

IEEE GRSS

IEEE GRSS Education Portfolio

R. Natsuaki, A. Camps, E. H. Tat, N. Mezned, J. Bredow,
K. A. Nguyen, M. Fru, X. Sun, Q. Zhan, **C. López-Martínez**

IEEE GRSS IGARSS, August 2025, Brisbane, Australia

GRSS Education Portfolio Goal

Fostering knowledge and skills in the field of geoscience and remote sensing promoting activities designed to engage students at all levels and provide valuable learning opportunities



Students Grand Challenges

Engage students and young professionals in contributing to the **solution of complex engineering problems** within the scope of the Student Grand Challenges.

1st SGC:

- Disaster monitoring

2nd SGC:

- Earth observation payloads for nanosatellites

3rd SGC:

- Detection of marine plastic litter

4th SGC:

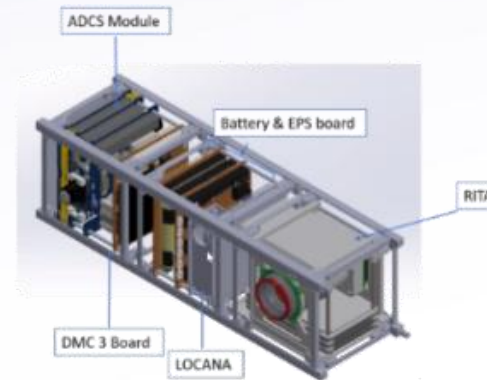
- Monitoring whales through Earth Observation

5th SGC:

- End-to-End Remote Sensing Applications Based on Unmanned Vehicles

6th SGC:

- In progress

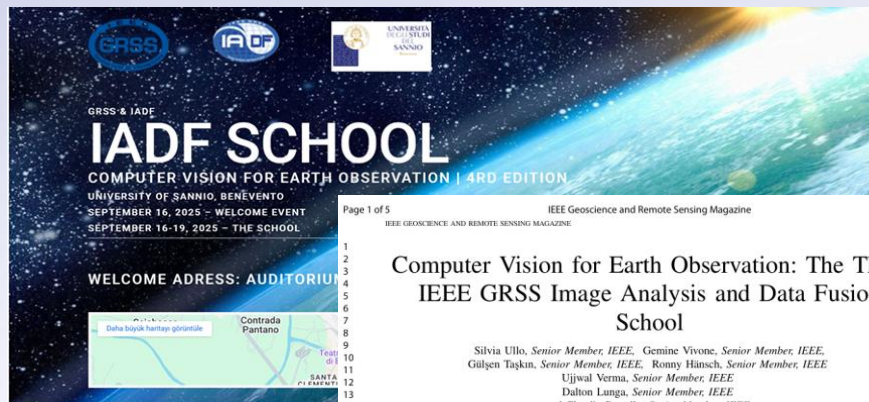


Funding & support for training schools. Schools in 2025:

- **GeoAI**, (Tunisia Chapter), Tunis, Tunisia, May. 2-4
- **School on High-Performance and Disruptive Computing in Remote Sensing**, (ESI TC), University of Santiago de Compostela, Spain, Jun. 3-6
- **International Geoinformatics Summer School 2025 (IGSS 2025)** (Wuhan Chapter), Wuhan, China, Jul. 1-8
- **Summer School on Remote Sensing Modeling and Retrievals on Earth Surface Properties**, Beijing Chapter, Beijing, China, Jul. 27-29
- **IGARSS 2025 Summer School** (IGARSS) Brisbane, Australia, Jul. 31-Aug.2
- **IEEE GRSS IADF School on Computer Vision for Earth Observation – 4th edition** (IADF TC), Benevento, Italy, Sep. 16-19
- **International School on Advance SAR Polarimetry (PoISAR) for Agro-Environmental Applications**, (Quebec Chapter), Quebec City, Canada Sep. 22-25
- **ReACT summer school APSAR** (REACT TC), Matsue, Japan, Oct. 4
- **MicrowAve Monitoring of WATer with Applications (MAMI WATA)** (MIRS TC) Rome, Italy, November 18-21
- **Workshop on Urban Heat Equity** (REACT TC), Australia, Nov. TBD

GR3S Schools

IEEE GRSS



Computer Vision for Earth Observation: The Third IEEE GRSS Image Analysis and Data Fusion School

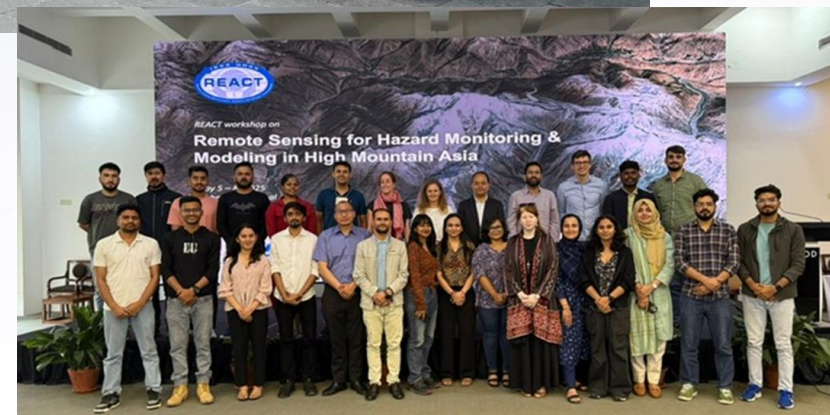
Silvia Ullo, *Senior Member, IEEE*, Gemine Vivone, *Senior Member, IEEE*,
Gulsen Tasgin, *Senior Member, IEEE*, Ronny Hänsch, *Senior Member, IEEE*,
Ujjwal Verma, *Senior Member, IEEE*,
Dalton Lungu, *Senior Member, IEEE*
and Claudio Persello, *Senior Member, IEEE*



Fig. 1: Logo of the IEEE GRSS IADF School on Computer Vision for Earth Observation (CV4EO).

(and sometimes temporal) input and the target variable. The goal of this third IEEE GRSS IADF School on CV4EO was to provide a general overview of the multitude of different aspects of how CV is used in EO applications together with deep insights into modern methods to automatically process and analyze remote sensing images.

ORGANIZATION OF THE THIRD IEEE GRSS IADF SCHOOL.



2025 IEEE GRSS Summer School on Modeling in Microwave and Optical Remote Sensing 27 - 29 August 2025 Online & NSSC, Beijing, China



HSUSO: High School & Undergrad Student Outreach

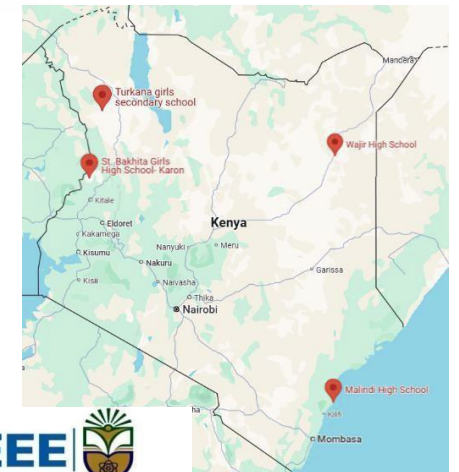
IEEE GRSS

Support to the Science Olympiad focused on promoting STEM education,

- **Remote sensing content is provided to the Science Olympiad** which will enable learners to have knowledge on Remote sensing early



IEEE GRSS Student Branch at the Technical University of Kenya proposes a high-impact outreach event targeting high school students in marginalized regions of Kenya, **introducing students to the fundamentals of remote sensing**



Certification

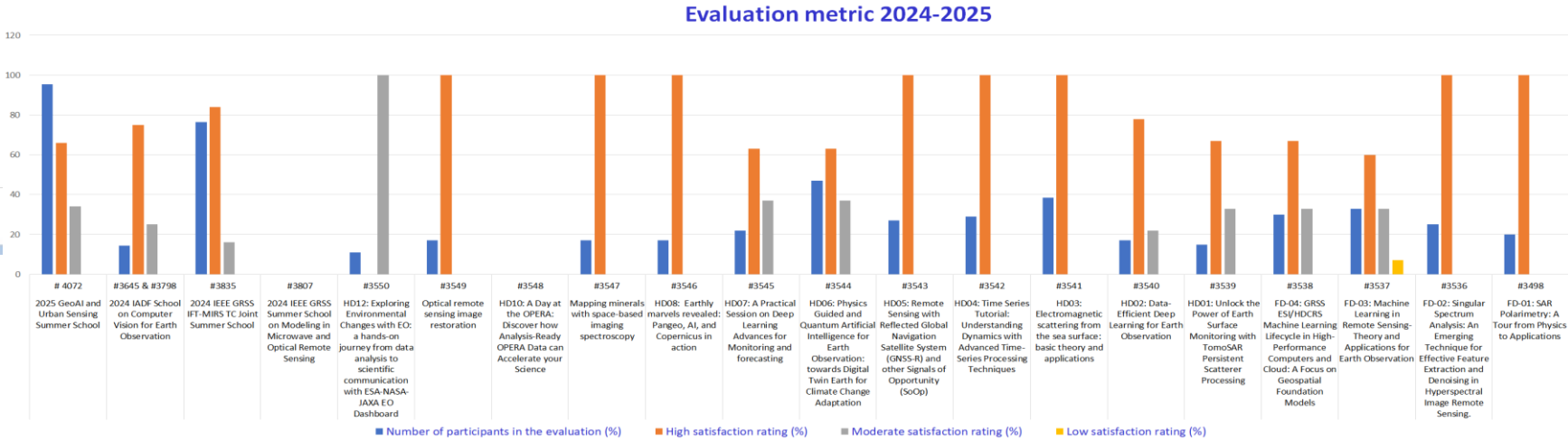
Provide **official certification** for educational activities

**IEEE**

IEEE Continuing Education Course Evaluation

Course Title:
Date of Event:
Instructor:

** Indique une question obligatoire*

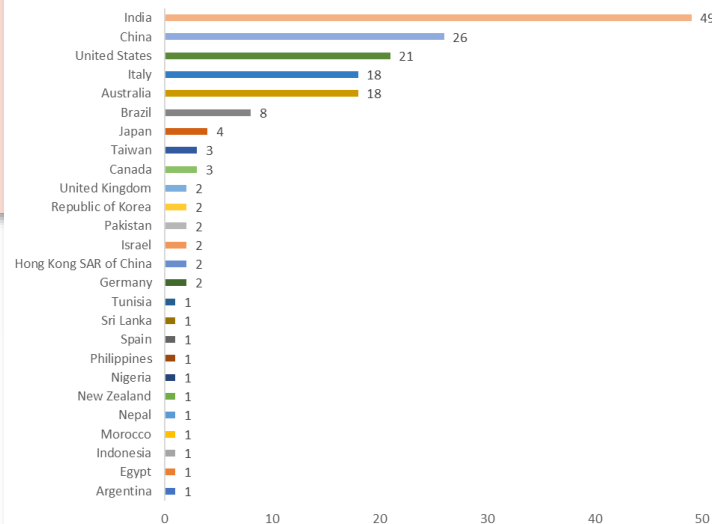


Travel Grants

IGARSS

- 2 rounds
- 173 grants

Grant Awarded per Country/Region



Local Activities and GR3S

- 2 local conferences
- 3 GR3S

Education initiative: GRSS e-learning platform

IEEE GRSS



Expected Outcomes

- Developing a well-structured educational database
- Enhancing the visibility and impact of the GRSS's initiatives by offering a diverse range of high quality online courses tailored to various audiences
- Promoting the educational activities offered by GRSS
- A modular and reusable course structure that supports continuous content updates and sustainability
- Improved access to quality training for students, researchers, and professionals, particularly in underserved regions, contributing to skill development and knowledge equity

A screenshot of the GRSS e-learning platform interface. At the top, there's a header with the IEEE GRSS logo, a search icon, and a notification bell with a '3' badge. Below the header is a large banner image showing a satellite view of Earth from space. Under the banner, there's a navigation bar with links: 'GRSS Service Desk', 'GRSS Portfolio Development Funding', and 'PDF-2'. The main title 'GRSS e-learning platform' is displayed. Below this, a post by 'carlos.lopezmartinez' is shown, dated 'Today 1:02 AM'. The post includes a 'Project Lead and Team:' section with names 'Nouha Mezned, Carlos López-Martínez, Ryo Natsuaki' and a note about a subcontractor. It also has a 'Project Portfolio:' section with 'Education' listed. The 'Project Abstract:' section describes the GRSS e-learning platform project, mentioning its hosting at the IEEE Learning Network ILN and its goal to provide online courses to a global audience.

Education Initiative: EO-based GRSS education program in the Pacific Islanding territories



Expected Outcome

- Enhance the understanding and the use of EO in practical applications (in the disasters and health domains) which contribute to global innovation
- It will create EO curriculum to support life-long learning
- It will provide opportunities for career and professional development
- It will establish a fruitful collaboration for the sharing of knowledge for the benefit of humanity

