lessons Learned   
Julien Michel (CESBIO, France)  |
| 18:00 | Ice-breaker and networking  |
| 19:00 | *Bus departure to Frascati (Piazza Marconi)* |

### Day 2: Thursday, 2024 May 30: Magellan Room

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<th>Time</th>
<th>Event</th>
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<tr>
<td>08:15</td>
<td><em>Bus departure from Frascati (Piazza Marconi)</em></td>
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<tr>
<td>08:30</td>
<td>Registration opens</td>
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| 09:30–09:50 | Overview of ESA Third-Party Mission Activities   
Montserrat del Riego (ESA)  |
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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| 09:50–10:10| Deep Learning for Restoration and Super-Resolution of Satellite Panchromatic Images  
Enrico Magli (Politecnico di Torino, Italy) |
| 10:10–10:30| Assessment of Deep Learning Approaches for Satellite Video Super-Resolution  
Thierry Germa (Magellium, France) |
| 10:30–10:50| Super-Resolution Research at UCL-MSSL Applied to Panchromatic and Multispectral EO and Mars Surface Data Over the Last Decade  
Jan-Peter Muller (University College London, United Kingdom) |
| 10:50–11:10| Super-Resolution of Sentinel-1 Imagery Using an Enhanced Attention Network and Real Ground Truth Data  
Juan Francisco Amieva (Tracasa Instrumental, Spain) |
| 11:10–11:40| Coffee Break                                                            |
| 11:40–12:00| Enhancing Night-Time Light Imagery for Sustainable Development: The SupR-NTL Project  
Alessandra Feliciotti (MindEarth, Switzerland) |
| 12:00–12:20| Unsupervised Evaluation of Super-Resolution Techniques on Thermal Remote Sensing Data  
Julia Gottfriedsen (Ororatech, Germany) |
| 12:20–12:40| Taming Super-Resolution Models for Cross-Sensor Applications  
Christian Mollière (Ororatech, Germany) |
| 12:40–13:00| Internal Learning for Satellite Image Super-Resolution  
Mikolaj Czerkawski (ESA Phi-Lab, Italy) |
| 13:00–13:20| Beyond Super-Resolution: Virtual Sensing  
Mihai Datcu (National University of Science and Technology POLITEHNICA Bucharest, Romania) |
| 13:20–14:30| Lunch                                                                 |
|            | **Session 3: Downscaling Techniques in the Context of Earth Science and Earth Observation Applications** |
| 14:30–14:50| Developing Purely 1-km High-Resolution Satellite-Derived Precipitation Estimation Using Machine Learning Algorithms  
Hamidreza Mosaffa (Research Institute for Geo-Hydrological Protection, National Research Council, Italy) |
| 14:50–15:10| AI for Urban Climate: Using EO-Based and Community Data for Air Temperature Downscaling at Urban Scales  
Maria Castro (+ATLANTIC CoLAB, Portugal) |
| 15:10–15:30| Super-Resolution of GOME-2 Nitrogen Dioxide (NO2) Data Using Sentinel-5P TROPOMI Observations: Beyond Temporal Aggregation to Train Atmospheric Models  
Riccardo Ratta (Università Degli Studi Di Ferrara, Italy) |
| 15:30–15:50| A Methodology Based on AI Modules for Super-Resolution of Sentinel-5P Level 1B Data and Sentinel-3 Level 2 LST Data  
Davide De Santis (Tor Vergata University of Rome, Italy) |
| 15:50–16:10| Enhancing Soil Moisture Resolution: Downscaling of SMOS Data over West Africa using Hybrid Model  
Odunayo David Adeniyi (University of Pavia, Italy) |
| 16:10–16:40| Coffee Break                                                            |
|            | **Session 4: Super-Resolution Product Quality, Adoption and Downstream Services** |
| 16:40–17:00| Incorporating Perceptual Quality Measures in Super-Resolution for Enhanced Environmental Monitoring: Sentinel-2 for Waste Detection  
Teodora Selea (GMV Solutions, Romania) |
| 17:00–17:20| Super Resolution Applied to Sentinel-2 Images for EO Applications and Services  
Vincent Poulain (Thales Services Numériques, France) |
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<pre><code>        | Ricardo Martínez Prentice (Cotesa, Spain)                            |
</code></pre>
| 17:40–18:00  | **Semi-Supervised Learning for Spatio-Temporal Super-Resolution Landcover Segmentation**  
            | Lukas Brodsky (Mapradix, Czech Republic)                             |
| 18:00        | **Poster and networking session**                                      |
| 19:00        | **Bus departure to Frascati (Piazza Marconi)**                        |

**Day 3: Friday, 2024 May 31: Magellan Room**

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<tr>
<th>Time</th>
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<tr>
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| 09:30–09:50  | Assessing the effectiveness and limitations of Super-Resolution in Satellite Remote Sensing  
            | Sherif Elsayed (Nabta Playa, Germany)                                |
| 09:50–10:10  | **Evaluating Real-World Super-Resolution of Hyperspectral Images**    |
            | Michal Kawulok (KP Labs, Poland)                                      |
| 10:10–10:30  | The HD Processing Algorithms Applied to VHR Optical Data: a Super-Resolution Use Case with Maxar Imagery Evaluated in the Context of the ESA/EDAP Project  
            | Sebastien Saunier (TPZ, France)                                       |
| 10:30–11:50  | **Coffee Break**                                                      |

**Super-Resolution Intercomparison Exercise (SuperIX)**

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| 10:50–11:50  | SuperIX: General presentation, dataset and metrics, toolkits and WebGIS portal presentation  
            | Luis Gómez Chova, Alfredo Kalaitzis, Gunnar Brandt, and the OpenSR consortium |
| 11:50–12:20  | **Discussion, manifestation of interest to join SuperIX**             |

**Wrap-Up and Closing**

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<tr>
<td>12:20–12:50</td>
<td>Wrap-Up from Session Chairs</td>
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<td>12:50–13:00</td>
<td>Closing Remarks</td>
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**ESA**
<table>
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<tr>
<th>Posters</th>
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| **Assessing Future Changes in Greenland Runoff Via a Deep Learning Emulator**  
Elke Schlager (Aarhus University, Denmark) |
| **Towards a Controllable Diffusion Model for Photo-Realistic Super-Resolution of Sentinel-2**  
Muhammad Sarmad (Norsk Regnesentral, Norway) |
| **Multi-Image Super-Resolution Underpinned with Graph-Based Input Data Representation**  
Michal Kawulok (KP Labs, Poland) |
| **Transfer of Pre-trained Generative Models for Satellite Image Super-Resolution**  
Mikolaj Czerkawski (ESA Phi-Lab, Italy) |
| **Remote Sensing-Based Spatiotemporal Monitoring and Mapping of Soil Salinity Dynamics in Sehb El Masjoune Region**  
Tabiti Ikrame (Mohammed VI Polytechnic University, Morocco) |
| **Remotely-Sensed High-Resolution Irrigation Extent in Italy Under Drought Stress**  
Muhammad Usman Liaquat (Research Institute for Geo-Hydrological Protection, National Research Council, Italy) |
| **Analysis of the Applicability of Super-Resolved Sentinel-2 Images for Detection and Segmentation of Photovoltaic Power Plants**  
Pauline Hecker (Fraunhofer Ernst-Mach-Institut, Germany) |
| **Monitoring of Intertidal Seaweed Habitats Using Satellite and UAV Data Fusion**  
Damir Akhmetshin (South East Technological University, Ireland) |
| **Super-Resolution for Climate Crisis Context: Sentinel-2 3 m Enhancement**  
Maximilien Houël (Sistema, Austria) |
| **AI-Enhanced Satellite Imagery for Sustainable Energy Monitoring in Asia**  
Yohan Iddawela (Asian Development Bank, Philippines) |
| **Interest of Nimbo Data for Large-Scale Super-Resolution**  
Thomas Corpetti (CNRS, Italy) |
| **Super-Resolution for Agriculture EO Services Project**  
Sara Verbič (Sinergise Solutions, Slovenia) |
| **Coseismic Surface Deformation Associated with the Mw 6.3, 25 January 2016 Al Hoceima (Morocco) Earthquake Using Time Series Analysis of SAR Images**  
Rida Haddane (Mohammed V University In Rabat, Morocco) |
| **Downscaling of Daily Precipitations over Morocco Using Deep Learning Techniques**  
Mohammad El Aabaribaoune (Mohammed VI Polytechnic University, Morocco) |
| **Realistic Daily Dynamics of Olive and Olive Fly at 250 m Resolution Using Cloud-Gap-Filled Canopy Temperature Data from MODIS LST Calibrated with MODIS NDVI**  
Luigi Ponti (ENEA, Italy) |
Jose Gomez (Centre Observation Impacts Energie, Mines Paris, Paris Sciences & Lettres University, France) |