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NICOPA



**SAKEN SEIFULLIN
UNIVERSITY**

NEWSLETTER

NICOPA

**New and innovative courses
in precision agriculture**

**NUR-SULTAN
2020**



On 28-29 January, 2019 it was held Erasmus+ Capacity Building in Higher Education Grantholders' Meeting at the Management Centre Europe in Brussels (Belgium). This two-day meeting is addressed to the representatives of CBHE projects selected by the Decision of the Executive Agency for Education, Audiovisual and Culture of the European Commission (EACEA) out of the 874 applications eligible 147 have been selected for funding, among them 10 projects with the participation of Kazakhstani universities. S. Seifullin KATU participates in 2 of them, in one as a partner and in the project No. 597985-EPP-1-2018-1-KZ-EPPKA2-CBHE-JP NICOPA «New and innovative courses in precision agriculture», as a grant holder for the first time and the only in Kazakhstan. Akhyrbek Kazhigulovich Kurishbayev, the main coordinator of the project, rector of S. Seifullin KATU and Ilhomjon Abdullayev, the local coordinator of the National University of Uzbekistan took part in this event on behalf of the NICOPA project.

The aim of the Meeting is to address in detail practical issues related to the implementation of the project, the management of the grant agreement and the financial rules applicable to the CBHE grant. The meeting was also an excellent opportunity for new and experienced practitioners to network with other projects as well as to get answers to the questions directly from Piia Heinämäki, Project Manager of EACEA, Managing programmes and activities on behalf of the European Commission and Shaizada Umurzakovna Tasbulatova, Director of the National Office of Erasmus + in Kazakhstan.



NICOPA is aimed to modernize curricula in precision agriculture using new technologies: Geographic Information System (GIS), Big Data, Remote Sensing

Activities to test innovated curricula and to disseminate the results:

- analyzing and updating existing curricula according to educational needs
- developing new certified curricula according to the new achievements in the area, the labor market demands and the Bologna Process

Anticipated project outputs and results

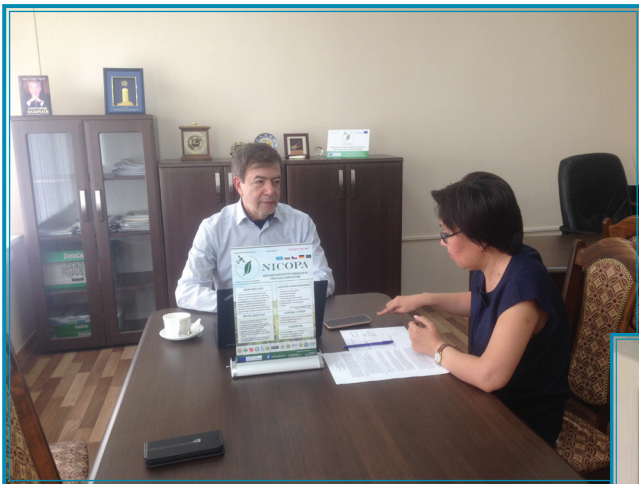
- Review of the current curricula in precision agriculture through analysis
- Agreement on instructional strategy and guidelines for BA/MSc curricula design including the use of new Educational Technologies
- A set of new core curricula and transferable modules including innovative teaching facilities
- Updated current two cycle curricula and programs in precision agriculture according to the Bologna requirements and the new developments
- Developed, implemented and accredited new practice-oriented, student-focused core, and transferable curricula including ECTS

- Bringing the Higher Education Institutions of the partner country closer to labor market. Besides that innovative teaching facilities: a new equipped laboratory PAL, a class VCR, Precision agriculture using sensing data Service Office PASO. Focus on the content, agreed structure, new instructional strategy and the use of new educational technologies with regard to the European modernization agenda for higher education will as a whole function as the envisaged impact.

On May 16, 2019, monitoring on the educational project of the EU Erasmus + “New Innovative Courses for Precision Agriculture” (NICOPA) was held at S.SeifullinKATU. The monitoring was conducted by Sh.U. Tasbulatova, Director of the National Office of Erasmus +, and participated working groups of universities S.Seifullin KATU, NKSU named after M.Kozybaev, KSU named after Sh.Ualikhanov.



In October 2019, the project working groups and also the academic project manager Arnold Sterenharts discussed the results of the first year of the project, a review of the work plan for the second and third year of the project. Participants of the coordination meeting made presentations on the work performed, exchanged views on the main issues of the project. Project activities are carried out in accordance with the plan. Responsible teachers were appointed for updating existing ones and developing new training modules, quality groups were created at universities.





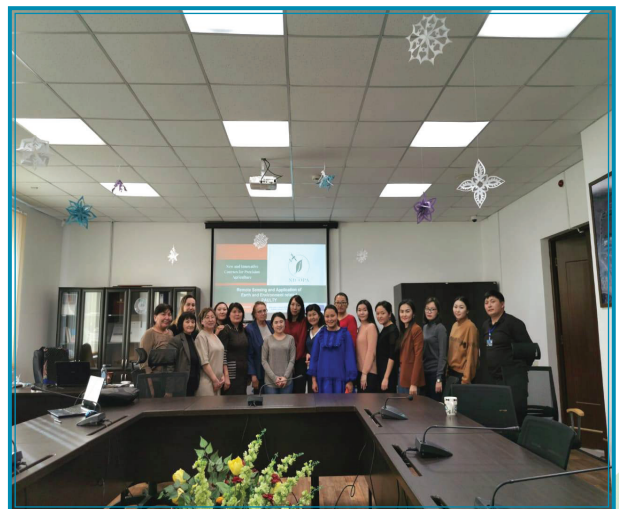
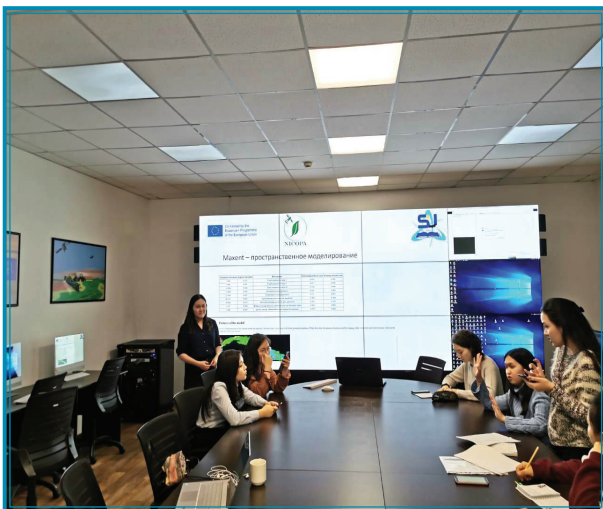
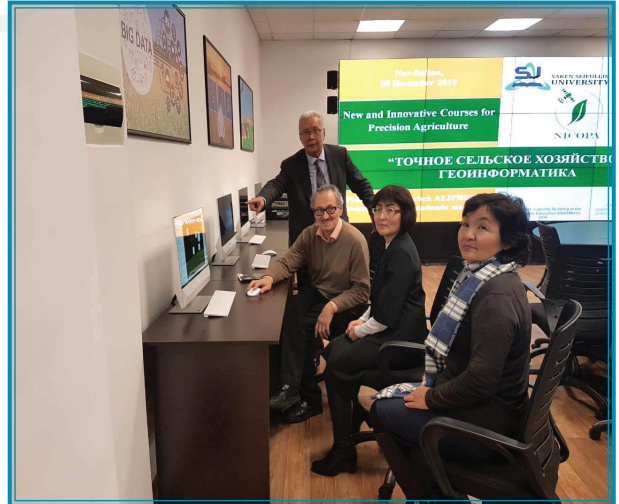
In Berlin, Germany, at the Berlin University of Technology, a seminar was held from August 19 to 30, 2019, aimed at training specialists for implementation in the Precision Agriculture (TLC) educational process, according to the EC ERASMUS + project - NICOPA (New innovation courses for Precision Agriculture), whose grant holder is S.Seifullin KATU. The project participants learned for two weeks the use of space and geoinformation technologies for TLC (precision farming + precision livestock farming + information technology). From S.Seifullin KATU took part in the training Alipbeki O.A., Ermekov F.K., Valieva Sh.K., Bekbaeva A.

As part of the implementation of the EU educational project “Erasmus + New Innovative Courses for Precision Agriculture” (NICOPA), the first stage of retraining of teachers for implementation of the TLC system in the educational process was conducted at S.Seifullin KazATU from December 3 to 30, 2019. Theoretical and practical classes were held in four disciplines: Fundamentals of Precision Agriculture (O. Alipbeki), Global Navigation Satellite Systems (F. Ermekov), Remote Sensing of the Earth (Sh. Valieva), Spatial Analysis (A. Bekbaeva.) Each discipline was allocated 72 academic hours.

Certificates were issued to the following students:

- at the course “Remote sensing of the earth” - 24 people;
- at the course “Spatial analysis” - 10 people;
- at the course «Fundamentals of Precision Agriculture» - 12;
- at the rate of “Global Navigation Satellite Systems” - 30.



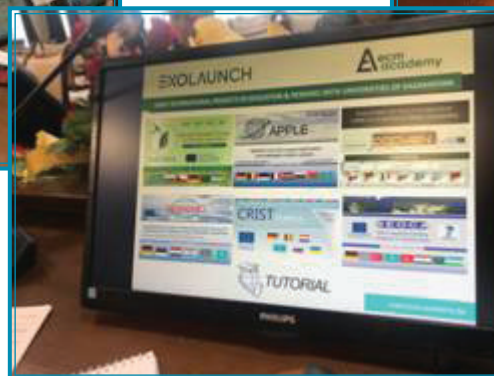
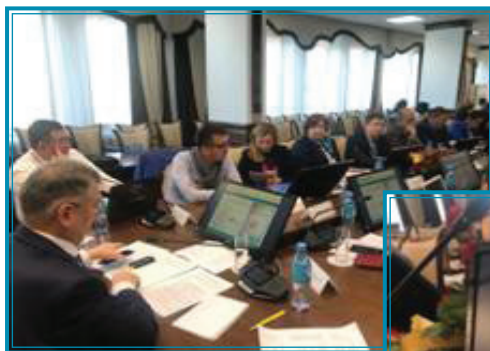


On October 11, 2019, an event was held as part of the Erasmus Days global event «Erasmus for All», where all projects implemented in KATU, including NICOPA, were presented



112 PEOPLE ATTENDED

10.30.2019, an international conference was held with the participation of partners from the North Kazakhstan State University named after Kozybaev, Kokshetau State University named after Ualikhanov, S. Seifullin Kazakh Agro Technical University



In November 2019, a meeting was held with the Secretary of State on the basis of S. Seifullin Kazakh Agro Technical University, where the NIKOPA project was presented



Partners

16 partner organizations, including 4 associated partners, form the consortium of NICOPA. The combined expertise, educational skills and business networks of the below stated partners provide an exceptional foundation for the project's success.

S.Seifullin Kazakh Agro Technical University, Nur-Sultan, Kazakhstan
Technische Universität Berlin, Berlin, Germany
Agricultural University Plovdiv, Plovdiv, Bulgaria
Ceska Zemedelska Univerzity v Praze, Prague, Czech Republic
Exolaunch GmbH (formerly known as ECM space technologies GmbH), Berlin, Germany

Shokan Ualikhanov Kokshetau State University, Kokshetau, Kazakhstan
North Kazakhstan State University Named After Manash Kozybayev, Petropavlovsk, Kazakhstan

Turkmen Agricultural University Named after S.A. Niyazov, Ashgabat, Turkmenistan
The Turkmen State Architecture and Construction Institute, Ashgabat, Turkmenistan

Turkmen Agricultural Institute, Dashoguz, Turkmenistan

National University of Uzbekistan, Tashkent, Uzbekistan

Tashkent University of Information Technologies, Tashkent, Uzbekistan

Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, Tashkent, Uzbekistan

Tashkent, Uzbekistan

Ministry of Education and Science, Nur-Sultan, Kazakhstan

The State Inspection for Supervision of Quality in Education, Tashkent, Uzbekistan

Ministry of Education of Turkmenistan, Ashgabat, Turkmenistan

Associated Partners

North-Kazakhstan Agricultural Experimental Station, Chagly, Kazakhstan

National Agrarian Scientific-Educational Centre of the Ministry of Agriculture of the Republic of Kazakhstan, Astana, Kazakhstan

State Committee of the Republic of Uzbekistan on Land Resources, Geodesy, Cartography and State Cadastre, Tashkent, Uzbekistan

Centre of Technologies of Academy of Sciences of Turkmenistan, Ashgabat, Turkmenistan

New NICOPA Curricula

9 Core Curricula

- 1 **Remote Sensing and Application of Earth and Environment related PA**
8 ECTS; 64 contact hours; 74 hours praxis; 64 hours student workload
- 2 **Using of SENTINEL 1-2-3 imagery for agricultural field monitoring**
4 ECTS; 30 contact hours; 50 hours praxis; 45 hours student workload
- 3 **Global Navigation Satellite Systems (NAVSTAR, GLONASS, GALILEO, etc.)**
3,5 ECTS; 32 contact hours; 40 hours praxis; 38 hours student workload
- 4 **Optimizing computer vision algorithms and real-time implementations**
4 ECTS; 40 contact hours; 35 praxis; 45 student workload
- 5 **Web technologies (Agro SDI, Geo-portals, Geo-services, Geo-analytical systems)**
3 ECTS; 24 contact hours; 50 hours praxis; 20 hours student workload
- 6 **Basics of the Precision agriculture – characteristics, technologies, economic efficiency, optimal use of resources**
5 ECTS; 72 contact hours; 40 hours praxis; 42 hours student workload
- 7 **Yield sensors for Precision Agriculture**
3 ECTS; 30 contact hours; 34 hours praxis; 32 hours student workload
- 8 **Soil physical properties and its measurement**
4 ECTS; 48 contact hours; 36 hours praxis; 40 hours student workload
- 9 **Application of Precision Agriculture for crops growing**
4 ECTS; 38 contact hours; 46 hours praxis; 42 hours student workload

3 Transferrable Curricula

1

Start up initiatives for future engineers

2,5 ECTS; 30 contact hours; 20 praxis; 20 student workload

2

Management and Decision Making in Precision Agriculture

3 ECTS; 28 contact hours; 30 hours praxis; 22 hours student workload

3

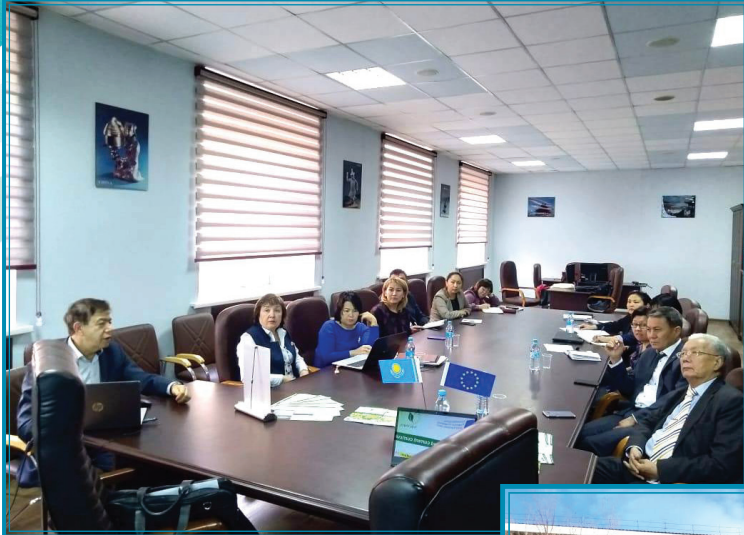
Intensive course to leverage acceptance of the new technologies «in-field»

2,5 ECTS; 30 contact hours; 20 praxis; 20 student workload






Skype meetings, ZOOM - conferences with working groups of universities of Turkmenistan, Uzbekistan and Kazakhstan with the participation of manager A. Shterenharts



Coordination meeting on the Nicopa project at S.SeifullinKATU October 29, 2019. The coordination meeting was attended by representatives of project working groups from S.Seifullin KATU, KSU named after Sh. Ualikhanov, NKSU named after M.Kozybaev, manager A. Shterenharts







www.nicopa.eu
www.kazatu.kz