ForestSAT 2026

Association for Forest Spatial Analysis Technologies

May 4-8, 2026 | Gainesville, Florida, USA

Title: "PlotToSat: Extraction of Sentinel-1 and Sentinel-2 time-series at multiple regions"

Instructors/Affiliation:

Dr. Milto Miltiadou, University of Exeter
James Camberlain, University of Exeter
Oliver Appleby, University of Exeter

Description:

The primary goal of this workshop is to introduce PlotToSat, a specialised tool designed for extracting satellite time-series data at multiple regions. The workshop will further equip participants with practical skills for using Google Earth Engine (GEE) both within its native JavaScript environment and through the Python API.

Learning Objectives:

- Familiarisation with the GEE Code Editor interface components and java script editor.
- Satellite Imagery Handling: Searching, loading, visualising collections.
- Setting up Visual Studio Code (VS Code) for GEE Python API access, including authentication and initialisation.
- Understanding API differences and how to translate GEE JavaScript scripts into Python code.
- Implementing a Random Forest or CART land cover classifier.
- Hands on training on how to use PlotToSat for extracting time-series signatures from Sentinel-1 and Sentinel-2 data at specific plot locations for machine learning applications.

Target audience:

Researchers, graduate students, academics and data scientists with understanding of remote sensing imagery. Participants are also expected to have beginner-level programming skills.

Format & Activities:

The workshop will be conducted as a hands-on, interactive training combining short presentations, live demonstrations, and guided coding exercises. Participants will work directly with Google Earth Engine (GEE) and the PlotToSat tool, alternating between the JavaScript Code Editor and the Python API in Visual Studio Code.

The following activities will be conducted:

- Introduction to the GEE Code Editor
- Satellite Imagery searching, loading, visualising
- Introduction to the Python API with GEE
- Translating GEE JavaScript code to Python API
- Implementation of a Supervised Classification with GEE Python API
- PlotToSat Tool Overview for quickly extracting Sentinel-1 and Sentinel-2 time-series at multiple regions

Expected outcomes:

By the end of the workshop, participants will be able to:

- Navigate and Operate Google Earth Engine (GEE) Code Editor
- Search, Load, and Visualise Satellite Imagery
- Install, authenticate, and initialise the GEE Python API environment in Visual Studio Code
- Translate JavaScript GEE Scripts into Python
- Create training and testing datasets and apply Supervised Classification using classifiers available at GEE
- Extract Sentinel-1 and Sentinel-2 Time-Series using PlotToSat

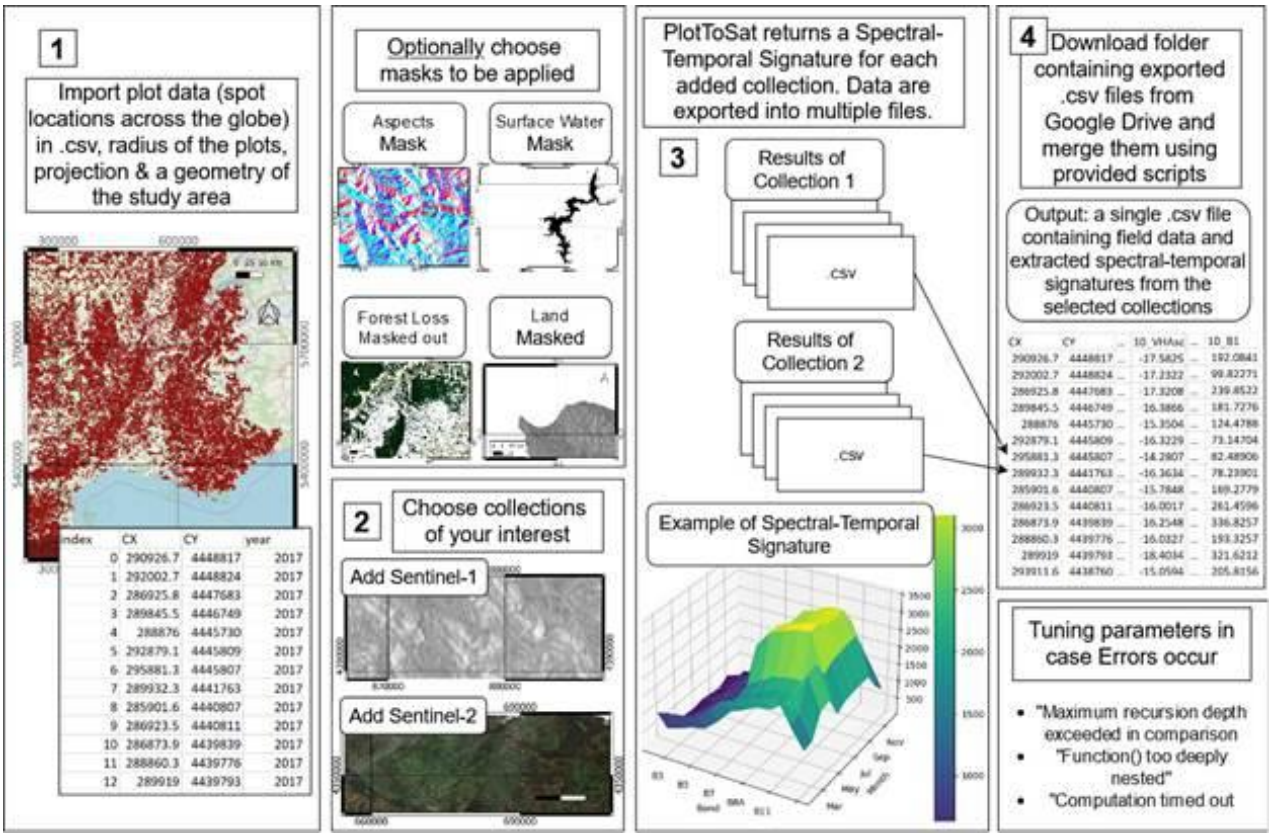
Language: English

Requirements: Computer with Visual Studio Code (https://code.visualstudio.com/download) installed, internet access and an active account to Google Earth Engine (https://code.earthengine.google.com).

Schedule: November 13, 9:00 AM – 2:00 PM (EST)

Duration: 4 hours.

Instructor Biography: Dr Milto Miltiadou is a multi-disciplinary Lecturer (E&R) in Computer Science at University of Exeter, UK. She is an Academic Lead of the Centre for Environmental Intelligence and is affiliated with the Institute of Data Science and Artificial Intelligence (IDSAI). Her research group focuses on forest monitoring, unlocking the potential of Earth Observation data, including time-series and LiDAR, optimizing processing pipelines, implementing tools and machine learning applications. She has implemented two open-source tools: PlotToSat, developed at the University of Cambridge as part of Dr Emily Lines' Future Leaders Fellowship, and DASOS, developed at Plymouth Marine Laboratory and University of Bath. She is the Principal Investigator of the MSCA Fellowship ForestFireAI (£260,348EUR), has a PhD grant and was the Co-Investigator of GreenSight project (£89,459.59) completed in collaboration with MetOffice. Before that, at the Cyprus University of Technology, she initiated and managed the ASTARTE and FOREST projects worth €400,000. She co-supervised a PhD student to completion; the joint paper with Dr Rorai Pereira Martins-Neto was selected at Editor's Choice Article in 2023 Series, Forests journal. She is the Module Leader of the "Programming with Python" module. Her experience spans in both academia and industrial innovation, including past international placements at Planetek Italia, Italy, and Interpine Group Ltd, New Zealand, with an ongoing collaboration with the latter.



Front-end workflow of the published version of PlotToSat

Available at: https://github.com/Art-n-MathS/PlotToSat

Agenda

Eastern Time (ET)	**Topic**	**Instructor**
09:00 – 9:15	Introduction to the GEE Code Editor	Milto Miltiadou
9:15 – 9:45	Satellite Imagery searching, loading, visualising	Milto Miltiadou
9:45 – 10:05	Python Integration with GEE	Milto Miltiadou
10:05 – 10:30	JavaScript to Python Translation	Milto Miltiadou
10:30 – 11:30	Break	Milto Miltiadou
11:30 – 12:30	Supervised Classification with GEE Python API	Milto Miltiadou
12:30 – 14:00	PlotToSat Tool Introduction	Milto Miltiadou