

## 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 <sup>th</sup>	---			<b>Arrival to Osh</b>		
Mon, Mar. 21 <sup>st</sup>	10h00-16h00			<b>Field trip</b>		
Day	Local Time	Partner	Lecturer	Title	Description	Comments
Tue, Mar. 22 <sup>nd</sup>	10h30-11h00			<b>Registration</b>  <u>Location:</u> OshTU		
	11h00-12h00			<b>Opening ceremony at OshTU and Welcome</b>  - 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			<b>Opening GIT Lab at OshTU</b>  <b>Visit Department facilities</b>		
	12h30 - 14h30			<b>Lunch</b>		
	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			<b>Coffee Break</b>		
	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

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Wed, Mar. 23 <sup>rd</sup>	9h30-11h00	UPV	Prof. Luis A. Ruiz	<a href="#">Lidar data processing for forestry</a>	<u>Theory</u> : LiDAR systems for mapping forest variables. <u>Practice</u> : LiDAR data visualization and preprocessing	Software: FUSION	
	11h00-11h30	<b>Coffee Break</b>					
	11h30-13h00	UPV	Prof. Luis A. Ruiz, Jesús Torralba	<a href="#">Lidar data for biomass estimation and mapping</a>	<u>Practice</u> : LiDAR data preprocessing and biomass estimation and mapping	Software: FUSION, Weka, QGIS	
	13h00-14h00	<b>Lunch</b>					
	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	<b>Coffee Break</b>					
	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	<b>Social dinner</b>					
Thu, Mar. 24 <sup>th</sup>	09h30-11h00	VUB	Dr. <i>Jonathan C-W Chan</i>	<a href="#">Hyperspectral data processing and analyses</a>	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	<b>Coffee Break</b>					
	11h30-13h00	VUB	Dr. <i>Jonathan C-W Chan</i>	<a href="#">Hyperspectral data processing and analyses</a>	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)	
		<b>Travel to Bishkek</b>					

Day	Local Time	Partner	Lecturer	Title	Description	Comments
Fri, Mar. 25 <sup>th</sup>	09h00-09h30			<b>Reception at KSUCTA</b> (Main Conference Hall - 34 "B", Malydyaev street, Bishkek) Welcome by Rector of KSUCTA Prof. Dr. Akymbek Abdykalykov		
	09h30-10h00			<b>Visit KSUCTA facilities</b>		
	10h00-10h30			<b>Opening of the updated GIT laboratory of KSUCTA</b> (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			<b>NRN-GIT Advisory Board Meeting</b> (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			<b>Lunch</b>		
	14:00			<b>Reception at KSMU</b>		
	14:30			<b>Opening GIT Lab KSMU</b>		
Sat, Mar. 26 <sup>th</sup>	09h30-12h30			<b>Project management meeting</b> (Main Conference Hall of KSUCTA)		
	12h30-14h30			<b>Lunch</b>		
	14h30-17h00			<b>Field visit</b>		
Sun, Mar. 27 <sup>th</sup>	---			<b>Departure from Bishkek</b>		

## GeoTAK Guest lectures for students and teachers of KSUCTA and KSMU

### KSUCTA, Bishkek, March 23-24

Wednesday, March 23 <sup>rd</sup>	14h00-15h30	Dr. Huaan Fan, KTH	<a href="#">Overview of geoinformation technology (GIT)</a>
	15h30-17h00	Dr. Armin Agha Karimi, KTH	<a href="#">Satellite-based Earth monitoring using altimetry, GRACE and GNSS</a>
Thursday, March 24 <sup>th</sup>	11h00-12h30	Dr. Huaan Fan, KTH	<a href="#">Mathematical basics for GIT students</a>
	12h30-14h00	<b>Lunch break</b>	
	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/](https://waikato.github.io/weka-wiki/downloading_weka/)
- ✓ MultiSpec: [https://engineering.purdue.edu/~biehl/MultiSpec/download\\_win.html](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)

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