

GeoTAK Technical Training in NATURAL RESOURCES

Sustainable use and exploitation of natural resources using remote sensing

AGENDA

Practical training, dissemination and management (Kyrgyzstan, March 21-26, 2022)

Day	Local Time	Partner	Lecturer	Title	Description	Comments
Sun, Mar. 20 th	---			Arrival to Osh		
Mon, Mar. 21 st	10h00-16h00			Field trip		
Day	Local Time	Partner	Lecturer	Title	Description	Comments
Tue, Mar. 22 nd	10h30-11h00			Registration <u>Location:</u> OshTU		
	11h00-12h00			Opening ceremony at OshTU and Welcome - Welcome speech by the Rector of OTU Prof. Murzabek Sagynaliev - Speech by the GeoTAK project coordinator Prof. Luis Angel Ruiz - Presentation of the GeoTAK project by Prof. Luis Angel Ruiz		
	12h00-12h30			Opening GIT Lab at OshTU Visit Department facilities		
	12h30 - 14h30			Lunch		
	14h30-15h30	UL	<i>Bujar Fetai/Matej Račič/Anka Lisec</i>	Optical remote sensing data processing – basics	Optical remote sensing data processing – the case of forest / agriculture cover monitoring using Sentinel data	Software: ESA SNAP, QGIS
	15h30-16h00			Coffee Break		
	16h00-17h00	UL	<i>Bujar Fetai/Matej Račič/Anka Lisec</i>	Optical remote sensing data processing – basics	Optical remote sensing data processing – the case of forest / agriculture cover monitoring using Sentinel data	Software: ESA SNAP, QGIS

Day	Local Time	Partner	Lecturer	Title	Description	Comments	
Wed, Mar. 23 rd	9h30-11h00	UPV	Prof. Luis A. Ruiz	Lidar data processing for forestry	<u>Theory</u> : LiDAR systems for mapping forest variables. <u>Practice</u> : LiDAR data visualization and preprocessing	Software: FUSION	
	11h00-11h30	Coffee Break					
	11h30-13h00	UPV	Prof. Luis A. Ruiz, Jesús Torralba	Lidar data for biomass estimation and mapping	<u>Practice</u> : LiDAR data preprocessing and biomass estimation and mapping	Software: FUSION, Weka, QGIS	
	13h00-14h00	Lunch					
	14h00-15h30	UL	<i>Matej Račič/Bujar Fetai/Anka Lisec</i>	Land cover change detection using optical satellite data	Land cover change detection using Sentinel data	Software: ESA SNAP, QGIS	
	15h30-16h00	Coffee Break					
	16h00-17h30	UL	<i>Matej Račič/Bujar Fetai/Anka Lisec</i>	Land cover change detection using optical satellite data	Land cover change detection using Sentinel data	Software: ESA SNAP, QGIS	
	19h00-21h00	Social dinner					
Thu, Mar. 24 th	09h30-11h00	VUB	Dr. <i>Jonathan C-W Chan</i>	Hyperspectral data processing and analyses	Hyperspectral data processing, applications in natural resources domain. To acquire basic knowledge and skills to approach hyperspectral data, its availability and immediate application using real EO HS data PRISMA.	Software: RStudio, MultiSpec (Both Open source)	
	11h00-11h30	Coffee Break					
	11h30-13h00	VUB	Dr. <i>Jonathan C-W Chan</i>	Hyperspectral data processing and analyses	Hyperspectral data processing, applications in natural resources domain. To acquire basic knowledge and skills to approach hyperspectral data, its availability and immediate application using real EO HS data PRISMA.	Software: RStudio, MultiSpec (Both Open source)	
		Travel to Bishkek					

Day	Local Time	Partner	Lecturer	Title	Description	Comments
Fri, Mar. 25 th	09h00-09h30			Reception at KSUCTA (Main Conference Hall - 34 "B", Malydyaev street, Bishkek) Welcome by Rector of KSUCTA Prof. Dr. Akymbek Abdykalykov		
	09h30-10h00			Visit KSUCTA facilities		
	10h00-10h30			Opening of the updated GIT laboratory of KSUCTA (Building 3, Room 114) - Speech by Rector of KSUCTA Prof. Dr. Akymbek Abdykalykov - Speech by the National Erasmus+ Coordinator Gulnara Chokusheva (tbc) - Speech by the GeoTAK project coordinator Prof. Luis Angel Ruiz		
	10h30-12h00			NRN-GIT Advisory Board Meeting (Main Conference Hall with online ZOOM communication) - Opening by Rector of KSUCTA Prof. Dr. Akymbek Abdykalykov - Presentation of the GeoTAK by project coordinator Prof. Luis Angel Ruiz - Election of the Chairman, his deputy and secretary of the Advisory Council - Presentations and discussions		
	12h30-14h00			Lunch		
	14:00			Reception at KSMU		
	14:30			Opening GIT Lab KSMU		
Sat, Mar. 26 th	09h30-12h30			Project management meeting (Main Conference Hall of KSUCTA)		
	12h30-14h30			Lunch		
	14h30-17h00			Field visit		
Sun, Mar. 27 th	---			Departure from Bishkek		

GeoTAK Guest lectures for students and teachers of KSUCTA and KSMU

KSUCTA, Bishkek, March 23-24

Wednesday, March 23 rd	14h00-15h30	Dr. Huaan Fan, KTH	Overview of geoinformation technology (GIT)
	15h30-17h00	Dr. Armin Agha Karimi, KTH	Satellite-based Earth monitoring using altimetry, GRACE and GNSS
Thursday, March 24 th	11h00-12h30	Dr. Huaan Fan, KTH	Mathematical basics for GIT students
	12h30-14h00	Lunch break	
	14h00-15h30	Dr. Huaan Fan, KTH	Geodetic reference systems

The following free **software packages should be installed** in the classroom and computers of online attendants of the training at OshTU:

- ✓ SNAP: <https://step.esa.int/main/download/snap-download/>
- ✓ QGIS: <https://www.qgis.org/en/site/forusers/download.html>
- ✓ FUSION: <http://forsys.cfr.washington.edu/fusion/fusionlatest.html>
- ✓ WEKA: https://waikato.github.io/weka-wiki/downloading_weka/
- ✓ MultiSpec: https://engineering.purdue.edu/~biehl/MultiSpec/download_win.html
- ✓ R Project : <https://www.r-project.org/> (For Random Forest classifier in R, trainees need to install packages: rgdal, raster, caret, e1071, snow)

Contacts: Prof. Luis Angel Ruiz, laruiz@cgf.upv.es (Erasmus+ GeoTAK project coordinator, UPV, Spain)
 Akylbek Chymyrov, chymyrov@gmail.com, +996-773-997112 (KSUCTA, Bishkek, Kyrgyzstan)
 Bekbolot Attokurov, a.bekbolot@gmail.com, +996-708-414207 (KSMU, Bishkek, Kyrgyzstan)
 Gulshaan Ergeshova, gulshaan.ergeshova@gmail.com, +996-770-701005 (OshTU, Osh, Kyrgyzstan)