Date: Tuesday, 11/Nov/2025

10:30am - 12:30pm Cesar Lattes Auditorium	**OP01: Regional Issues: Deforestation and Degradation** Location: **Cesar Lattes Auditorium**
10:30am - 12:30pm Florestan Fernandes I	**OP02: Applications: Risk Management** Location: **Florestan Fernandes I**
10:30am - 12:30pm Florestan Fernandes III	**OP03: Production-Economy: Agriculture** Location: **Florestan Fernandes III**
2:00pm - 3:40pm Cesar Lattes Auditorium	**OP04: Production-Economy: Deep Learning Approaches** Location: **Cesar Lattes Auditorium**
2:00pm - 3:40pm Florestan Fernandes I	**OP05: Environment-Ecology: Wildfire** Location: **Florestan Fernandes I**
2:00pm - 3:40pm Florestan Fernandes III	**OP06: Environment-Ecology: Water & Hydrology** Location: **Florestan Fernandes III**
4:10pm - 5:30pm Cineteatro Barrageiros	**PP01: Poster Presentations 01** Location: **Cineteatro Barrageiros**

Date: Wednesday, 12/Nov/2025

10:30am - 12:30pm Cesar Lattes Auditorium	**OP07: Production-Economy: Sensors** Location: **Cesar Lattes Auditorium**
10:30am - 12:30pm Florestan Fernandes I	**OP08: Production-Economy: Silviculture** Location: **Florestan Fernandes I**
10:30am - 12:30pm Florestan Fernandes III	**OP09: Environment-Ecology: Atmosphere** Location: **Florestan Fernandes III**
2:00pm - 3:40pm Cesar Lattes Auditorium	**OP10: Social Applications: Epidemiology and Education** Location: **Cesar Lattes Auditorium**
2:00pm - 3:40pm Florestan Fernandes I	**OP11: Applications: UAV and Task Planning** Location: **Florestan Fernandes I**
2:00pm - 3:40pm Florestan Fernandes III	**OP12: Environment-Ecology: Costal, Soils and Geology** Location: **Florestan Fernandes III**
4:10pm - 5:30pm Cineteatro Barrageiros	**PP02: Poster Presentations 02** Location: **Cineteatro Barrageiros**

Date: Thursday, 13/Nov/2025

10:30am - 11:50am Cesar Lattes Auditorium	**OP13: Environment-Ecology: Climate Change** Location: **Cesar Lattes Auditorium**
10:30am - 11:50am Florestan Fernandes I	**OP14: Environment-Ecology: Atmosphere, Soils and Geology** Location: **Florestan Fernandes I**
10:30am - 11:50am Florestan Fernandes III	**OP15: Production-Economy: Urban Development** Location: **Florestan Fernandes III**

Presentations

OP01: Regional Issues: Deforestation and Degradation

Time: Tuesday, 11/Nov/2025: 10:30am - 12:30pm · *Location:* Cesar Lattes Auditorium

10:30am - 10:50am

MONITORING AMAZON FOREST USING LANDTRENDR AND MAPBIOMAS: A CASE STUDY FROM TRINCHEIRA BACAJÁ, PARÁ (2018–2023)

Andressa Proenca Cavassim, Victoria Ribeiro Aires Almeida, Deolinda Zembe Muguio, Jorge Antonio Silva Centeno

Universidade Federal do Paraná, Brazil; andressa.cavassim@ufpr.br

10:50am - 11:10am

Multistage Algorithm for Automatic Mining Dredges Detection on Amazonian Rivers using SAR

Caio De Felice[1], Elcio Shiguemori[2], Rafael Paes[3], Daniel Martins[4], Milton Santos[1]

[1]Aeronautics Institute of Technology - ITA, Brazil; [2]Institute for Advanced Studies - IEAv, Brazil; [3]Brazilian Air Force General Staff - EMAER, Brazil; [4]Federal University of Sao Paulo - Unifesp, Brazil; caiochf@ita.br

11:10am - 11:30am

Detecting Urban Deforestation: A Semantic Segmentation Approach

Ilan Grynszpan[1], João Pedro Jesus de Abreu Martinez[1], Pedro Ivo Mioni Camarinha[2]

[1]PUC-Rio, Brazil; [2]National Center for Monitoring and Early Warning of Natural Disasters – CEMADEN; ilan.grynszpan@gmail.com

11:30am - 11:50am

Multimodal Fusion for Deforestation Detection: Integrating Weather and Satellite Alerts with Deep Learning

KEVIN ELEZI[3], JOÃO PEDRO MARTINEZ[1], FELIPE FERRARI[2], RAUL FEITOSA[1]

[1]Pontifical Catholic University of Rio de Janeiro, Brazil; [2]Military Institute of Engineering, Brazil; [3]Politecnico di Torino, Italy; joao.martinez@aluno.puc-rio.br

11:50am - 12:10pm

Towards SAR-Based Monitoring of Illegal Mining in the Brazilian Amazon Using Convolutional Neural Networks

Nelson Lemes Neto, Renan Américo Ribeiro de Oliveira, Maria de Lourdes Bueno Trindade Galo, Fernanda Sayuri Yoshino Watanabe, Maurício Galo

Universidade Estadual Paulista, Brazil; nelson.lemes@unesp.br

12:10pm - 12:30pm

ALOS-2 Long-Term Observation of the Legal Amazon - Monitoring Deforestation, Forest Loss, and Regrowth by L-band SAR

Christian Koyama[1], Daniel Freitas[2], Edson Sano[3], Masanobu Shimada[4], Kazufumi Kobayashi[5], Nara Pantoja[2], Rodrigo Souza[2], Takeo Tadono[1]

[1]JAXA, Japan; [2]IBAMA, Brazil; [3]Embrapa, Brazil; [4]Tokyo Denki University, Japan; [5]RESTEC, Japan; christian.koyama@jaxa.jp

OP02: Applications: Risk Management

Time: Tuesday, 11/Nov/2025: 10:30am - 12:30pm · *Location:* Florestan Fernandes I

10:30am - 10:50am

HVAS: Detection of Vegetation Height near Electric Transmission Lines Using Deep Learning and Satellite Images

Jhon Erazo[1], Jose Salazar[1], Richard Gomez[1], Jorge Caceres[1], Flavio Barbosa[1], Santiago Piovesan[1], Paulo Violada[1], Bruno Costa[2], Marina Siqueira[2], Carlos Nascimento[3], Lucas Souza[3], Antonio Donadon[3]

[1]SENAI Institute of Innovation in Embedded Systems, SC, Brazil; [2]SENAI Institute of Innovation in Renewable Energy, RN, Brazil; [3]Minas Gerais Energy Company (CEMIG), MG, Brazil; jhon.erazo@sc.senai.br

10:50am - 11:10am

Decision-rule-based Pipeline to Detect Overhead Power Lines and Vegetation Contact Areas Using Mobile LiDAR Data in Brazilian Urban Regions

Renan Américo Ribeiro de Oliveira, Mauricio Galo

Faculty of Science and Technology, São Paulo State University (UNESP), Brazil; renan.americo@unesp.br

11:10am - 11:30am

Integrating Remote Sensing for Structural Deformation Analysis of Landslides in the Reina del Cisne Sector - Paccha: A Sustainable Approach to Urban Disaster Management and Response Using LiDAR and CloudCompare

Pamela Carolina Pesantez-Cabrera

Universidad Católica de Cuenca, Ecuador; pamela.pesantez@est.ucacue.edu.ec

11:30am - 11:50am

INTEGRATION OF MODIS IMAGERY AND HYSPLIT SIMULATIONS FOR SEASONAL IDENTIFICATION OF AIRSPACE AFFECTED BY VOLCANIC ASH FROM POPOCATÉPETL

Carolina Juárez Pérez[1], José Carlos Jiménez Escalona[1], José Luis Poom Medina[2], Alejandro Monsiváis Huertero[1], Rodrigo Florencio Da Silva[1]

[1]Intituto Politécnico Nacional, Mexico; [2]Universidad de Sonora, México; jjimeneze@ipn.mx

11:50am - 12:10pm Warning: The presentations finish prior to the end of the session!

How Much is Enough? Assessing the Feature Dimensionality and Performance Trade-offs in Flood Classification Using Random Forest

Aluizio Maia[1], Camilo Rennó[2], Rogério Negri[3], Evandro José da Silva[1], Eduardo Moraes Arraut[1]

[1]Division for Civil Engineering - Aeronautics Institute of Technology (ITA); [2]Division for Earth Observation and Geoinformatics - National Institute for Space Research (INPE); [3]Institute of Science and Technology - São Paulo State University (UNESP); aluiziobritoufmg@gmail.com

OP03: Production-Economy: Agriculture

Time: Tuesday, 11/Nov/2025: 10:30am - 12:30pm · *Location:* Florestan Fernandes III

10:30am - 10:50am

Discriminative Spectral Regions for Detecting Huanglongbing in Citrus Plants through Statistical Analysis

MAURO MORATA BORTOLOTO JUNIOR[1], LUCIO ANDRÉ DE CASTRO JORGE[2], LUCAS PRADO OSCO[3], ANA PAULA MARQUES RAMOS[1]

[1]UNESP, Brazil; [2]EMBRAPA, Brazil; [3]UNOESTE, Brazil; mauro.morata@unesp.br

10:50am - 11:10am

Estimation of grassland nitrogen content using UAV ultra-wide RGB images

Rebeca Campos Emiliano da Silva[1], Antonio Maria Garcia Tommaselli[1], Nilton Nobuhiro Imai[1], Rorai Pereira Martins-Neto[2], Daniel da Silva da Silva[3], Edemar Moro[3]

[1]Faculty of Science and Technology, São Paulo State University (UNESP) at Presidente Prudente, São Paulo 19060-900, Brazil; [2]Faculty of Forestry and Wood Sciences, Czech University of Life Sciences Prague, Kamycka 129, 16500 Prague, Czech Republic; [3]University of Western São Paulo (UNOESTE), Presidente Prudente, São Paulo 19067-175, Brazil; rebeca.campos@unesp.br

11:10am - 11:30am

Analysis of spectral responses in soybean crops with different levels of phytonematode infestation at different phenological stages using MSI/Sentinel-2 sensor imagery

Glória Maria Padovani Ederli[1], Aluir Porfírio Dal Poz[1], Nilton Nobuhiro Imai[1], Adilson Berveglieri[1], Fábio Fernando Araujo[2], Gabriela Lozano Olivério Salvador[2], Eija Honkavaara[3]

[1]São Paulo State University, Brazil; [2]University of Western São Paulo; [3]Finnish Geospatial Research Institute; gloria.padovani@unesp.br

11:30am - 11:50am

Potential of SAR-derived features for detecting structural variations in coffee plots

João Pedro Correa[1], Nelson Lemes Neto[1], Maria Galo[1], Gleice Assis[2]

[1]São Paulo State University (UNESP), Presidente Prudente, São Paulo, Brazil; [2]Federal University of Uberlândia (UFU), Monte Carmelo, Minas Gerais, Brazil; joao.marochio-correa@unesp.br

11:50am - 12:10pm

Evaluating pollinator diversity in the Brazilian Atlantic Forest biome using geospatial and Machine Learning Tools

Luiz Felipe de Almeida Furtado[1], Emanuelle Luiz da Silva Brito[2,3], Luiz Carlos Teixeira Coelho[1,4,5], Guilherme Lucio Abelha Mota[6], Irving da Silva Badolato[1,6], Aliny Patrícia Flauzino Pires[3]

[1]Universidade do Estado do Rio de Janeiro - Faculdade de Engenharia; [2]Universidade Estadual de Feira de Santana - Programa de Pós-Graduação em Ecologia e Evolução; [3]Universidade do Estado do Rio de Janeiro - Instituto de Biologia Roberto Alcantara Gomes; [4]Instituto Municipal de Urbanismo Pereira Passos - Coordenadoria de Informações da Cidade; [5]Universidade Federal do Rio de Janeiro - Programa de Pós-Graduação em Engenharia Urbana; [6]Universidade do Estado do Rio de Janeiro - Instituto de Matemática e Estatística; luiz.coelho@eng.uerj.br

12:10pm - 12:30pm

Convolutional Neural Network (CNN) Architecture for Detecting Fusarium wilt in Banana Crops Using UAV-Based Multispectral Imaging

Gabriela Zanchetta[1], Fernanda Sayuri Yoshino Watanabe[1], Hideo Araki[2]

[1]Sao Paulo State University, Brazil; [2]Federal University of Paraná, Brazil; gabriela.zanchetta@unesp.br

OP04: Production-Economy: Deep Learning Approaches

Time: Tuesday, 11/Nov/2025: 2:00pm - 3:40pm · *Location:* Cesar Lattes Auditorium

2:00pm - 2:20pm

Ad-hoc pre-tained models for multi-spectral satellite images

Ferdinand Pineda, Victor Ayma, Cesar Beltran
Pontificia Universidad Catolica del Peru, Peru; fpineda@pucp.edu.pe

2:20pm - 2:40pm

Impact of Training Set Size on Representation Learning for Hyperspectral Image Classification

Victor Andres Ayma Quirita[1], Aramis Palacios[2], Victor Hugo Ayma Quirita[2], Walter Aliaga[2], Gilson Costa[3]
[1]Pontifical Catholic University of Peru, Peru; [2]Universidad del Pacifico; [3]Rio de Janeiro State University;
vaaymaq@pucp.pe

2:40pm - 3:00pm

Using Active Learning to Improve Hyperspectral Image Classification within Supervised Learning

Victor H. Ayma[1], Victor A. Ayma[2], Gilson A. O. P. Costa[3], Antonio Plaza[4]
[1]Universidad del Pacífico, Peru; [2]Pontifical Catholic University of Peru, Peru; [3]Rio de Janeiro State University, Brazil;
[4]Escuela Politécnica de Cáceres, University of Extremadura, Spain; vh.aymaq@up.edu.pe

3:00pm - 3:20pm

UAV-based Unsupervised Domain Adaptation for Road Extraction

Gustavo Collegio[1], Antonio Filho[2], Aluir Dal Poz[1], Ayman Habib[3]
[1]São Paulo State University; [2]Brazilian Army Geographic Service, Brazil; [3]Purdue University;
gustavo.collegio@unesp.br

3:20pm - 3:40pm

Advancing Offshore Safety: Monocular Depth Estimation from 360-Degree Images for Enhanced Oil Platform Inspection

Jorge Andres Chamorro Martinez[1], Robinson Garcia[2], Patrick Nigri Happ[1], Daliana Lobo Torres[1], Pedro Pereira Guedes[1], Romeu Ferreira de Oliveira[1], Raul Queiroz Feitosa[1], Michelle Facina[2], Maikon Bressani[2], Pedro Soto Vega[3]
[1]Pontifical Catholic University of Rio de Janeiro, Rio de Janeiro, Brazil; [2]Petrobras, Brazil; [3]Vision-AD and AutoRob, LabISEN, ISEN Yncréa Ouest, Brest, France; cmjorgeandres@tecgraf.puc-rio.br

3:40pm - 4:00pm Warning: This presentation lies outside the session time!

Evaluating and Adapting Monocular Depth Models for Canopy Height Estimation in Semi-Urban and Forested Areas

Loïck Geoffrey Hodonou, Jorge Andres Chamorro Martinez, Matheus Pinheiro Ferreira, Raul Queiroz Feitosa, Marco Aurélio Cavalcani Pacheco
PUC-Rio, Brazil; lhodonou349@gmail.com

OP05: Environment-Ecology: Wildfire

Time: Tuesday, 11/Nov/2025: 2:00pm - 3:40pm · *Location:* Florestan Fernandes I

2:00pm - 2:20pm

Spatiotemporal dynamics of wildfires in the Sierras of Córdoba, Argentina (1986–2024): A remote sensing approach to burned area reconstruction.

Jimena Victoria Albornoz[1], Juan Pablo Argañaraz[1,2], Carolina Baldini[1,2], María Cecilia Naval Fernández[1,2], Laura Marisa Bellis[1,2,3]

[1]Instituto de Altos Estudios Espaciales Mario Gulich (CONAE/UNC), Comisión Nacional de Actividades Espaciales (CONAE); [2]Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET); [3]Cátedra de Ecología, Facultad de Ciencias Exactas Físicas y Naturales. Universidad Nacional de Córdoba (UNC).; jimena.albornoz@ig.edu.ar

2:20pm - 2:40pm

Deep Neural Network Utilization in Wildfire Hotspot Classification For Drone-Obtained Imagery

Leandro Diniz de Jesus[1], Antonio Dantas[2], Élcio H. Shiguemori[3], Nandamudi L. Vijaykumar[1]

[1]Nacional Institute of Space Research, Brazil; [2]Federal University of Sao Paulo; [3]Institute for Advanced Studies; leandro.jesus@inpe.br

2:40pm - 3:00pm

Mapping burned areas in Cerrado protected areas (2000–2020): a comparative analysis of Landsat classification, Mapbiomas fire, and MCD64A1

Tania Beatriz Hoffmann, Egidio Arai, Yosio Edemir Shimabukuro

Instituto Nacional de Pesquisas Espaciais, Brazil; taniabeatrizhoffmann@gmail.com

3:00pm - 3:20pm

Confidence Indicator for Fire Event Alerts Based on Geostationary Remote Sensing in Brazil and ACTO Countries

Rafael Wagenmacher, Carlos Biasi, Gabriel Russo, Reinaldo Ribeiro, Henrique Borges, Caê Lacerda, Laurizio Alves, Felippe de Oliveira Lima

Management and Operational Center Of The Amazon Protection System, Brazil; rafael.wagenmacher@sipam.gov.br

3:20pm - 3:40pm

Evaluation of MAIAC-Derived Aerosol Optical Depth from MODIS and EPIC Observations During South American Fire Events

Maria Fernanda Valle Seijo[1], Lidia Ana Otero[2], Rubén Darío Piacentini[1], Jay R. Herman[3,4]

[1]Instituto de Física de Rosario (CONICET-UNR), Rosario, Argentina; [2]Facultad de Ingeniería del Ejército, Universidad de la Defensa Nacional, Buenos Aires, Argentina; [3]NASA Goddard Space Flight Center, Greenbelt, USA; [4]Joint Center for Earth Systems Technology, University of Maryland, Baltimore, USA; fervallee@gmail.com

OP06: Environment-Ecology: Water & Hydrology

Time: Tuesday, 11/Nov/2025: 2:00pm - 3:40pm · *Location:* Florestan Fernandes III

2:00pm - 2:20pm

Integration of satellite and field data for the detection of a harmful algal bloom in a reservoir

Sofia Rosario Gutierrez[1], Mariana Lucia Correa[1,2], Rocio Eluney Guido[2], Lucio Pinotti[1,3], Anabella Ferral[2], Bonansea Matias[1,3]

[1]Instituto de Ciencias de la Tierra, Biodiversidad y Ambiente (ICBIA, CONICET-UNRC), Argentina; [2]Instituto de Altos Estudios Espaciales Mario Gulich, Centro Espacial Teófilo Tabanera, CONAE, Argentina; [3]Departamento Geología, Facultad de Ciencias Exactas Físico-Químicas y Naturales, Universidad Nacional de Río Cuarto (UNRC), Argentina; sgutierrez@exa.unrc.edu.ar

2:20pm - 2:40pm

Deep learning reveals spatial patterns in water contamination over Ciénaga de la Virgen using Sentinel-2 imagery.

Yineth Viviana Camacho-De Angulo, Jairo Enrique Serrano-Castañeda, Yady Tatiana Solano-Correa

Universidad Tecnologica de Bolívar, Colombia; camachoy@utb.edu.co

2:40pm - 3:00pm

MAPAQUALI – Modular system for continuous monitoring of water quality by remote sensing

claudio Barbosa[1], Daniel Maciel[1], Evlyn Novo[1], Vitor Gomes[3], Rejane Paulino[2], Rogério Flores[1], Vitor Martins[2], Gilberto Ribeiro[1]

[1]National Institute for Space Research-Brazil (INPE), Brazil; [2]Mississippi State University; [3]Instituto de Estudos Avançados IEAv; claudio.barbosa@inpe.br

3:00pm - 3:20pm

Turbidity estimation in Paraná River middle basin using remote sensing techniques

Víctor Hugo Gauto[1,2], Enid Utges[1], Anabella Ferral[3], Osvaldo Cardozo[2], Daniela Tenev[1], Víctor Gómez[1], Vera Geneyer[1], Mauricio Acosta[1], Matías Bonansea[4]

[1]Universidad Tecnológica Nacional, Facultad Regional Resistencia, Grupo de Investigación Sobre Temas Ambientales y Químicos; [2]Instituto de Investigación para el Desarrollo Territorial y del Hábitat Humano, CONICET, UNNE; [3]Instituto Gulich, Comisión Nacional de Actividades Espaciales, Universidad Tecnológica Nacional; [4]Instituto de Ciencias de la Tierra, Biodiversidad y Ambiente, Consejo Nacional de Investigaciones Científicas y Técnicas, Universidad Nacional de Río Cuarto; victor.gauto@outlook.com

3:20pm - 3:40pm

Multi and hyperspectral characterization of a RAMSAR water body based on an optical water type approach

Sofía Paná[1,2,3], Francisco Nemiña[1,4], Matías Bonansea[2,5,6], Claudia Giardino[7], Mariano Bresciani[7], Nicola Ghirardi[7,8], Inés Asís[3,9], Anabella Ferral[1,4,10]

[1]Mario Gulich Institute for Advanced Space Studies, Argentina; [2]National Scientific and Technical Research Council (CONICET), Argentina; [3]Centre for Research and Studies on Culture and Society (CIECS), Argentina; [4]Argentina's Space Activities Commission (CONAE); [5]Institute of Earth Sciences, Biodiversity and Environment, National University of Río Cuarto (ICBIA - UNRC), Argentina; [6]Department of Geology, Faculty of Exact, Physical-Chemical and Natural Sciences, National University of Río Cuarto (UNRC), Argentina; [7]CNR–Institute for Electromagnetic Sensing of the Environmental, Italy; [8]CNR–Institute of BioEconomy, Italy; [9]Institute of Economics and Finance -Faculty of economics, Córdoba National University, Argentina; [10]Córdoba National University (UNC); fnemina@conae.gob.ar

3:40pm - 4:00pm Warning: This presentation lies outside the session time!

A Novel Model for Cyanobacterial Chlorophyll-a Estimation: Fusing Satellite Remote Sensing and In Situ Data

Rocío Eluney Guido[1,2], Sofía Gutiérrez[2,3], Mariana L. Correa[3], Francisco Nemiña[1], Marina Campagnucci[1], Matias Bonansea[2,3], Oscar Oviedo[2,4], Anabella Ferral[1,2]

[1]Mario Gulich Institute, CONAE/UNC, Córdoba, Argentina; [2]National Council of Scientific Research and Technology (CONICET), CCT Córdoba, Argentina; [3]Institute of Earth Sciences, Biodiversity and Environment (ICBIA), CONICET, UNRC; [4]Physics-Chemistry Research Institute of Córdoba (INFIQC)-CONICET; rocioeguido@unc.edu.ar

PP01: Poster Presentations 01

Time: Tuesday, 11/Nov/2025: 4:10pm - 5:30pm · *Location:* Cineteatro Barrageiros

Landscape Metrics to Assess Changes in Native Vegetation in the Paraíba Valley, Brazil

Danielle Mota Torres Nogueira[1], Ramon Felipe Bicudo da Silva[2]
[1]São Paulo State University (UNESP), Brazil; [2]State University of Campinas (UNICAMP), Brazil;
danielle.nogueira@unesp.br

Technical and Digital Tools for Identifying and Assessing the Environmental Impacts of Airport Operations: A Case Study of Felipe Ángeles International Airport

Liliana González Vega[1], Jose Carlos Jiménez Escalona[2], Rodrigo Florencio da Silva[3], Alejandro Monsivais Huertero[4]
[1]Instituto Politécnico Nacional, México; [2]Instituto Politécnico Nacional, México; [3]Instituto Politécnico Nacional, México; [4]Instituto Politécnico Nacional, México; glzvliliana@gmail.com

Multiscale Assessment of Agricultural Expansion Potential in Degraded Pasturelands in Brazil Using Geospatial Data

Édson Bolfe[1], Gustavo Bayma[2], Edson Sano[3], Daniel Victoria[1], Ivan Bergier[1], Silvia Massruhá[4], Aryeverton Oliveira[1]
[1]Brazilian Agricultural Research Corporation, Embrapa Digital Agriculture, Campinas - SP, Brazil.; [2]Embrapa Environment, Jaguariúna, Brazil.; [3]Embrapa Cerrados, Planaltina, Brazil.; [4]Embrapa Headquarters, Brasília, Brazil.;
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Detecting Urban Change with Open-Source GIS programs: A Case Study in Guayaquil

Divar Castro-Rodas[1,2], Andres Velastegui-Montoya[2,3,4], Yazmim Carvalho Guimarães[5], Eduardo Soares Nascimento[6], Marconi de Arruda Pereira[7], Leonardo B.L. Santos[8], Cesar Alvarez[9,10], Eddy Sanclemente Ordoñez[2,3]
[1]Faculty of Mechanical Engineering and Production Sciences, ESPOL Polytechnic University, Campus Gustavo Galindo, Km. 30.5 Vía Perimetral, Guayaquil, 090902, Ecuador; [2]Laboratory of Geoinformation and Remote Sensing, ESPOL Polytechnic University, Campus Gustavo Galindo, Km. 30.5 Vía Perimetral, Guayaquil, 090902, Ecuador; [3]Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University, Campus Gustavo Galindo, Km. 30.5 Vía Perimetral, Guayaquil, 090902, Ecuador; [4]Centro de Investigación y Proyectos Aplicados a las Ciencias de la Tierra, ESPOL Polytechnic University, Campus Gustavo Galindo, Km. 30.5 Vía Perimetral, Guayaquil, 090902, Ecuador; [5]Graduate Program in Natural Disasters (Unesp/CEMADEN), São José dos Campos, Brazil; [6]Postgraduate Program in Cartographic Sciences (PPGCC), Department of Cartography, School of Technology and Sciences São Paulo State University (FCT-UNESP), 19060-900 Presidente Prudente, São Paulo, Brazil; [7]Department of Technology, Universidade Federal de São João del-Rei (UFSJ), Campus Alto Paraopeba, Ouro Branco, Minas Gerais, 36490-972, Brazil; [8]National Center for Monitoring and Early Warning of Natural Disasters (CEMADEN), Estrada Dr. Altino Bondensan n° 500, São José dos Campos, SP, 12247-016, Brazil; [9]Centre for Climate Resilience, University of Augsburg, Universitätsstrasse 12a, 86159 Augsburg, Germany; [10]Maestría en Sistemas de Información Geográfica, Topografía Automatizada y Fotogrametría Digital, Universidad Católica de Santiago de Guayaquil, Guayaquil, Ecuador;
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From Constraints to Urban Growth: Satellite-Based Monitoring of Guayaquil's Urban Expansion with Sentinel-2

David Freire Granda[1,2], Andrés Velastegui-Montoya[2,3,4], Yasmim Carvalho Guimarães[5], Eduardo Soares Nascimento[6], Marconi de Arruda Pereira[7], Leonardo B.L. Santos[8], Cesar Alvarez[9,10], Eddy Sanclemente Ordoñez[2,3]
[1]Faculty of Mechanical Engineering and Production Sciences, ESPOL Polytechnic University, ESPOL, Campus Gustavo Galindo, Km. 30.5 Vía Perimetral, Guayaquil, 090902, Ecuador; [2]Laboratory of Geoinformation and Remote Sensing, ESPOL Polytechnic University, ESPOL, Campus Gustavo Galindo, Km. 30.5 Vía Perimetral, Guayaquil, 090902, Ecuador; [3]Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University, ESPOL, Campus Gustavo Galindo, Km. 30.5 Vía Perimetral, Guayaquil, 090902, Ecuador Laboratory of Geoinformation and Remote Sensing, ESPOL Polytechnic University, ESPOL, Campus Gustavo Galindo, Km. 30.5 Vía Perimetral, Guayaquil, 090902, Ecuador; [4]Centro de Investigación y Proyectos Aplicados a las Ciencias de la Tierra, ESPOL Polytechnic University, ESPOL, Campus Gustavo Galindo, Km. 30.5 Vía Perimetral, Guayaquil, 090902, Ecuador; [5]Graduate Program in Natural Disasters (Unesp/CEMADEN), São José dos Campos, Brazil; [6]Postgraduate Program in Cartographic Sciences (PPGCC), Department of Cartography, School of Technology and Sciences São Paulo State University (FCT-UNESP), 19060-900 Presidente Prudente, São Paulo, Brazil; [7]Department of Technology, Universidade Federal de São João del-Rei (UFSJ), Campus Alto Paraopeba, Ouro Branco, Minas Gerais, 36490-972, Brazil; [8]National Center for Monitoring and Early Warning of Natural Disasters (Cemaden), Estrada Dr. Altino Bondensan n° 500, São José dos Campos, SP, 12247-016, Brazil; [9]Centre for Climate Resilience, University of Augsburg, Universitätsstrasse 12a, 86159 Augsburg, Germany; [10]Maestría en Sistemas de Información Geográfica, Topografía Automatizada y Fotogrametría Digital, Universidad Católica de Santiago de Guayaquil, Guayaquil, Ecuador; davfreir@espol.edu.ec

Using Brazil Data Cube and Satellite Image Time Series to map Land Use and Land Cover around the reservoir of the Batalha Hydroelectric Power Plant, Goias (Brazil)

Izaias de Souza Silva[1,2], Felipe Carvalho de Souza[2], Diego Tarley Ferreira Nascimento[1], Cláudio Aparecido de Almeida[2], Luciana Souza Soler[2], Marta Pereira da Luz[3]

[1]Federal University of Goias, Brazil; [2]National Institute for Space Research, Brazil; [3]Centrais Eletricas Brasileiras, Brazil; izaiasdesouzasilva.inpe@gmail.com

Challenges in the Environmental Enforcement of Small-Scale Illegal Burning

Thays Jucá, Glaucia Cherniogl, Alesandro Copatti, Diego Brito
Instituto de Meio Ambiente de Mato Grosso do Sul, Brazil; fiscalizacao@imasul.ms.gov.br

Predicting Air Quality Index at Dome A, Antarctica Through the Integration of Meteorological Data and Machine Learning Techniques

TEJAL N R[1], DAKSHAYANI R N R[2]
[1]Bharathidasan University, India; [2]Anna University, India; nrtejal@gmail.com

Multidimensional Sampling for Land Use and Land Cover Classification

Glauber José Vaz[1,2], Alexandre Camargo Coutinho[1], Júlio César Dalla Mora Esquerdo[1], João Francisco Gonçalves Antunes[1], Anderson Rocha[2]
[1]Embrapa Digital Agriculture, Brazil; [2]Recod.ai, Institute of Computing, University of Campinas, Brazil; glauber.vaz@embrapa.br

Near Real-Time Detection of EVI Time-Series Breakpoints Using Bayesian Inference for Deforestation Monitoring in the Chaco Forest

Francisco Grings[1,2], Francisco González Bianco[4,2], Esteban Roitberg[4,2], Natalia Morandeira[3,2], Javier Arellana[1,2], Maira Gayol[5,2]
[1]Institute Of Astronomy and Space Physics (IAFE), Argentine Republic; [2]Pixel - Satellite-Based Environmental Data Analysis; [3]Instituto de Investigación e Ingeniería Ambiental, CONICET-UNSAM, Escuela de Hábitat y Sostenibilidad, Universidad Nacional de San Martín, General San Martín, Buenos Aires, Argentina.; [4]Escuela de Ciencia y Tecnología, Universidad Nacional de San Martín, Buenos Aires, Argentina; [5]Instituto de Investigación e Ingeniería Ambiental, CIC-PBA, Escuela de Hábitat y Sostenibilidad, Universidad Nacional de San Martín, General San Martín, Buenos Aires, Argentina.; francisco.m.grings@gmail.com

Spatiotemporal Monitoring of Land Cover Using Machine Learning and GIS

Natalia V. Revollo Sarmiento[1,2], Federico Javier Beron de la Puente[3,4], Carlos Berger[5], Edinéia Aparecida dos Santos Galvanin[6]
[1]Department of Ingeniería Eléctrica y de Computadoras, Universidad Nacional del Sur; [2]Institute for Computer Science and Engineering (ICIC), CONICET-UNS; [3]Department of Geography and Tourism, Universidad Nacional del Sur; [4]National Council on Scientific and Technical Research (CONICET); [5]Department of Ingeniería Eléctrica y de Computadoras, Universidad Nacional del Sur; [6]Faculty of Sciences, Technology and Education, Geography and Planning Department, São Paulo State University (UNESP); edineia.galvanin@unesp.br

What are the most relevant variables for remotely estimating the maturity of peanut pods?

Thiago Caio Oliveira, Jarlyson Souza, Samira Almeida, Armando Brito Filho, Rouverson Silva
UNESP, Brazil; rouverson.silva@unesp.br

Weakly Supervised Burned Area Mapping in the Brazilian Pantanal Using Multispectral Satellite Imagery

Maximilian Jaderson de Melo[1,2], Thiago Edgar Bauce Venancio[2], Lucas Yuri Dutra de Oliveira[3], Mário de Araújo Carvalho[2], José Marcato Junior[3], Wesley Nunes Gonçalves[2]
[1]Federal Institute of Education, Science, and Technology of Mato Grosso do Sul, Naviraí, MS, Brazil; [2]Faculty of Computing, Federal University of Mato Grosso do Sul, Campo Grande, MS, Brazil; [3]Faculty of Engineering, Architecture, and Urbanism and Geography, Federal University of Mato Grosso do Sul, Campo Grande, MS, Brazil; maximilian.melo@ufms.br

Development of a Predictive Model for Eutrophication Events using Climatic Parameters and Spatial Data in Peruvian High Andean Reservoirs

Juan A. Carlos[1], Angie Richard[2], David Ardiles[3], Felipe L. Lobo[4], Monica C. Santa-Maria[2], Ronny Gonzales[5]
[1]Universidad Nacional Mayor de San Marcos, Lima, Peru; [2]Universidad de Ingenieria y Tecnologia (UTEC), Lima, Peru; [3]Université Grenoble Alpes – UGA, Grenoble, France; [4]Universidade Federal de Pelotas, Pelotas, Brasil; [5]Universidad Católica de Santa María, Arequipa, Peru; juanadriel.carlos@unmsm.edu.pe

Mapping of urban tree canopy in high-resolution aerial imagery using deep neural networks

Brian Leite Machado[1], Rafael Ochi Kikuti[1], Lucas Prado Osco[2], José Marcato Junior[3], Wesley Nunes Gonçalves[3], Ana Paula Marques Ramos[1]
[1]Universidade Estadual Paulista "Júlio de Mesquita Filho" (UNESP), Brazil; [2]Western São Paulo State University (UNOESTE); [3]Federal University of Mato Grosso do Sul (UFMS); brian.leite@unesp.br

Estimating impurities impact in seasonal snow albedo with remote sensing during a wildfire event in Bariloche, Argentina

Giuliana Beltramone[1,5,6], Carlos Marcelo Scavuzzo[2,5], Francisco Nemiña[2,5], Matias Bonansea[3], María José Esplandiu[4], Anabella Ferral[1,5]

[1]Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET); [2]Comisión Nacional de Actividades Espaciales (CONAE); [3]National University of Rio Cuarto; [4]Instituto Catalán de Nanociencia y Nanotecnología (ICN2); [5]Instituto de Altos Estudios Espaciales "Mario Gulich"; [6]Universidad Blas Pascal; giulib92@hotmail.com

Spectral-Based Discrimination of Vitis vinifera and Vitis labrusca Using Contact SpectroradiometryTechniques

Tainá Fragoso[1], José Eduardo Costa[1,2], Jorge Ricardo Ducati[1]

[1]State Center for Research in Meteorology and Remote Sensing - Federal University of Rio Grande do Sul, Brazil (CEPSRM/UFRGS); [2]Physics Institute - Federal University of Rio Grande do Sul, Brazil (IF/UFRGS); taina.afragoso@gmail.com

Biomass spatio-temporal change analysis in the subtropical forests using multi-sensor SAR and optical data synergy

Abraham Aidoo Borsah

The Hong Kong Polytechnic University, Hong Kong S.A.R. (China); abraham.aidooborsah@connect.polyu.hk

GEOSPATIAL VEGETATION DYNAMICS ESTIMATE BASED ON MULTITEMPORAL REMOTE SENSING AT THE PASSAUNA BASIN

Jorge Antonio Silva Centeno, Mario Ernesto Jijon-Palma, Andressa Proença Cavassin

Federal University of Parana, Brazil; centeno@ufpr.br

Identifying Methane Super-Emitters Using EMIT and Carbon Mapper: A Case Study in the Metropolitan Area of Sao Paulo

Thaís Andrade da Silva[1], Elaine Cristina Araújo[1], Izabel da Silva Andrade[1], Thaís Correa[1], Maria de Fátima Andrade[2], Eduardo Landulfo[1]

[1]Nuclear and Energy Research Institute (IPEN), Brazil; [2]Institute of Astronomy, Geophysics and Atmospheric Sciences (IAG), Brazil; thais.andradedasilva@usp.br

Exploring the Segment Anything Model for Mapping Urban Tree Cover in Orbital Imagery

Gleison Marrafon[1], Vagner Souza Machado[2], Lucas Prado Osco[2], José Marcato Junior[3], Wesley Nunes Gonçalves[3], Ana Paula Marques Ramos[1]

[1]São Paulo State University (UNESP), Campus of Presidente Prudente, Rua Roberto Simonsen, 305, Presidente Prudente, São Paulo, Brazil, ZIP code 19060-900; [2]Western São Paulo State University (UNOESTE), Campus II, Raposo Tavares Highway, km 572, Limoeiro District, Presidente Prudente, São Paulo, Brazil, ZIP code 19067-175; [3]Federal University of Mato Grosso do Sul, Cidade Universitária, Av. Costa e Silva, Campo Grande, MS, Brazil, ZIP code 79070-900; g.marrafon@unesp.br

Vegetation Dynamics in the Pirizal Region (Pantanal-MT, Brazil) Through Temporal Analysis Using PlanetScope Data

Vaniele Santana de Almeida, Gustavo Manzon Nunes

UNIVERSITY OF MATO GROSSO, Brazil; gustavo.nunes@ufmt.br

Urban Thermal Dynamics at Pixel Resolution: Neighborhood-Specific Analysis Using Machine Learning and Multi-source Geospatial Data in Guadalajara, Mexico

Moises Orencio Ahumada Murillo[1], Juan Pablo Rivera Caicedo[2], Himer Avila George[1], Hugo Ordoñez[3]

[1]University of Guadalajara; [2]Autonomous University of Nayarit; [3]University of Cauca; moises.ahumada1774@alumnos.udg.mx

Monitoring coastal processes in a macro-tidal dominated environment in the Pará Amazon over six decades: applications from computational intelligence and remote sensing

Rafael Menezes, Kayque Dias, Milena Andrade, Eder MS Paula

UFPA, Brazil; edermileno@ufpa.br

OP07: Production-Economy: Sensors

Time: Wednesday, 12/Nov/2025: 10:30am - 12:30pm · *Location:* Cesar Lattes Auditorium

10:30am - 10:50am

End-to-End Shutter Design and Reconstruction for Dynamic Scene Imaging

Hans Garcia, Sebastian Ardila, Henry Arguello
Universidad Industrial de Santander, Colombia; hayegaar@uis.edu.co

10:50am - 11:10am

AgriDOE: End-to-End DOE Optimization for Single-Shot Agricultural Spatial Classification

SEBASTIAN ARDILA LEAL, PABLO ANDRES GOMEZ TOLOZA, HANS YECID GARCÍA ARENAS, HENRY ARGUELLO FUENTES
Universidad Industrial de Santander, Colombia; hayegaar@uis.edu.co

11:10am - 11:30am

High-Accuracy Corridor Mapping Without GCPs: Assessing Precisions of DEMs Generated from UAS Photogrammetry with On-Site Pre-Calibration

Kalima Pitombeira[1,2], Edson Mitishita[1], Charles Toth[2], Natália Amorim[1], Marcelo de Abreu[3]
[1]Federal University of Paraná, Brazil; [2]The Ohio State University, USA; [3]Tecsystem Company, Brazil; kalimapitombeira@hotmail.com

11:30am - 11:50am

Accuracy of reconstruction with short baseline from a single-frame multispectral camera

Beatriz Coêlho Silva[1], Antonio Maria Garcia Tommaselli[1], Rahuan Miguel da Silva[1], Leticia Ferrari Castanheiro[2], Wimerson Sanches Bazan[1,3]
[1]São Paulo State University (UNESP), at Presidente Prudente, São Paulo 19060-900, Brazil; [2]Embrapa Agricultural Informatics, at Campinas, São Paulo, Brazil; [3]Espirito Santo Federal Institute, at Vitória, Espírito Santo, Brazil; beatriz.coelho-silva@unesp.br

11:50am - 12:10pm

A Coarse-to-Fine Approach for Tree Point Cloud Registration Based on Relaxation Labeling

Matheus Ferreira Da Silva[1], Renato Cesar Dos Santos[1,2], Mauricio Galo[1,2]
[1]Sao Paulo State University (UNESP), Brazil; [2]Department of Cartography, São Paulo State University (UNESP); matheus-ferreira.silva@unesp.br

12:10pm - 12:30pm

Dynamic Geometric Calibration on Visual Odometry Performance for Autonomous Drone Navigation

Fabiano Cruz Nogueira[1,3], Felipe Pacheco de Almeida Euphráasio[2,3], Douglas Damião de Carvalho Honário[2,3], Marco Antonio Pizani Domiciano[3], Alexandre David Caldeira[3], Elcio Hideiti Shiguemori[1,2,3]
[1]Instituto Naciaonal de Pesquisas Espaciais, Brazil; [2]Instituto Tecnológico de Aeronáutica, Brazil; [3]Instituto de Estudos Avançados, Brazil; pizanimapd@fab.mil.br

OP08: Production-Economy: Silviculture

Time: Wednesday, 12/Nov/2025: 10:30am - 12:30pm · *Location:* Florestan Fernandes I

10:30am - 10:50am

Automatic urban trees detection from airborne LiDAR data using 3D descriptor and intensity

Cleber Alencar, Mauricio Galo, Renato Santos
São Paulo State University – UNESP; cleber.alencar@unesp.br

10:50am - 11:10am

Supporting Argentina's forest production through satellite remote sensing

Matias Ernesto Barber[1], Daniel Castellano Francucci[2], Axel von Müller[3], Inés del Valle Asís[4]
[1]Quantitative Remote Sensing Group, Institute of Astronomy and Space Physics (IAFE), Buenos Aires, Argentina; [2]Centro de Excelencia en Productos y Procesos (CEPROCOR), Ministerio de Producción, Santa María de Punilla, ArgentinaCiencia e Innovación Tecnológica de Córdoba; [3]Estación Experimental Agroforestal Esquel, Instituto Nacional de Tecnología Agropecuaria (INTA), Esquel, Argentina; [4]Instituto de Economía y Finanzas, Universidad Nacional de Córdoba (UNC), Córdoba, Argentina; mbarber@iafe.uba.ar

11:10am - 11:30am

Estimation of Pinus taeda L. volume using the Random Forest algorithm and hyperspectral image in southern Brazil

Fábio Rodrigues Spiazzi, Veraldo Liesenberg, Leonardo Josoé Biffi, Marcos Benedito Schimalski
Santa Catarina State University, Brazil; fabiospiazzi@gmail.com

11:30am - 11:50am

First Insights into Brazilian Pine Detection in Open Fields Using YOLOv11 and UAV Data

Cindy Fernandes Mendes[1], Veraldo Liesenberg[1], Raul Queiroz Feitosa[2], Pedro Henrique Pereira Guedes[2], Laura Fuchigami Farias[1], Sara Vitória Andrade Aguiar e Silva[1], Henrique Genske Teodoro[1], Victor Mohamad Bortolozzo Dabbous[1], Vicenzo Lemos waltrick[1], João Victor Schimalski[1], Marcos Benedito Schimalski[1]
[1]UDESC, Brazil; [2]PUC-RJ, Brazil; cindy.mendes@edu.udesc.br

11:50am - 12:10pm

MLP-Based Classification of Multispectral Point Clouds for Digital Agriculture

Isabella Subtil Norberto[1], Clodoaldo de Souza Faria Junior[2], Antonio Maria Garcia Tommaselli[1], Mauricio Galo[1], Rahuan Miguel da Silva[1]
[1]Faculty of Science and Technology, São Paulo State University (UNESP) at Presidente Prudente, São Paulo 19060-900, Brazil; [2]Aeronautics Institute of Technology (ITA), São José dos Campos at São Paulo 12228-900, Brazil; isabella.subtil@unesp.br

12:10pm - 12:30pm

SAR and Land Use and Land Cover Mapping: Perceptions about Hierarchical Classification and Sentinel-1 Data

José Galdino de Oliveira Júnior[1], Júlio César Dalla Mora Esquerdo[1,2], Rubens Augusto Camargo Lamparelli[1,3]
[1]UNICAMP - Universidade Estadual de Campinas, Brazil; [2]Embrapa Agricultura Digital, Brazil; [3]NIPE - Núcleo Interdisciplinar de Planejamento Energético, Brazil; dinojr95@gmail.com

OP09: Environment-Ecology: Atmosphere

Time: Wednesday, 12/Nov/2025: 10:30am - 12:30pm · *Location:* Florestan Fernandes III

10:30am - 10:50am

Precipitable Water Vapour Estimation from GNSS Observations: Methodology and Evaluation during a High-Precipitation Month in Santa Maria (RS)

Afonso Marques Albuquerque, Tayná Aparecida Ferreira Gouveia, Daniele Barroca Marra Alves, João Pedro Voltare Zaupa

São Paulo State University (UNESP); tayna.gouveia@unesp.br

10:50am - 11:10am

Applicability of Radio Occultation Data for Atmospheric Temperature Estimation over the São Francisco River Basin

Julia Pontes, Daniele Barroca, Gabriel Jerez, Tayná Gouveia, Afonso Marques

São Paulo State University (UNESP), Brazil; julia.pontes@unesp.br

11:10am - 11:30am

NPTool: An Automated Tool for Neutrospheric Variables, GNSS Delay and PWV Modeling

Tayna Gouveia[1], Daniele Alves[1], Afonso Albuquerque[1], Maria Julia Pompei[1], João Monico[1], Bruno Vani[2], Isabele Dibbern[1], Izabele Peres[1]

[1]UNESP, Brazil; [2]IFSP, Brazil; tayna.fgouveia@gmail.com

11:30am - 11:50am

Evaluation of Split-Spectrum Ionospheric Phase Estimates in ALOS-2 InSAR Time Series Using Phase Closure, IGS GIMs, and Madrigal Database

Pelagia Koutsantoni, Vassilia Karathanassi

Laboratory of Remote Sensing, School of Rural, Surveying and Geoinformatics Engineering, National Technical University of Athens, Greece; karathan@survey.ntua.gr

11:50am - 12:10pm Warning: The presentations finish prior to the end of the session!

APPPOLO: A Brazilian Processing Software for Multi-GNSS Precise Point Positioning

João Pedro Voltare Zaupa[1], Daniele Barroca Marra Alves[1], Paulo de Tarso Setti Júnior[2]

[1]FCT UNESP, Brazil; [2]INPE, Brazil; daniele.barroca@unesp.br

OP10: Social Applications: Epidemiology and Education

Time: Wednesday, 12/Nov/2025: 2:00pm - 3:40pm · *Location:* Cesar Lattes Auditorium

2:00pm - 2:20pm

Spatio-Temporal Evaluation of Land Surface Temperature (LST) in Urban Areas: Assessing Its Adequacy for Dengue Risk Models

Elisabet Marina Benitez[1], Ximena Porcasi Gómez[1], Paolo Gamba[2]

[1]Instituto "Mario Gulich" (UNC-CONAE), Córdoba, Argentina; [2]Department of Electrical, Computer and Biomedical Engineering, University of Pavia, Pavia, Italy; elisabet.benitez@ig.edu.ar

2:20pm - 2:40pm

Geocoding of epidemiological data: a case study comparing traditional APIs and Large Language Models (LLM)

Mariana Arruda, Rejane Cicerelli, Sávio Arruda, Rogério Sousa, Hugo Rego, Lucas Abud, Walter Ramalho

University of Brasilia, Brazil; hugo.rego@aluno.unb.br

2:40pm - 3:00pm

Mapping with Words: Integrating Large Language Models into Geospatial Practice

Jaqueline Pisetta[1], Fabíola Souza[2], Jaqueline Amorim[1], Nathan Antonio[1], Darlan Nunes[3], Hideo Araki[1], Silvana Camboim[1]

[1]Universidade Federal do Paraná, Brazil; [2]Universidade Federal da Bahia; [3]Universidade Federal de Viçosa; fabiola.andrade@ufba.br

3:00pm - 3:20pm

From Spectra to Semantics: An ontology-based Model of Spectral Observations Results

Fernando Roda[1,2,3], Francisco Nemiña[1,4]

[1]Instituto de Altos Estudios Espaciales "Mario Gulich"; [2]Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET); [3]Centro Internacional Franco Argentino de Ciencias de la Información y de Sistemas (CIFASIS) - UNR-CONICET; [4]Comisión Nacional de Actividades Espaciales (CONAE); fernando.roda@ig.edu.ar

3:20pm - 3:40pm

Trajectories in the Master's in Spatial Information Applications

Maria Fernanda Garcia Ferreyra[1,2,3], Gastón González Krieguel[2,3], Carlos Marcelo Scavuzzo[1,2,3]

[1]Comisión Nacional de Actividades Espaciales (CONAE); [2]Universidad Nacional de Córdoba (UNC); [3]Instituto de Altos Estudios Espaciales "Mario Gulich" (IG); fgarciaferreyra@conae.gov.ar

OP11: Applications: UAV and Task Planning

Time: Wednesday, 12/Nov/2025: 2:00pm - 3:40pm · *Location:* Florestan Fernandes I

2:00pm - 2:20pm

Deep Learning on UAV Imagery: Applications Across Civil and Military Domains

Rhaclley Araújo[1,2], Everton Rego[1,2], André Maitelli[1], Rodrigo Rangel[2], Gilberto Cugler[2], Eduardo Fonseca[2]
[1]Universidade Federal do Rio Grande do Norte, Brazil; [2]IBRV - Instituto de Pesquisa & Desenvolvimento;
rhaclley@gmail.com

2:20pm - 2:40pm

Human detection with YOLO for last-mile delivery applications using UAVs

Débora Paula Simões[1,2], Henrique Cândido de Oliveira[1], Rafael Lino dos Santos[1]
[1]FECFAU - Unicamp, Brazil; [2]IFSULDEMINAS, Brazil; hcandido@unicamp.br

2:40pm - 3:00pm

Graph-Based UAV Path Planning Using Risk Heatmaps and Superpixel Segmentation

Rafael Marinho[1,2], Elcio Shiguemori[1,2], Rafael Santos[1]
[1]National Institute for Space Research (INPE), Brazil; [2]Institute for Advanced Studies (IEAv), Brazil;
rafael.andrade@inpe.br

3:00pm - 3:20pm

LLM-driven Task Dispatching Heuristic Design for Multi-Agile Earth Observing Satellites Scheduling

Feiran Wang, Xiaolu Liu, Yuning Chen, Yingwu Chen
College of Systems Engineering, National University of Defense Technology, Changsha, China;
yuningchen@nudt.edu.cn

3:20pm - 3:40pm

Grid Heat-driven Imaging Satellite Multi-type Task Planning Method

Xu Shilong, Chen Yingwu, Chen Yingguo, Chen Yuning
National University of Defense Technology, China, People's Republic of; ygchen@nudt.edu.cn

OP12: Environment-Ecology: Costal, Soils and Geology

Time: Wednesday, 12/Nov/2025: 2:00pm - 3:40pm · *Location:* Florestan Fernandes III

2:00pm - 2:20pm

Characterization of Brazilian impact structures based on interpretations of Sentinel-1 C-band Dual-polarization (VV and VH) data

Adolfo Silva[1,2], Wolf U. Reimold[2]

[1]Geological Survey of Brazil; [2]Institute of Geoscience, Postgraduate Program in Geology, University of Brasília; adolfo.barbosa@sgb.gov.br

2:20pm - 2:40pm

Conservation Index for lentic ecosystems for an urban coastal wetland in south-central Chile - Rocuant Andalien

Luciana Silva, Maria Elisa Burgos, Fernanda Leiva, Ricardo Figueroa

Universidad de Concepcion, Chile; lucisilva@udec.cl

2:40pm - 3:00pm

GIS mapping of Allochthonous Marine Litter across the Brazilian Amazon Coast

Gina Peña-Villacreses[1], Andrés Velastegui-Montoya[2,3,4], Divar Castro-Rodas[3,5], David Freire Granda[3,5], Ingrid Niemes de Souza[1], Luci Cajueiro Carneiro Pereira[1]

[1]Laboratório de Oceanografia Costeira e Estuarina, Instituto de Estudos Costeiros, Universidade Federal do Pará; [2]Faculty of Engineering in Earth Sciences, ESPOL Polytechnic University; [3]Laboratory of Geoinformation and Remote Sensing, ESPOL Polytechnic University; [4]Centro de Investigación y Proyectos Aplicados a las Ciencias de la Tierra, ESPOL Polytechnic University; [5]Faculty of Mechanical Engineering and Production Sciences, ESPOL Polytechnic University; dvelaste@espol.edu.ec

3:00pm - 3:20pm

Towards a radar-only satellite-based methodology for subsurface characterization of salt pans

Matias Ernesto Barber[1], Verónica Rocío Martínez[2], José Manuel Lattus[3]

[1]Quantitative Remote Sensing Group, Institute of Astronomy and Space Physics (IAFE); [2]CEGA-INSUGEO-CONICET, Universidad Nacional de Salta; [3]Departamento de Geología, Universidad de Chile; mbarber@iafe.uba.ar

3:20pm - 3:40pm

Characterization of Subsurface Saline Layers in Jovian Moon Europa Using Radargram Simulations and Data Science Techniques

Edwin Francisco Valdes Arias[1], Cristopher Gerekos[2], Natalie Sohelia Wolfenbarger[3], Yady Tatiana Solano Correa[4]

[1]University of Cauca, Colombia; [2]Brabants Radars, Belgium; [3]Los Alamos National Laboratory, United States; [4]Pontificia Universidad Javeriana de Cali, Colombia; evaldes@unicauca.edu.co

PP02: Poster Presentations 02

Time: Wednesday, 12/Nov/2025: 4:10pm - 5:30pm · *Location:* Cineteatro Barrageiros

Forecasting Trinidad's Evolving Flood Future: A Susceptibility Mapping Approach with Long-Term Rainfall Projections (2010-2100)

Gabrielle Thongs[1], Santiago Ariel Seppi[3], María Victoria Marienlli[3], Arlette Saint Ville[1], Anabella Ferral[3], Olabanji Aladejana[1], Richard Rampersad[2], Fadilah Ali[1], Carlos Marcelo Scavuzzo[3]

[1]The University of the West Indies, St Augustine; [2]Inter-American Institute for Cooperation on Agriculture, Trinidad and Tobago; [3]Instituto de Altos Estudios Espaciales Mario Gulich, University of Córdoba, Argentina; gabrielle.thongs@uwi.edu

Temporal monitoring of the soybean cycle using Sentinel-2 images and NDVI analysis

Willian Henrique Guilherme Marques, Maria de Lourdes Bueno Trindade Galo, Nilton Nobuhiro Imai, Fernanda Sayuri Yoshino Watanabe

Faculty of Science and Technology, São Paulo State University (UNESP) at Presidente Prudente, São Paulo 19060-900, Brazil; w.marques@unesp.br

EVALUATION OF TOPOGRAPHIC CORRECTION MODELS IN MULTISPECTRAL IMAGES ACQUIRED BY UNMANNED AERIAL VEHICLE (UAV)

Isabele Canesin Longo, Nilton Nobuhiro Imai, Renato César dos Santos, Rebeca Campos Emiliano da Silva

São Paulo State University (FCT/UNESP), Brazil; isabele.longo@unesp.br

Mass balance estimation on the Zongo glacier, Bolivia, using a semi-distributed conceptual model (SCM)

Gabriela Quispe Sanchez[1], Carlos Cardenas Mansilla[1], Pablo Fuchs Arce[2], Alvaro Soruco Sologuren[3], Antoine Rabatel[4]

[1]Universidad de Magallanes; [2]Universidad Mayor de San Andres; [3]Universidad Mayor de San Andres; [4]Universidad Grenoble; gabrielaqsez@gmail.com

Radiometric calibration of DJI Mavic 3M multispectral images: a comparison of automatic processing, empirical line method, and field spectroradiometer

Matheus Modesto, Rebeca Emiliano, Antonio Tommaselli, Nilton Imai

Faculty of Science and Technology, São Paulo State University (UNESP) at Presidente Prudente, São Paulo 19060-900, Brazil; matheus.modesto@unesp.br

Combination of several spectral indexes and K-Means clustering to map the effects of an extreme flooding with Sentinel-2 imagery.

Alonso Madrigal Sanchez[1], Jorge Antonio Silva Centeno[2]

[1]KIT, Germany; [2]Federal University of Parana, Brazil; centeno@ufpr.br

Hyperparameter Optimization for Camera Calibration with Deep Neural Models

Fabiano da Cruz Nogueira[1,2], Luan Orion de Oliveira Baraúna Ferreira[1], Douglas Damião de Carvalho Honário[2,3], Marco Antonio Pizani Domiciano[3], Moises José dos Santos Freitas[3], Elcio Hideiti Shiguemori[1,2,3]

[1]Instituto Naciaonal de Pesquisas Espaciais, Brazil; [2]Instituto de Estudos Avançados , Brazil; [3]Instituto Tecnológico de Aeronáutica, Brazil; fabiano.nogueira@inpe.br

Deciduousness Analysis of Tectona grandis Plantations Using Orbital and UAV-Based Multispectral Data

Gustavo Manzon Nunes[1], Diego Santos Silva[1], Jaçanan Eloisa de Freitas Milani[1], Maricéia Tatiana Vilani[1], Mallu Pirolla[2], Fernando Scognamiglio Torres[2]

[1]UNIVERSITY OF MATO GROSSO, Brazil; [2]4M Agroflorestal Ltda, Brazil; gustavo.nunes@ufmt.br

Transferability and Generalization Investigation of Multiclass Cloud Masking Networks for unseen Biomes and Sensors - A Study on PlanetScope, Platero and Sentinel-2

Michael Greza, Tianyi You, Boris Jutzi

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Landscape Dynamics in the Piedmont, Escarpment Front, and Highland Pampas of the Sierras de Comechingones: A Spatiotemporal Analysis

Juan Pablo Zbrun Luoni[1,2], Nestor Javier Lattari[1], Mariela Aguilera Sanmaritano[2], Facundo Reynoso[2]

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Radiometric Correction of Landsat 8 Imagery Using Open-Source Software and its Impact on Spectral Index Derivation: A Case Study in the Southern Expanded Metropolitan Microregion of Espírito Santo State, Brazil

Wimerson Sanches Bazan[1,2], Fernanda Sayuri Yoshino Watanabe[1], Maria de Lourdes Bueno Trindade Galo[1], Antonio Maria Garcia Tommaselli[1], Mauricio Galo[1]

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Supervised Learning Models for Potato Yield Prediction in Commercial Fields

Samira Luns Hatum Almeida, Thiago Caio Moura Oliveira, Bruno Ripa Baptista, Vinícius Carreira dos Santos, Jarlyson Brunno Costa Souza, Rouverson Pereira da Silva

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Gaussian-AHP and Machine Learning algorithms to model flood susceptibility for areas with limited inventories

Francisco Helter Amaral, Eder MS Paula

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Summer simulated biogenic emissions compared to Sentinel-5P observations in Argentina

Anahi Bianco[1,2], Maria Fernanda Garcia Ferreyra[3], Mario Agustin Sgró[3], Gabriele Curci[4], Maxi Alberto Burgos Paci[1,2]

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Environmental drivers determined by remote sensing and in situ measurements during a spring phytoplankton bloom event in the fjords and channels of southern Chile

Máximo Frangopulos[1,2,3], Francisco Bahamonde[1,2,3,4], Erling Johnson[1], Carlos Cárdenas[1], César Alarcón[2,5], Andrés Mansilla[1,3], Gemita Pizarro[5], Jose Luis Iriarte[6,7]

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Analysis of socio-environmental problems in the La Silla River, Monterrey, México: An approach with UAV geospatial data (LiDAR and RGB)

Andrea Escobedo Tamez[1], Fabiola D. Yepez Rincon[1], Yadira Zulema Antonio Durán[1], Mariana Pérez Martínez[1], Kevin David Rodríguez González[1], Jacinto Treviño Carreón[2], David Clemente Pérez[1], Carlos J. Ábrego[1]

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Geospatial analysis of karst features using UAV-based LiDAR in Sete Lagoas, Minas Gerais, Brazil

Pedro Assunção[1], Wanessa Mezzomo[2], Paulo Galvão[3]

[1]LEHID, Federal University of Minas Gerais, Brazil; [2]CEPSRM, Federal University of Rio Grande do Sul,Brazil; [3]LEHID, Federal University of Minas Gerais, Brazil; phassuncao@ufmg.br

Decadal Assessment of Environmental Changes in the Cabrobó's Desertification Nucleus Using Orbital Multidata and GIS

José Galdino de Oliveira Júnior[1], Pabrício Marcos Oliveira Lopes[2], Cristina Rodrigues Nascimento[2], Geber Barbosa de Albuquerque Moura[2], José Francisco de Oliveira Júnior[3]

[1]UNICAMP - Universidade Estadual de Campinas, Brazil; [2]UFRPE - Universidade Federal Rural de Pernambuco, Brazil; [3]UFAL - Universidade Federal de Alagoas, Brazil; dinojr95@gmail.com

Integration of UAV–GNSS–GIS Technologies in a University Extension Project for Religious Cemetery Management: A Case Study at Martin Luther Church (Ibirama - Brazil)

GUILHERME FRANCISCO ZUCATELLI[1,2], Jorge Antonio Silva Centeno[1]

[1]Universidade Federal do Paraná, Brazil; [2]Universidade do Estado de Santa Catarina; guilherme.zucatelli@udesc.br

Correction for the effects of distance on terrestrial LiDAR intensity data under different illumination conditions

Rahuan Miguel da Silva, Antonio Maria Garcia Tommaselli, Isabella Subtil Norberto, Renato César dos Santos

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Analysis of Spectral Reflectance Derived from UAV-Embedded Multispectral and Thermal Sensors as a Function of Soil Moisture Gradient

Hildeberto Ferreira de Macêdo Filho, Elisângela Benedet da Silva, Cristina Pandolfo, Gabriel Berenhauser Leite, Daniel Augusto Da Silva

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Ionospheric Scintillation in Brazil: Analysis and Its Impact on GNSS Loss of Lock

João Luca Eulino Alves Silva, Daniele Barroca Marra Alves, João Francisco Galera Monico, Gabriel Oliveira Jerez, Daniel Dionisio de Freitas, Raphael Silva Nespolo, Tayná Aparecida Ferreira Gouveia, João Pedro Voltare Zaupa

Unesp, Brazil; daniele.barroca@unesp.br

Green Canopy Cover via VARI as a Selection Tool for Stay-Green Maize Hybrid

Guilherme Gonçalves Coswosk[1], Valter Jário de Lima[2], Vivane Mirian Lanhellas Gonçalves[3], Messias Gonzaga Pereira[3], Samuel Henrique Kamphorst[3], Eliemar Campostrini[3]

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OP13: Environment-Ecology: Climate Change

Time: Thursday, 13/Nov/2025: 10:30am - 11:50am · *Location:* Cesar Lattes Auditorium

10:30am - 10:50am

Assessing the potentiality of UFSAT-1 in TOA radiance and BOA reflectance for inland waters

Raul Rubio[2,3], Sofía Pana[1,3], Francisco Nemiña[2,3], Alice Fabbretto[4], Anabella Ferral[1,3], Mariano Bresciani[4], Claudia Giardino[4]

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10:50am - 11:10am

Geospatial Technology for Analyzing Land Use and Land Cover Dynamics in the Brazilian Pantanal

Edinéia Aparecida dos Santos Galvanin[1], Felipe Keiji Feital Harano[2], Natalia V. Revollo Sarmiento[3,4], Sandra Mara Alves da Silva Neves[5]

[1]Faculty of Sciences, Technology and Education, Geography and Planning Department, São Paulo State University (UNESP), Ourinhos São Paulo, Brazil; [2]Faculty of Sciences and Technology, São Paulo State University (UNESP), Presidente Prudente São Paulo, Brazil; [3]Departamento de Ingeniería Eléctrica y de Computadoras, Universidad Nacional del Sur, Argentina; [4]Instituto de Ciencias e Ingeniería de la Computación (ICIC), CONICET-UNS, Argentina; [5]University of Mato Grosso State, UNEMAT, Geography Departament, Cáceres, Mato Grosso, Brazil; edineia.galvanin@unesp.br

11:10am - 11:30am

Mapping of wetlands in the Pantanal with SWOT

Luana Sales, Daniel Beltrão, Thiago Lappicy, Larisse Jesus, Tati Almeida, Rejane Cicerelli

UNB, Brazil; luanaoliveirasales@hotmail.com

11:30am - 11:50am

HYDROLOGICAL ANALYSIS OF THE MIDDLE AND LOWER PARAGUAY BASIN BASED ON WATER BALANCE AND STORAGE USING IMERG, GLDAS, AND GRACE PRODUCTS (2003–2023)

Rossana Villalba Cáceres[1], Anabella Ferral[2], Julian Báez[3], Jorge Kurita[4], Matías Bonansea[5], Juan Carlos Bertoni[6]

[1]Polytechnic Faculty National University of Asunción; [2]Associate Researcher (IG-CONICET); [3]Teaching Researcher, Faculty of Science and Technology Catholic University of Asunción; [4]Research Department, Polytechnic Faculty National University of Asunción; [5]Department of Geology, Faculty of Exact, Physical-Chemical and Natural Sciences National University of Río Cuarto; [6]Professor, Faculty of Exact, Physical and Natural Sciences National University of Córdoba; rvillalba@pol.una.py

OP14: Environment-Ecology: Atmosphere, Soils and Geology

Time: Thursday, 13/Nov/2025: 10:30am - 11:50am · *Location:* Florestan Fernandes I

10:30am - 10:50am

ERA5-Land: soil moisture dry-downs detection over the Argentine Pampas

Sabrina Beninato[1], Mauro Ezequiel Holzman[1,2], María Florencia Degano[1], Raúl Eduardo Rivas[1,3]

[1]Instituto de Hidrología de Llanuras "Dr. Eduardo J. Usunoff" (IHLLA), Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Tandil, Argentina; [2]Instituto de Hidrología de Llanuras "Dr. Eduardo J. Usunoff" (IHLLA), Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET), Azul, Argentina; [3]Instituto de Hidrología de Llanuras "Dr. Eduardo J. Usunoff" (IHLLA), Comisión de Investigaciones Científicas (CIC), Tandil, Argentina; sbeninato@ihlla.org.ar

10:50am - 11:10am

Assessment of L-band passive soil moisture products over an arid agricultural region in Southern Mexico

Alejandro Monsiváis-Huertero[1], Isaías Barragán-Cruz[1], Héctor Ernesto Huerta-Bátiz[1], Enrique Zempoaltecatl-Ramirez[1], José Carlos Jiménez-Escalona[1], Rodrigo Florencio-Da Silva[1], Víctor Manuel Sauce-Rangel[1], Daniel Enrique Constantino-Recillas[2], José Emilio Quiroz-Ibarra[3], Jorge Ángel González-Ordiano[3]

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11:10am - 11:30am

Temporal Constrained Retrieval of Soil Dielectric Constant Using CyGNSS Data: Validation with In-Situ Measurements

Javier Arellana[1,2], Francisco Grings[1,2], Mariano Franco[1,2]

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11:30am - 11:50am

Spectral Index for classifying glacier debris distribution and thickness using Multispectral UAV imagery: A case study at Juncal Norte Glacier, Central Andes of Chile.

Luis Muñoz[1,2], Carlos Cárdenas[1], Javier L. Armijo Quiñones[2], Natalia Mestre[2], Francisco Fernandoy[2]

[1]Universidad de Magallanes, UMAG, Chile; [2]Laboratorio de Análisis isotópico, Facultad de ingeniería, Univarsidad Andrés Bello.; luismugaet@gmail.com

OP15: Production-Economy: Urban Development

Time: Thursday, 13/Nov/2025: 10:30am - 11:50am · *Location:* Florestan Fernandes III

10:30am - 10:50am

Spatial and urban transformations linked with COMPERJ in Eastern Metropolitan Rio de Janeiro

Guilherme Fernández, Julia Alves, Leonardo Magalhães, Adriana Sais

Universidade Federal de São Carlos, Brazil; guilhermefernandez@estudante.ufscar.br

10:50am - 11:10am

Per-pixel population estimates in Western Amazon using limited remote sensing and spatial data

Luiz Felipe de Almeida Furtado[1], Luiz Carlos Teixeira Coelho[1,2,3], Maria de Fátima Rodrigues Pereira de Pina[1,4,5], Marília Sá Carvalho[6], Irving da Silva Badolato[1,7]

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11:10am - 11:30am

Monitoring LULC Changes in Los Molinos Reservoir Basin Using Remote Sensing Techniques

Mariana Correa[1,2], Sofia Gutierrez[1], Rocío Guido[2], Matias Bonansea[1,3], Anabella Ferral[2], Facundo Bonino[1]

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11:30am - 11:50am

Urban Morphology and Infrastructure Patterns: A LiDAR-Based 3D Cluster Analysis Using Verticalization as a Proxy

Ezequiel Rocha[1], Aluízio maia[2], Cláudia Almeida[1], Paulo Ruiz[3]

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