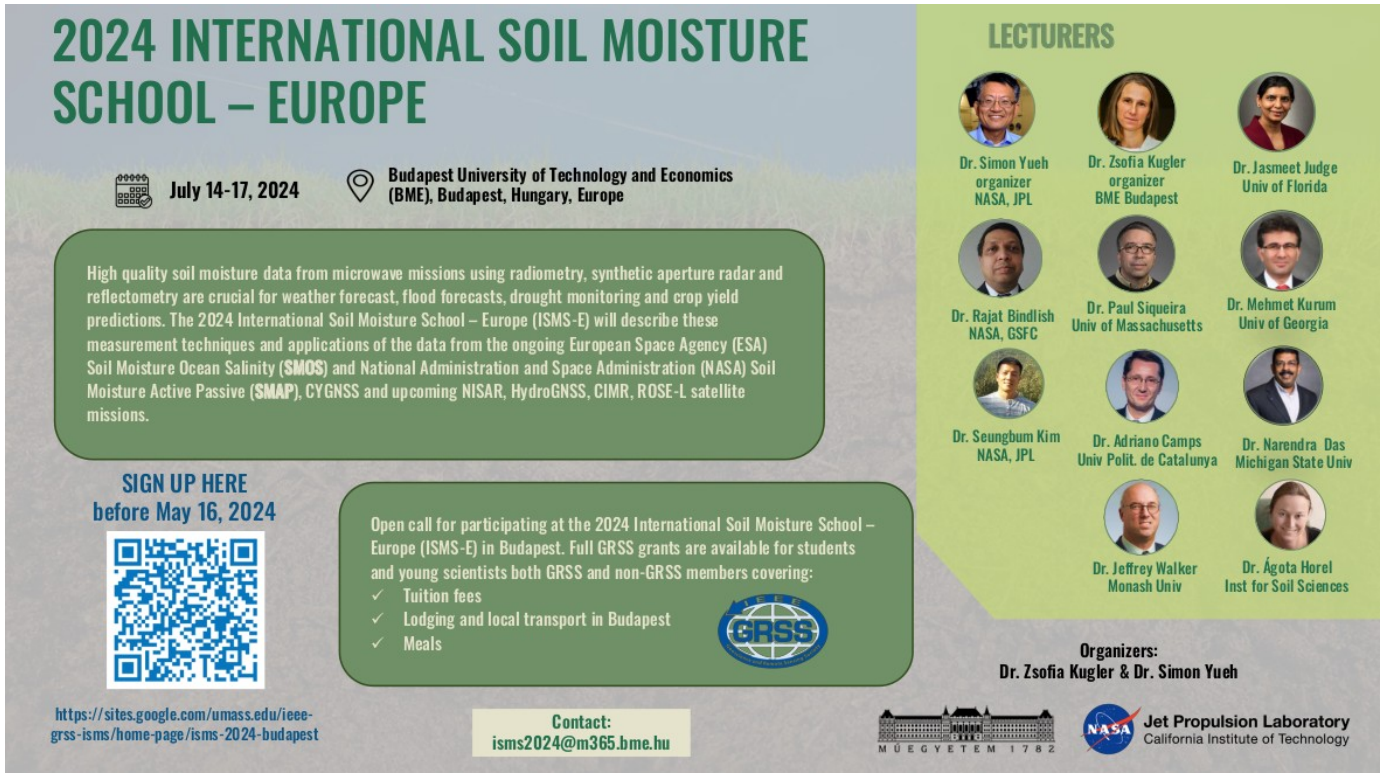
COUNTRY HOT TOPICS

GOFC-GOLD Network: SCERIN / MedRIN
Country:
Team : Dániel Kristóf, Levente Ronczyk

Remote Sensing priorities or 'hot topics' *(top 3-4)*
Please provide a (short) description of the objective(s) of the project (max. 2-3 sentences)

- Climate Change is the driving force of many ongoing project.

- ESA triggers several R&D project (~ 2 million € for Earth Observation),
- NASA (last year visit of Dr. Garik Gutmann (as Embassy Science Fellow) deepen the cooperation between NASA and local scientist



GOFC-GOLD Network: SCERIN
Country: HUNGARY

Team : Dániel Kristóf Vivien Pacskó Máté Simon

Joint Workshop of the GOFC-GOLD SCERIN and MedRIN Networks
CIHEAM conference center, Chania, Greece, July 16 – July 19, 2024
Land Cover Change (LCC) and Extreme Events in the Context of Climate Change

Mediterranean Agronomic Institute of Chania
Region of Crete
Eratosthenes Center of Excellence, Cyprus University of Technology
Aristotle University of Thessaloniki
NASA LCLUC Program
GOFC-GOLD and START, USA

Delivery of national datasets using Machine Learning and Earth Observation practices

Objective:

Country-wide mapping of grasslands for the control of agricultural subsidies

In a couple of weeks

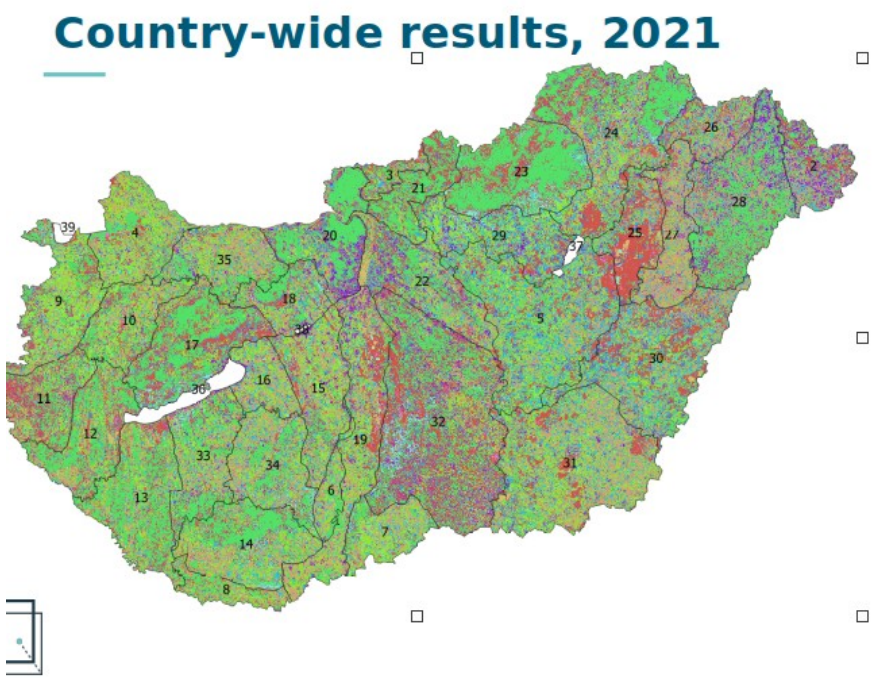
With high reliability

With up-to-date and repeatable methodology

Implementation plan:

Machine Learning based on time series of optical & radar data (including spectral indices and polarimetry), huge amount of training and test data

Based on literature review & expert input: Random Forest Learning



Zone	(%)	Zone	(%)	Zone
2	90,76	14	96,95	26
3	93,88	15	97,33	27
4	96,28	16	98,18	28
5	94,97	17	87,88	29
6	98,08	18	96,03	30
7	97,57	19	93,33	31
8	96,88	20	92,89	32
9	96,27	21	93,98	33
10	93,98	22	94,71	34
11	95,25	23	89,99	35
12	94,21	24	92,02	
13	95,84	25	81,62	

Categories	
Winter cer.	Soy
Spring cer.	Deciduous forest
Maize	Needleleaf forest
Sunflower	Surface waters
Sugarbeet	Tobacco
Alfalfa	Grassland
Peas	Uncultivated grassland
Potato	Wet grassland
Rapeseed	Alkaline grassland
Vineyards	Grassland with herbaceous weeds
Orchards	Grassland with arboreal vegetation
Oil seed pumpkin	Other

GOFC-GOLD Network: SCERIN
Country: HUNGARY
Team : Lechner Earth Observation Center

Earth Observation Operations Centre > Agricultural Risk Management System

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GOFC-GOLD and START, USA

Objective:

Maintenance and operation of the Earth Observation Information System

Remote sensing processing and analysis

Coordination of application and service development

Professional coordination and consultancy

Education and dissemination

Implementation plan:

Specific EO subsystems:

Disaster management:

Fire investigation

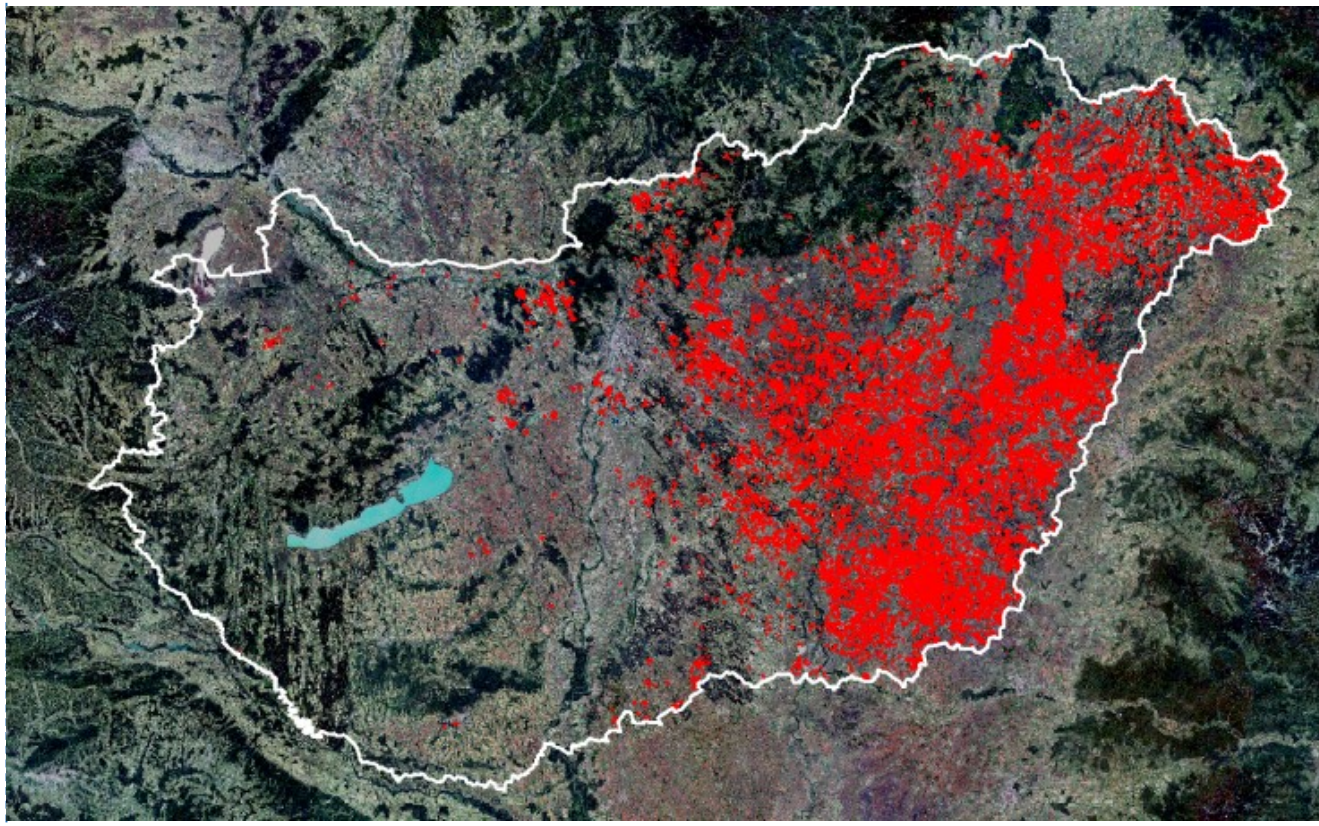
Monitoring of critical water infrastructure (InSAR)

Water management

Flood and inundation monitoring

Forestry: detection of state, cuts, uninventoried forests

Agriculture: crop and pasture mapping, drought monitoring



GOFC-GOLD Network: SCERIN
Country: HUNGARY
Team : CropOM, Lechner Center of EO

Danube Data Cube

- Cloud-based data exploitation platform with data, ML and analytical tools
- Data cube technology and synergy between EO, GIS and Geophysical data
- Reflects the Digital Twin Earth concept of ESA to support sustainable development
- Support for two types of users:
  - Users for value added information (agriculture, water management etc.)
  - Service developers deploying value-added services on the platform