

**Dissemination  
Report  
2-year**

# **New and Innovative Courses for Precision Agriculture**



**TASHKENT UNIVERSITY OF INFORMATION TECHNOLOGIES NAMED  
AFTER MUHAMMAD AL-KHWARIZMI,  
FACULTY OF COMPUTER ENGINEERING**

**Local coordinator: Temurbek  
Kuchkorov**

**Joint Project: Capacity Building in the Field  
of Higher Education ERASMUS+ 2018**

Co-funded by the  
Erasmus+ Programme  
of the European Union



## News

**23.06.2020 -**

### **The new master program has opened in TUIT based on NICoPA project of Erasmus+ program**

Based on the project of Erasmus+ program "New and innovative courses for precision agriculture - NICoPA" (2018-2021) has opened a new master program "Geoinformation systems and technologies" in Tashkent university of information technologies named after Muhammad al-Khwarizmi from the 2020/2021 academic year. Prospective masters will study on modern curriculum which is developed in collaboration with highly experienced European universities (Technical University of Berlin, Agricultural University Plovdiv, Czech University of Life Sciences Prague). Specialization modules that are Geoinformation systems, Remote sensing technologies and applications, SENTINEL-1-2-3 imagery processing, Computer vision, Web technologies for geo-portal, geo-services and geo-analytical systems, Precision agriculture basics, Artificial intelligence in geoinformation systems and other subjects are included in the curriculum.

It is planned opening the new PAL (Precision Agriculture Lab) laboratory for master students to study modules and conduct their researches effectively using modern hardware and software tools.



# Dissemination plan (2020)



«Approved»  
 Rect. of TUIT named after  
 Muhammad al-Khwarizmi  
 T. Teshabaev

**Dissemination plan (2<sup>nd</sup> year)**  
 for result of European Program Erasmus+ Project by  
 597985-EPP-1-2018-1-KZ-EPPKA2-CBHE-JP

New and Innovative Courses for Precision Agriculture (NICOPA) in TUIT

| № | Dissemination event   | Implementation date        |
|---|---|----------------------------|
| 1 | Project activities announcement in web site of university (tuit.uz) and social networks (Telegram channel, Facebook)  | Regularly                  |
| 2 | Publication project related thesis in Republican scientific and technical conference "The importance of information and communication technology in the innovative development of the sectors of the economy" | March-April, 2020 y.       |
| 3 | Project dissemination in Educational-methodological council of TUIT   | August, 2020 y.            |
| 4 | Methodical seminar for teachers according to the pilot teaching   | August - September 2020 y. |
| 5 | Information about project achievements in journal "Xabar" and publication paper (thesis) in conference  | October-November, 2020 y.  |
| 6 | Explore the NICOPA project activities through social network  | Regularly                  |
| 7 | Providing meetings and roundtable discussions with students, teachers and administrative staffs   | Regularly                  |

Local project coordinator

T. Kuchkorov

## DISSEMINATION EVENTS-1 (THAT ARE NOT MENTIONED IN REPORT 12M/ FROM NOVEMBER 2019 TILL MAY 2020)

| № | Question   | Answer  |
|---|--|---|
| 1 | <b>How many dissemination events were conducted?</b>   | 5   |
| 2 | <b>How much and which new dissemination materials were produced (leaflets, brochures, flyers etc)?</b> | "Implementation NICOPA with new Master Program in TUIT" titled leaflet is under the process (September 2020).   |
| 3 | <b>Report on the dissemination of the information about the project in mass media</b>                  | <a href="https://drive.google.com/drive/folders/1yWBHN54P_gKUaFLtXN3XRI5zSLNJ9NU3">https://drive.google.com/drive/folders/1yWBHN54P_gKUaFLtXN3XRI5zSLNJ9NU3</a> |
| 4 | <b>Planned dissemination activities</b>  | <a href="https://drive.google.com/drive/folders/1yWBHN54P_gKUaFLtXN3XRI5zSLNJ9NU3">https://drive.google.com/drive/folders/1yWBHN54P_gKUaFLtXN3XRI5zSLNJ9NU3</a> |

## DISSEMINATION EVENTS-2 (THAT ARE NOT MENTIONED IN REPORT 12M/ FROM NOVEMBER 2019 TILL MAY 2020)

| № | Date       | Title   | Target Audience (list of target groups)     | Number of participants | Is there a press release of the event (YES/NO), IF YES, provide it?   |
|---|------------|---|---|------------------------|---|
| 1 | 23.06.2020 | Department meeting for 2019/2020 teaching year report | Professors of "Computer systems" department | 20                     | Protocol #27  |
| 2 | 24.06.2020 | "Opened new master program in TUIT"                   | Students and Teachers, Administrative staff | 2,658 subscriber       | Telegram channel "TATU   Rasmiy kanal" - <a href="https://t.me/tuituz_official">https://t.me/tuituz_official</a>  |
| 3 | 24.06.2020 | "Opened new master program in TUIT"                   | All type of users                           |                        | Official web sites: <a href="http://tuit.uz">http://tuit.uz</a><br><a href="http://mitc.uz">http://mitc.uz</a><br><a href="http://qalampir.uz">http://qalampir.uz</a> |

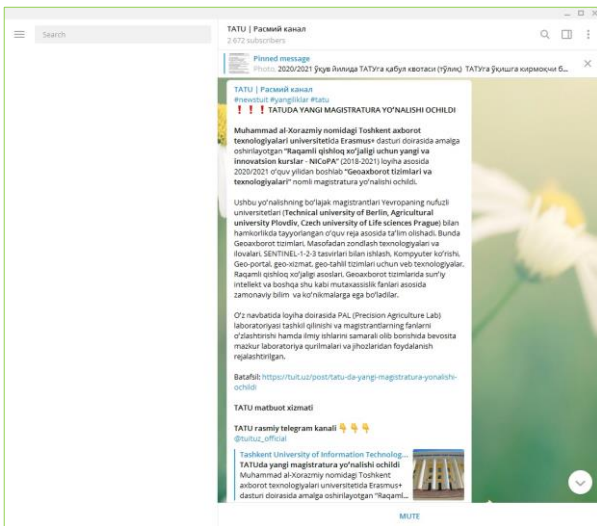


# Schedule of dissemination events (2020)

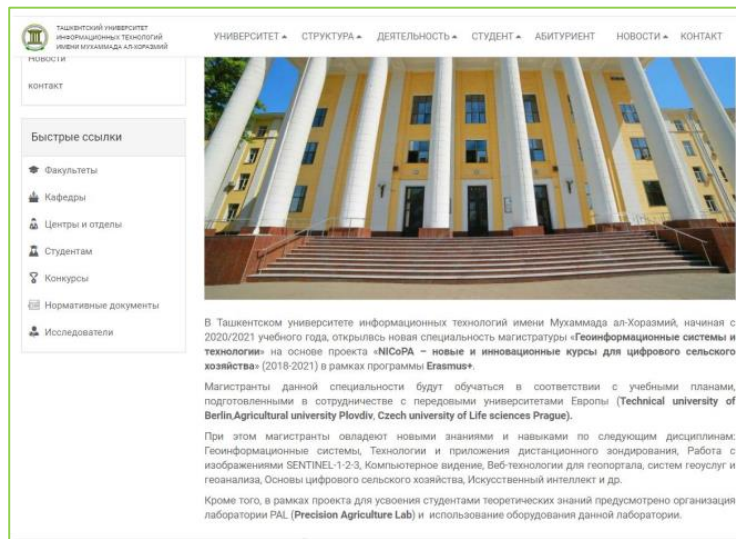
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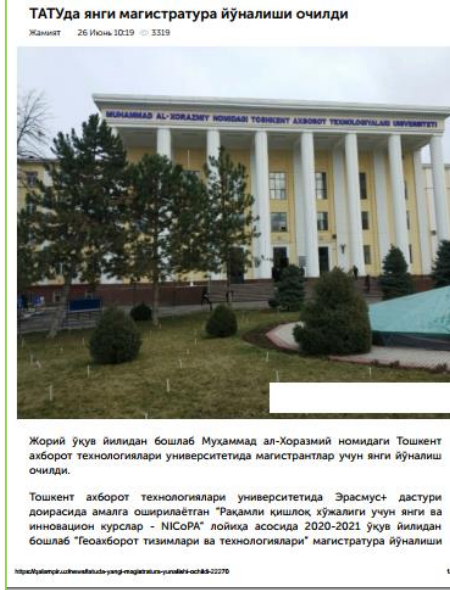
# Dissemination (in social network and internet) - 2020



[https://t.me/tuituz\\_official](https://t.me/tuituz_official)



<https://tuit.uz/post/tatu-da-yangi-magistratura-yonalishi-ochildi>



<https://qalampir.uz/news/tatuda-yangi-magistratura-yunalishi-ochildi-22270>

# Dissemination (Meeting of “Computer systems” department Development syllabi for modules of new Master program (Protocol #27, 23.06.2020))

Мухаммад ал-Хоразмий номидаги  
Тошкент Ахборот Технологиялари Университетининг  
Компьютер инжиниринги факултети  
«Компьютер тизимлари» кафедраси профессор – ўқитувчилари  
ингилишнинг 27 – сонли баённомасидан  
**К У Ч И Р М А**

Тошкент ш. 23.06.2020 й.

## ҚАТНАШДИЛАР:

Раис: кафедра мудири т.ф.д. Джуманов Ж.Х.

Профессор-ўқитувчилар: Профессор М.Мусаев, доцент Ш.Н.Акбарходжаев, доцент З.З.Миросупов, доцент А.А.Каххоров, доцент А.Б.Якубов, доцент А.И.Назаров, доцент К.Абдурашидова, доцент (PhD) Т.Кучкаров, доцент Ф.Рахматов, доцент (PhD) М.Рахимов, доцент (PhD) З.Алламуратова, катта ўқитувчи К.Э.Шукуров, катта ўқитувчи Н.А.Сайфуллаева, ассистент Н.С.Атаджанова, ассистент У.Берданов, ассистент М.Очилов, ассистент Н.Мирзанова, ассистент С.Ибрагимова, ассистент С.Довлетова, таянч докторант И.Хўжайров, таянч докторант М.Абдуллаева, жами 21 та.

## ТУРЛИ МАСАЛАЛАР:

1. 5A330205 – Геоахборот тизимлари ва технологиялари мутахассислиги бўйича 1 ва 2 курс магистрлар учун ўтиладиган фанларга намунавий фан дастури, ишчи дастур ва силлабусларни тайёрлаш муҳокамаси.

## ЭШИТИЛДИ:

Шу масала юзасидан т.ф.д., проф. Ж.Джуманов сўзга чиқиб, “Компьютер тизимлари” кафедрасида Erasmus+ дастурининг “NiCoPA” лойиҳаси доирасида янги магистратура 5A330205 – Геоахборот тизимлари ва технологиялари мутахассислиги очилганлиги ҳақида гапирди ва янги мутахассислик учун зарур бўлган ҳужжатлар (малака талаблари, ўқув режа, асоснома, солиштирма таҳлил ва х.к.) ўз вақтида ўқув бўлимига топширилганлигини ҳам таъкидлаб ўтди.

5A330205 – Геоахборот тизимлари ва технологиялари мутахассислиги бўйича 1 ва 2 курс магистрлар учун ўтиладиган фанлар, фан учун масъул ўқитувчилар билан таништирди (1-жадвал).

### 1-жадвал. 5A330205 – Геоинформацион тизимлар ва технологиялар

| №             | Фан номи   | Блок номи ва семестр | Масъул ўқитувчи                | Ассистент   |
|---------------|--|----------------------|--------------------------------|---|
| <b>1-курс</b> |  |                      |                                |   |
| 1             | Геоахборот тизимлари ва пловаларни ишлаб чиқиш   | 1-семестр            | Джуманов Ж.Х.                  | Алламуратова З.Ж.<br>Зохиров К.И.<br>Мирзанова Н.М. |
| 2             | Satellite image processing                       | 1-семестр            | Кўчкаров Т.А.                  | Алламуратова З.Ж.                                   |
| 3             | Remote Sensing Technologies and Applications     | 2- семестр           | Джуманов Ж.Х.<br>Кўчкаров Т.А. | Алламуратова З.Ж.                                   |
| <b>2-курс</b> |  |                      |                                |   |
| 4             | Сутъий интеллект ва нейрон тармоқлари            | 3-семестр            | Мусаев М.М.                    | Кўчкаров Т.А.<br>Рахимов М.Ф.                       |
| 5             | Web technologies for geoportals and geo-services | 3-семестр            | Кўчкаров Т.А.                  | Рахимов М.Ф.  |

Шунингдек, асосий фанлар учун намунавий фан дастури яратиб, намунавий фан дастурига мувофиқ ишчи дастурлар киши лозимлиги, ҳар бир ишчи дастурлар асосида силлабуслар тайёрланиши зарурлиги айтилди. Ўз навбатида ҳар бир фан дастури учун ички ва ташқи тақризларни олиш лозимлигини ҳам айтиб ўтди.

## ҚАРОР ҚИЛИНДИ:

1. Янги ўқув йили учун 5A330205 – Геоахборот тизимлари ва технологиялари мутахассислиги бўйича 1 ва 2 курс магистрлар учун ўтиладиган фанлардан намунавий дастур, ишчи дастур ва силлабуслар тайёрлансин (1-жадвал).

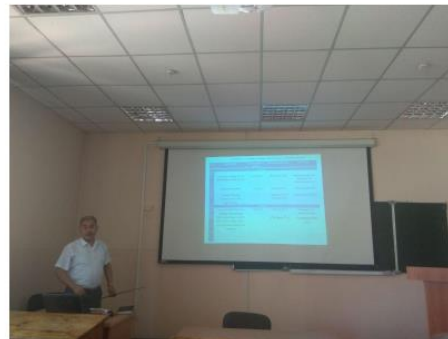
Мажлис раиси

Котиба



Джуманов Ж.Х.

Атаджанова Н.С.



# Dissemination (Scientific conference) - 2021

The image shows a Zoom conference interface with a presentation slide and a participant list.

### Main goals

**9 core curricula/modules**

- Remote Sensing and Application of Earth and Environment related PA
- Using of SENTINEL 1-2-3 imagery for agricultural field monitoring
- Global Navigation Satellite Systems (NAVSTAR, GLONASS, GALILEO, etc.)
- Optimizing computer vision algorithms and real-time implementations
- Web technologies (Agro SDI, Geo-portals, Geo-services, Geo-analytical systems)
- Basics of the Precision agriculture – characteristics, technologies, economic efficiency, optimal use of resources
- Yield sensors for Precision Agriculture
- Soil physical properties and its measurement
- Application of Precision Agriculture for crops growing

**3 Transferrable curricula**

- Start up initiatives for future engineers
- Management and Decision Making in Precision Agriculture
- Intensive course to leverage acceptance of the new technologies "in-field"

**Updated current curricula in the target field**

**Linking to the labor market**

- Establishing PASO

**New supporting learning environment**

- Joint web based platform
- PAL and VCR

### PLANNED PROJECT OUTPUTS

According to the specific project objectives the following tangible outputs and intangible outcomes within the framework of development are planned:

- Analysis and upgrade of the current curricula in the target field according to the recent advances in the target field.
- 9 new developed core curricula and 3 transferrable modules incl. learning environment, PAL and VCR\*
- Retained academic teachers in new curricula
- Conducted master classes and pilot teaching/operation of PAL and VCR
- Established joint WEB based platform in full operation
- Established PASO\*\* with stakeholders support

**CONTACTS**

**EU Project Management:**  
Anzila Starikova a.starikova@ecm-space.eu

**Regional Project Coordinators:**  
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TM: Durslyyyev Okazamhammet odurslyyev@gmail.com  
UZ: Abdumunim Nazirov abmuns@nicopa.eu

**Kazakhstan • Bulgaria • Czech Republic  
Germany • Turkmenistan • Uzbekistan**

**Joint Project Curricula Reform**

**NICOPA**

**New and Innovative Courses for Precision Agriculture**

[www.nicopa.eu](http://www.nicopa.eu)

**Kazakhstan • Bulgaria • Czech Republic  
Germany • Turkmenistan • Uzbekistan**

\* Precision Agriculture Lab and Virtual Classroom  
\*\* Precision Agriculture Service Office

This project has been funded with support from the European Commission. This publication reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

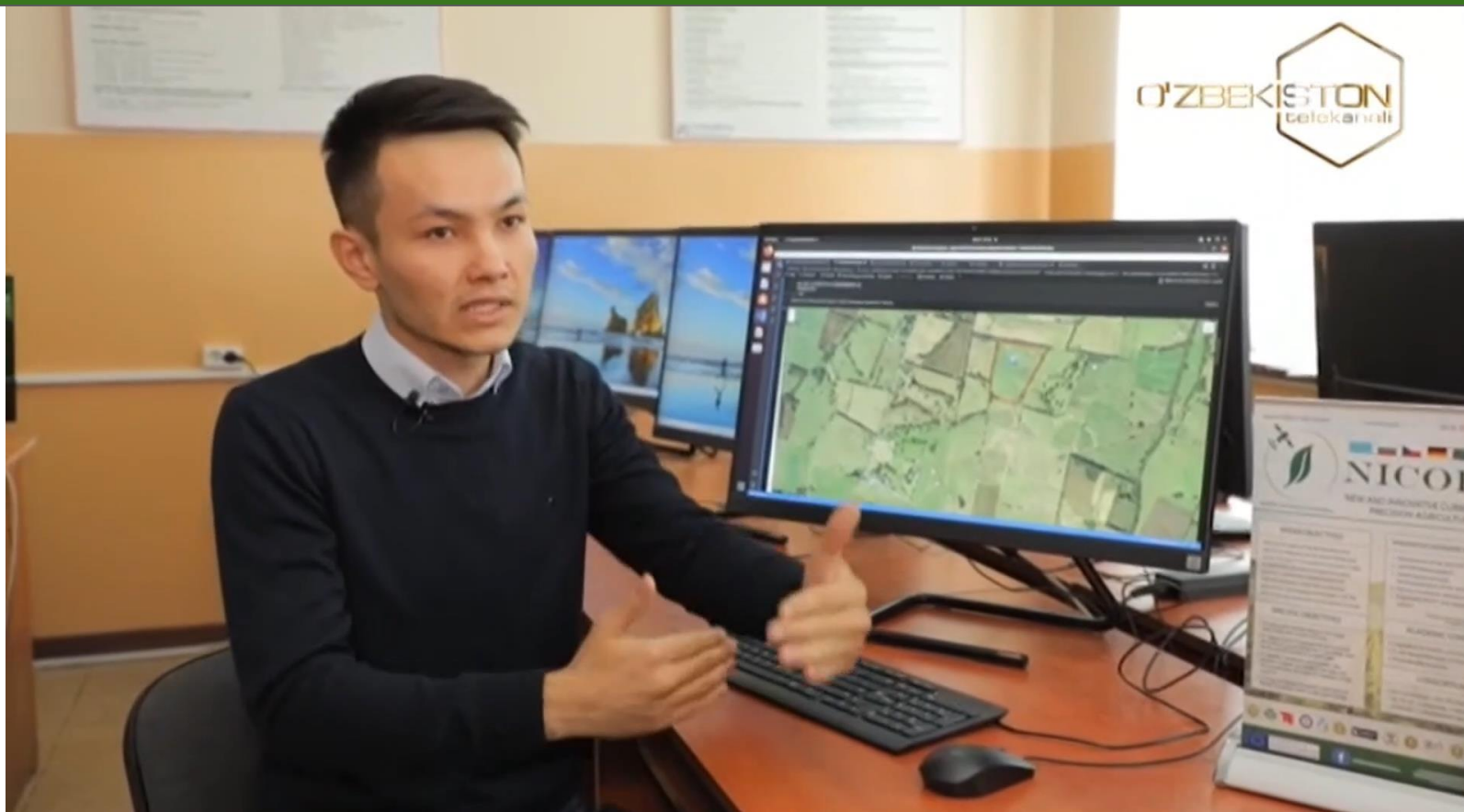
Co-funded by the Erasmus+ Programme of the European Union

2018  
2019  
2020  
2021

**Участники (19)**

- Temurbek... (Оправестар, и)
- TO Temur Ochlov
- 1 111111111111
- AM Abulg'osim Muhiddinov
- AK Allamuratova Zamira
- AA Amzar Aytanov
- B Bayotbek Umirg'ulov
- BB Behruz Boitayev
- Xudoyor Jamolov
- Temur Ochlov
- Salimjon Mamaj...
- Behruz Boitayev
- Mirjamol

# Dissemination (in TV Channel, O'zbekiston) - 2021





# Dissemination (Project Interview for Media Center of University) - 2021



# PASO (Precision Agriculture Service Office) Activities/Training



## **PASO training:**

Title: Education & Industry with PASO

Date: September, 2022

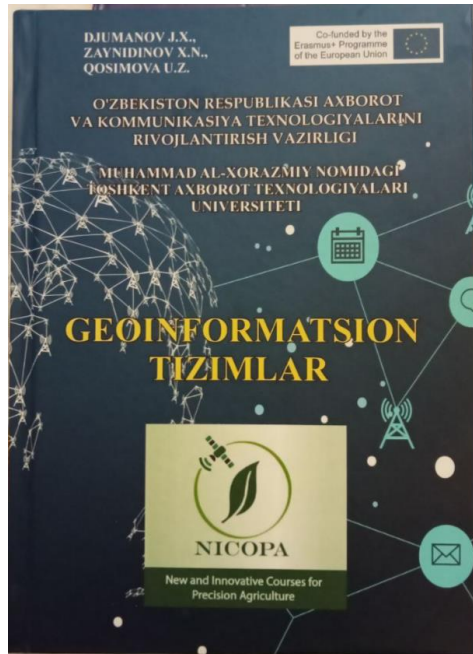
Number of students: 28

Faculty: Computer engineering

# Summer School in Life science university in Prague (July, 2022)



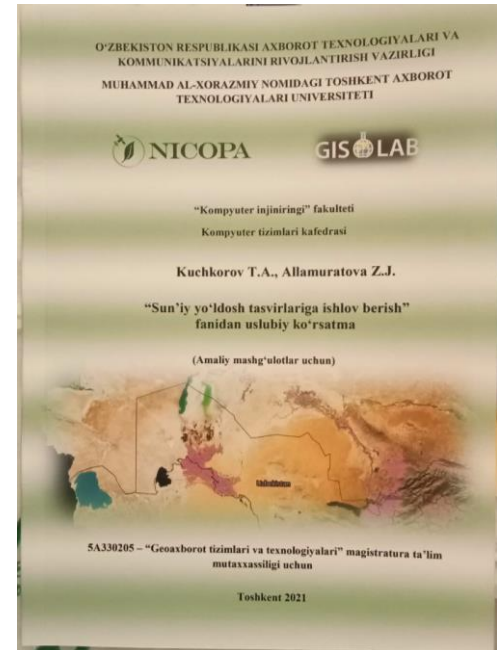
# Development of teaching materials



Manual for subject  
“Geoinformation systems”  
2022



Monography  
“Mathematical modeling of geofiltration  
processes of hydrogeological systems”  
2021



Methodological instruction for  
practical exercise  
“Satellite image processing”  
2021





NICOPA

Thank you for you attention!



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Erasmus+ Programme  
of the European Union

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