



United Nations
Educational, Scientific and
Cultural Organization



UNESCO Chair in Higher Technical Education,
Applied System Analysis and Informatics
National Technical University of Ukraine
"Igor Sikorsky Kyiv Polytechnic Institute"
Ukraine, Kyiv

UNITWIN/UNESCO CHAIRS PROGRAMME

PROGRESS REPORT 2019-2020

UNESCO CHAIR
**Higher Technical Education, Applied System
Analysis and Informatics**
at the National Technical University of Ukraine
"Igor Sikorsky Kyiv Polytechnic Institute"
and Institute for Applied System Analysis



**Igor Sikorsky Kyiv Polytechnic Institute –
Kyiv – Ukraine
2020**

UNITWIN/UNESCO Chairs Programme Progress Report

Period of Activity: 1.06.2019 – 31.05.2020

Title of UNESCO Chair:

Higher Technical Education, System Analysis and Informatics

Institution/Country: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Ukraine

Report established by: Prof. Dr. Mykhailo Zgurovsky

Function/Title: Chairholder of the UNESCO Chair in Higher Technical Education, System Analysis and Informatics at the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” and Institute for Applied System Analysis, Academician of the National Academy of Sciences of Ukraine

Summary

In the progress report of the UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” and educational and scientific complex “Institute for Applied System Analysis” the basic information on the results of chair activities in 2019-2020 is presented.

The most significant actions and events in the field of academic activity connected with organization and holding of information days, conferences, festivals at national and international level, implementation of international projects are illustrated. Thus, during the reporting period one information day, one training, two international conferences, one national festival of innovation projects were carried out and two international projects were implemented with the participation of the UNESCO Chair.

The interuniversity exchange within the subject matter of the UNESCO Chair activities was developing (2 visits).

The UNESCO Chair activities were widely covered in periodicals, scientific publications and at the UNESCO Chair site <http://www.unesco.kpi.ua>.

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I. Address and Contact

	Address of the Chairholder (or Coordinator). Other contact person
Name	Mykhailo Zgurovsky
Function/ Title	Rector
University/ Institution	National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute” (Igor Sikorsky Kyiv Polytechnic Institute)
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E-mail	mzz@kpi.ua , sidorenko@kpi.ua
Web Site	http://www.unesco.kpi.ua

II. Available Resources

1. Human Resources

1. Administration of the UNESCO Chair

Coordinator	Prof. Sergiy Sidorenko
Executive Secretary	Olena Poptsova
Academic Secretary	Prof. Sergiy Shukayev
Assistant to the Academic Secretary	Olena Kizub

2. Teaching/training/research activities

The UNESCO Chair has the following sections:

- **HIGHER TECHNICAL EDUCATION,**
headed by member of the National Academy of Sciences of Ukraine, Prof. Yuriy Yakymenko, *First Vice Rector of the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”*
- **APPLIED SYSTEM ANALYSIS,**
headed by Prof. Natalia Pankratova, *Deputy Director of the Institute for Applied System Analysis (IASA)*
- **INFORMATICS,**
headed by Prof. Sergiy Telenyk, *Dean of the Faculty of Informatics and Computer Engineering of Igor Sikorsky Kyiv Polytechnic Institute*
- **ORGANIZATIONAL BRANCH,**
headed by Prof. Sergiy Shukayev, *Head of the International Projects Office of International Collaboration Department, Igor Sikorsky Kyiv Polytechnic Institute*

3. Officer in Charge of information activities and documentation:

Academic Secretary Prof. Sergiy Shukayev

2. Material Resources

Sources: Host Institution, Governmental body

- **FOR ADMINISTRATIVE WORK:** computers, copiers, printers, and storage systems.
- **FOR TEACHING/TRAINING/RESEARCH ACTIVITIES:** classrooms, videos, projector, printed matter and electronic publications, papers, e-learning.
- **FOR INFORMATION ACTIVITIES AND DOCUMENTATION:** web site, posters, brochures, papers, printed matter and electronic publications.
- **FOR OTHER ACTIVITIES:** conference hall

III. Activities

1. Academic Activities

Education/Seminars/Training/Research/Projects

Information Day “HORIZON 2020”

Date and venue: October 31, 2019, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Organizers: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, National Contact Point of the EU Research and Innovation Programme Horizon 2020 at Igor Sikorsky Kyiv Polytechnic Institute in such areas as “Information and Communication Technologies” and “Climate Action, Environment, Resource Efficiency and Raw Materials”, National Information Center for Ukraine-EC S&T cooperation.

Participants: 150

- Undergraduate students
- Graduate students
- Academics
- Public administrators
- Employees from industry, or other private sector
- Teachers from primary education
- Teachers from secondary education
- Teachers from technical and vocational education
- Other groups

Geographical coverage for participants and partners:

- National**
- Regional/Interregional/International**

Regions	Countries
Asia/Pacific	
Eastern and Central Europe	Ukraine
Western Europe and North America	
Latin America	

Publications:

Title: Horizon 2020 Information Day: how to get involved in European research and innovation projects

Publishers:

<http://ncp.kpi.ua/%d1%96%d0%bd%d1%84%d0%be%d1%80%d0%bc%d0%b0%d1%86%d1%96%d0%b9%d0%bd%d0%b8%d0%b9-%d0%b4%d0%b5%d0%bd%d1%8c-%d0%bf%d1%80%d0%be%d0%b3%d1%80%d0%b0%d0%bc%d0%b8-%d0%b3%d0%be%d1%80%d0%b8%d0%b7%d0%be-3/>

Year of Publication: November 01, 2019

Type of document/material:

- Book
- Periodical (Newspaper)
- Other – Proceedings of the Conference

Language(s): Ukrainian

Keywords: international project activity; Horizon 2020 Programme “Information and communication technologies”; “Climate action, environment, resource efficiency and raw materials”; “Horizon Europe” programme.

Training “Preparation of Project Proposals in the HORIZON 2020 Programme”

Date and venue: December 11-12, 2019, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Organizers: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, National Contact Point of the EU Research and Innovation Programme Horizon 2020 at Igor Sikorsky Kyiv Polytechnic Institute in such areas as “Information and Communication Technologies” and “Climate Action, Environment, Resource Efficiency and Raw Materials”, National Contact Point of the EU Research and Innovation Programme Horizon 2020 at Innovation Center of National Academy of Sciences of Ukraine in such area as “European Research Infrastructures”

Participants: 33

- Undergraduate students
- Graduate students
- Academics
- Public administrators
- Employees from industry, or other private sector
- Teachers from primary education
- Teachers from secondary education
- Teachers from technical and vocational education
- Other groups

Geographical coverage for participants and partners:

- National**
- Regional/Interregional/International**

Regions	Countries
Asia/Pacific	
Eastern and Central Europe	Ukraine
Western Europe and North America	
Latin America	

Publications:

Title: Horizon 2020: a whole year ahead

Publishers: Kyivsky Polytechnic, No. 39 (<https://kpi.ua/files/2019-kp39.pdf>).

Year of Publication: December 19, 2019

Type of document/material:

- Book
- Periodical (Newspaper)
- Others – Proceedings of the Conference

Language(s): Ukrainian

Keywords: Horizon 2020 Programme; “Practice of work with the site of the European Commission Funding & Tenders Portal. Registration on the site”; “Partner Search. Formation of a project consortium”; “Development of a project idea. Project proposal: preparation and drafting. Development of cost estimates and project budget. Determining the expected results of the project”; “Design of the project proposal. Application procedure. Expert evaluation. Issues of protection of intellectual property rights. The main mistakes in project development”.

Project “NTNU-KPI Collaboration within Industry 4.0 Education” Eurasia Programme

Duration of the project: 2018-2021

Partnership: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Norwegian University of Science and Technology

Main purpose of the project: to provide attractive education within Sustainable Manufacturing through the exchange of knowledge between NTNU and KPI.

Participants:

- Undergraduate students
- Graduate students
- Academics
- Public administrators
- Employees from industry, or other private sector
- Teachers from primary education
- Teachers from secondary education
- Teachers from technical and vocational education
- Other groups

Geographical coverage for participants and partners:

- National
- Regional/Interregional/International

Regions	Countries
Africa	
Asia/Pacific	
Eastern and Central Europe	Ukraine
Northern Europe	Norway
Latin America	

Project “European Business Models: Transformation, Harmonization and Implementation in Ukraine” Erasmus+ Jean Monnet Actions

Duration of the project: 2017-2020

Partnership: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Czestochowa University of Technology

Main purpose of the project: the in-depth study of European practices of competitiveness and promotion of EU transformation process benefits.

Participants:

- Undergraduate students
- Graduate students
- Academics
- Public administrators
- Employees from industry, or other private sector
- Teachers from primary education
- Teachers from secondary education
- Teachers from technical and vocational education
- Other groups

Geographical coverage for participants and partners:

- National
- Regional/Interregional/International

Regions	Countries
Africa	
Asia/Pacific	
Eastern and Central Europe	Ukraine, Poland
Northern Europe	
Latin America	

2. Conferences/Forums/Festivals

The 8th All-Ukrainian Festival of Innovation Projects “Sikorsky Challenge 2019”

Date and venue: October 08-10, 2019, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Organizers: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Innovation Ecosystem Sikorsky Challenge, Junior Academy of Sciences of Ukraine, Corporation “Science Park “Kyivska Polytechnika” in partnership with JSC Ukreximbank, Golden Egg Science and Technology LLC, Progresstech-Ukraine LLC.

Participants: 350

- Undergraduate students
- Graduate students
- Academics
- Public administrators
- Employees from industry, or other private sector
- Teachers from primary education
- Teachers from secondary education
- Teachers from technical and vocational education
- Other groups

Regional Coverage

- National
- Regional/Interregional/International

Regions	Countries
Africa	
Arab States	
Asia/Pacific	Israel, China, Hong Kong
Eastern and Central Europe	Azerbaijan, Ukraine, EU
Western Europe and North America	United Kingdom, USA
Latin America	

Publications:

Title: Three-day marathon of "Sikorsky Challenge 2019" is completed: the authors of the best startup-projects signed agreement with investors

Publishers: <https://kpi.ua/en/node/17744>

Year of Publication: October 11, 2019

Type of document/material:

- Book
- Periodical (Newspaper)
- Other – Proceedings of the Conference

Language(s): Ukrainian, English

Keywords: innovation Ecosystem Sikorsky Challenge; developments; potential investors; projects; startups.

The 6th International Scientific and Practical Conference “Clear Water. Fundamental, Applied and Industrial Aspects”

Date and venue: November 14-15, 2019, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Organizers: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, National Academy of Sciences of Ukraine, UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute and the Institute for Applied System Analysis, Corporation “Science Park “Kyivska Polytechnika”, Ukrainian-Polish Center of Igor Sikorsky Kyiv Polytechnic Institute, Technologies of Nature LLC (Ukraine), Representative Office of the Polish Academy of Sciences in Kyiv, Lublin University of Technology (Republic of Poland), Society of Ecological Chemistry and Engineering (Republic of Poland).

Participants: 115

- Undergraduate students
- Graduate students
- Academics
- Public administrators
- Employees from industry, or other private sector
- Teachers from primary education
- Teachers from secondary education
- Teachers from technical and vocational education
- Other groups

Regional Coverage

- National
- Regional/Interregional/International

Regions	Countries
Africa	
Arab States	
Asia/Pacific	China, Kyrgyzstan
Eastern and Central Europe	Ukraine, Poland, Slovakia
Western Europe and North America	Spain
Latin America	

Publications:

Title: VI International Scientific and Practical Conference "Clear Water. Fundamental, Applied and Industrial Aspects"

Publishers: <http://unesco.kpi.ua/?p=1989&lang=uk>

Year of Publication: November 25, 2019

Type of document/material:

- Book
- Periodical (Newspaper)
- Other – Proceedings of the Conference

Language(s): Ukrainian

Keywords: technologies of the purification of natural waters; the impact of wastewater on the environment; biological and biochemical aspects.

The 21st International Scientific and Practical Internet-Conference “Renewable Energy and Energy Efficiency of the 21st Century”

Date and place: May 14-15, 2020, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Partnership: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Warsaw University of Technology, Representative office of the Polish Academy of Sciences in Kyiv, Institute of Renewable Energy at National Academy of Sciences of Ukraine, Junior Academy of Sciences of Ukraine, Inter-Branch Scientific and Technical Center for Wind Power Engineering at NASU, Ukrainian Hydrogen Council, UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute and Institute for Applied System Analysis.

Participants: 130

- Undergraduate students
- Graduate students
- Academics
- Public administrators
- Employees from industry, or other private sector
- Teachers from primary education
- Teachers from secondary education
- Teachers from technical and vocational education
- Other groups

Regional Coverage

- National
- Regional/Interregional/International

Regions	Countries
Africa	
Asia/Pacific	
Eastern and Central Europe	Ukraine, Poland
Northern Europe	Norway
Latin America	

Publications:

Title: XXI International Scientific and Practical Internet-Conference “Renewable Energy and Energy Efficiency of the XXI Century”

Publishers: <http://unesco.kpi.ua/?p=2178&lang=uk>

Year of Publication: May 19, 2020

Type of document/material:

- Book
- Periodical (Newspaper)
- Other – Proceedings of the Conference

Language(s): Ukrainian

Keywords: problems and perspectives of renewable energy and energy efficiency development; solar power; wind power; geothermal energy; hydrogen energy; bioenergy.

3. Interuniversity Exchanges/Partnership

Visit of Prof. Luciano Saso, President of the Network of Universities from the Capitals of Europe (UNICA)

Date and place: June 21, 2019, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: meeting with the university administration, discussions on an increase in the participation of Igor Sikorsky Kyiv Polytechnic Institute students in European mobility programs.

Visit of Mr. Kosaku Eto, Vice President of Soka Gakkai International (Japan)

Date and venue: July 30, 2019, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: establishing Ukrainian-Japanese cooperation, particularly in agriculture.

Visit of H.E. Mr. Andre Johannes Groenewald, Ambassador Extraordinary and Plenipotentiary of the Republic of South Africa to Ukraine

Date and venue: September 11, 2019, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: meeting with the university administration, discussions regarding initiating and developing cooperation between the Igor Sikorsky Kyiv Polytechnic Institute and higher education institutions of the Republic of South Africa.

Visit of H.E. Mr. Kwon Ki-Chang, Ambassador Extraordinary and Plenipotentiary of the Republic of Korea to Ukraine

Date and venue: September 11, 2019, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: meeting with the university administration, discussions on prospects of further cooperation, a lecture delivered to the students and staff of Igor Sikorsky Kyiv Polytechnic Institute.

Visit of Sergiy M. Shukayev, Academic Secretary of the UNESCO Chair, to the Republic of Bulgaria

Date and venue: October 15-19, 2019, Republic of Bulgaria, Yambol

Purpose: participation in the International Scientific Conference on Technique, Technology and Education (ICTTE 2019).

Visit of H.E. Mr. Yağmur Ahmet Güldere, Ambassador Extraordinary and Plenipotentiary of Turkey to Ukraine

Date and venue: November 08, 2019, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: familiarization with the university, a lecture delivered to the students and academics of the Igor Sikorsky Kyiv Polytechnic Institute.

Visit of Olesia V. Lubianova, Head of the Academic Mobility Office, to the French Republic

Date and venue: November 12-14, 2019, French Republic, Paris

Purpose: participation in the Ministerial meeting of UNESCO Member States on inclusion and mobility in higher education within the 40th Session of the UNESCO General Conference.

Visit of H.E. Mr. Etienne de Poncins, Ambassador Extraordinary and Plenipotentiary of the French Republic to Ukraine

Date and venue: November 15, 2019, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: familiarization with the university, a meeting with the university administration, discussions on the status and development prospects of cooperation between the Igor Sikorsky Kyiv Polytechnic Institute and French universities.

Visit of H.E. Mr. Marek Safin, Ambassador Extraordinary and Plenipotentiary of the Slovak Republic to Ukraine

Date and venue: November 27, 2019, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: familiarization with the university, a meeting with the university administration, discussions regarding areas of cooperation – Academic mobility and establishing of dual degree programs, especially in the fields of computer science and cybersecurity. In addition, the cooperation in projects under the programme “Horizon 2020”, as well as the joint partnership in grants competitions in order to be involved in the projects of the next programme – “Horizon Europe”.

Visit of Professor Michael Nobel – President of the Nobel Sustainability Trust

Date and venue: December 04, 2019, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: discussing the work of the National Nomination Committee of Ukraine from Nobel Foundation prize of Sustainable Development, as well as the projects submitted to the competition for the Nobel Foundation for Sustainable Development by Ukrainian researchers.

Visit of H.E. Mr. Yağmur Ahmet Güldere, Ambassador Extraordinary and Plenipotentiary of Turkey to Ukraine

Date and venue: January 23, 2020, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: discussing the possibility of cooperation between Baykar Makina and Igor Sikorsky Kyiv Polytechnic Institute.

4. Publications and multimedia material

1. UNESCO Chair official web site <http://www.unesco.kpi.ua>.

2. Title: Michael Z. Zgurovsky, Pavlo O. Kasyanov, Nataliia V. Gorban, Liliia S. Paliichuk. Asymptotic Translation Uniform Integrability and Multivalued Dynamics of Solution for Non-autonomous Reaction-Diffusion Equations, 2019. – pp. 413-423.

Publisher(s): Modern Mathematics and Mechanics

Year: 2019

Type of document/material: book

3. Title: Sergii I. Sidorenko. Results of International Activity of Igor Sikorsky Kyiv Polytechnic Institute in 2018 and Tasks for 2019. An excerpt from the Report of Sergii I. Sidorenko, Vice-Rector for International Relations. – pp. 4-5.

Publisher(s): Kyiv Polytechnic, # 3

Year: 2019

Type of document/material: article

4. Title: Sergiy Shukayev, Strategy of Internationalization of Igor Sikorsky Kyiv Polytechnic Institute. Mechanisms of Implementation / Sergiy Shukayev // International Conference on TECHNICS, TECHNOLOGIES AND EDUCATION ICTTE 2019, Yambol, 16-18 October 2019 : Proceedings of the Conference – Yambol: 2019. – pp. 49 – 52. [ICTTE ISSN 1314 – 9474 (CD – ROM), ISSN 2603 – 445X (online)].

Publisher(s): ICTTE 2019 Proceedings

Year: 2019

Type of document/material: article

5. Title: Sergii I. Sidorenko, Sergiy M. Shukayev. Ratings, Internationalization, Competitiveness, 2019. – pp. 4-6.

Publisher(s): Kyiv Polytechnic, # 30

Year: 2019

Type of document/material: article

6. Title: Sustainable Development Analysis: Global and Regional Contexts / International Council for Science (ISC) and others; Scientific Supervisor of the Project M. Zgurovsky. — K.: Igor Sikorsky KPI, 2019. — P. 1. Global Analysis of Quality and Security of Life (2019). — 328 p. — 300 copies.

Publisher(s): Polytechnica

Year: 2019

Type of document/material: book (scientific publication)

7. Title: Sustainable Development Analysis: Global and Regional Contexts / International Council for Science (ISC) and others; Scientific Supervisor of the Project M. Zgurovsky. — K. : Igor Sikorsky KPI, 2019. — P. 2. Ukraine in Sustainable Development Indicators (2018). — 112 p. — 300 copies.

Publisher(s): Polytechnica

Year: 2019

Type of document/material: book (scientific publication)

8. Title: Sergii I. Sidorenko. Results of International Activity of Igor Sikorsky Kyiv Polytechnic Institute in 2019 and Tasks for 2020. An excerpt from the Report of Sergii I. Sidorenko, Vice-Rector for International Relations. – pp. 4-5.

Publisher(s): Kyiv Polytechnic, # 5

Year: 2020

Type of document/material: article

9. Title: Michael Z. Zgurovsky, Yuriy P. Zaychenko. Big Data: Conceptual Analysis and Applications, 2020. – Volume 58. – 304 pp.

Publisher(s): Springer

Year: 2020

Type of document/material: book

IV. Outcomes

The international activity of Igor Sikorsky Kyiv Polytechnic Institute is one of the key directions of the university strategic development. It consists of such basic components as training of specialists, as well as research and educational personnel, including international personnel; participation in international education organizations, funds and the calls that open for the purpose of getting grants; the exchange of information about scientific-methodological materials, participation in conferences, exhibitions, seminars, educational fairs; collaboration with foreign institutions of higher education, including academic and student exchanges.

UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics, which has become one of the brainpower centres of Ukrainian higher technical education, plays an important role in this process. The Chair takes the initiative in organizing international festivals, information days and conferences on various aspects of promoting higher education and understanding its importance in modern society.

Academics and students of Igor Sikorsky Kyiv Polytechnic Institute get opportunities to undergo practical training abroad, thanks to educational grants and programs. They carry out joint scientific projects jointly with foreign partners. The results of these studies are published in the Kyiv Politechnik paper.

Among important activities of the UNESCO Chair, it is worth to point out its participation in the program “UNESCO-UNITWIN OCW/OER INITIATIVE” (UUOOI). The purpose of this program is to advance the integrated research system, training of personnel, programs' development (education, natural sciences, social sciences, the humanities, culture, communications and information), as well as to encourage inter-university cooperation through the transfer of knowledge across borders.

Traditionally, UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics is actively engaged in facilitating the participation of Igor Sikorsky Kyiv Polytechnic Institute in the most prestigious world university rankings, such as QS World University Rankings, Times Higher Education World University Rankings, and U-Multirank, among others.

In 2019/20 Igor Sikorsky Kyiv Polytechnic Institute was listed in the QS World University Rankings at 701-750 position.

It took 72nd place in the QS Emerging Europe and Central Asia (EECA) University Rankings.

In 2019 the University appeared for the first time in the QS World University Rankings by Subject and ranked above 500.

In 2019 Igor Sikorsky Kyiv Polytechnic Institute was at the second position of the ranking “Top 200 Ukraine”.

In January 2020 Igor Sikorsky Kyiv Polytechnic Institute was second among Ukrainian universities in the ranking Webometrics.

One more direction of activities of the Chair is comprehensive assistance to university researchers in their participation in international research programs

(HORIZON 2020, ERASMUS+, EURASIA, NATO, etc.). Support of international projects on technology transfer was significantly strengthened.

In 2019 Igor Sikorsky Kyiv Polytechnic Institute participated in one educational project of the European Union within Erasmus+ KA2; one project within Erasmus+ Jean Monnet Actions; 64 projects within Erasmus+ KA1; one project within EUREKA; four projects under the program EURASIA; 5 NATO projects; three projects within the Horizon 2020 program and other international projects. At present, graduate students and academics can participate in all projects of the above programs.

The UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute and Institute for Applied System Analysis presented the contribution on the topic “Thoughts on Trends in Future Education” within a call for Contributions from the UNESCO Chairs and UNITWIN Networks for the Futures of Education project.

Currently, two National Contact Points of the EU Horizon 2020 Program are operating at Igor Sikorsky Kyiv Polytechnic Institute in such areas or societal challenges as “Information and Communication Technologies” and “Climate Action, Environment, Resource Efficiency and Raw Materials”.

Supported by the Representative Office of the Polish Academy of Sciences in Kyiv, two international scientific and practical conferences were held in cooperation with the UNESCO Chair at Igor Sikorsky Kyiv Polytechnic Institute in 2019-2020.

In October 2019, Igor Sikorsky Kyiv Polytechnic Institute staged the Information Day in order to introduce to the Ukrainian scientific community the latest news from the European Commission about the Horizon 2020 Framework Program, the terms of participation in the projects. The UNESCO Chair actively participated in this event. Also in December 2019, the training on the preparation of project proposals in the Horizon 2020 Program was held.

The work of the UNESCO Chair has received full media, newspaper coverage including the publication of reports made at international conferences.

The All-Ukrainian Festival of Innovative Projects “Sikorsky Challenge 2019” was held in Igor Sikorsky Kyiv Polytechnic Institute. It is the major technological and innovation event in Ukraine, which gathers young inventors from almost all regions of Ukraine. The purpose of the Festival is to involve school and university students, scientists and entrepreneurs in research programs and design activities, and thereby plot the path to their commercialization, facilitate the creation of startups and bring innovative products to international and national markets.

The International Forum entitled "Sikorsky Challenge as a Model for Innovative Development of Ukraine" took place on the first day of the Festival. After the plenary meeting of the forum, two panel discussions took place within the event. They were themed: “Development of Innovative Entrepreneurship at Local, Regional and National Levels” and “Ukrainian and Foreign Investments, and International Grant Support”.

As a member of the official delegation of experts from Ukraine, Olesia Lubianova, Head of the Academic Mobility Office of Igor Sikorsky Kyiv Polytechnic Institute,

participated in the Ministerial meeting of UNESCO Member States on inclusion and mobility in higher education on November 13, 2019 within the 40th Session of the UNESCO General Conference.

The session was devoted to the experience of providing inclusive and quality higher education through the vision of a global teaching campus, learning and research, as well as to the issue of an increase in academic mobility. One of the key issues was the recognition of qualifications concerning higher education to be adopted this year during the General Conference on Sustainable Development Goals (SDG4) Challenges.

Plenary Session 1 discussed the maintenance of an effective system and policy at the institutional level to ensure inclusive, quality higher education for diverse populations, including migrants, refugees and internally displaced persons.

Plenary Session 2 discussed the management of a global campus through student and faculty mobility, innovative study programs and delivery modalities.

In April 2020, the UNESCO Chair in Higher Technical Education, Applied Systems Analysis and Informatics participated in UNESCO Survey for Universities on the topic: “Information on the contribution of Higher Education to the SDGs and to the “leaving no one behind” mandate“.

Over the recent years international cooperation has become the integral part of Igor Sikorsky Kyiv Polytechnic Institute and the IASA, thanks to the active work of the UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics. This creates favourable conditions for future integration into the international, particularly the European education, research and information area, as well as promotes the implementation of the reforms which were initiated by the Bologna Process.

V. Forthcoming Activities

The 9th All-Ukrainian Festival of Innovation Projects “Sikorsky Challenge 2020”

Date and venue: October 05-09, 2020, Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine

Organizers: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Innovation Ecosystem Sikorsky Challenge, Junior Academy of Sciences of Ukraine, Corporation “Science Park “Kyivska Polytehnika”.

The 7th International Scientific and Practical Conference “Clean Water. Fundamental, Applied and Industrial Aspects”

Date and place: November, 2020, Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine

Partnerships: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, National Academy of Sciences of Ukraine, UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute and the Institute for Applied System Analysis, Corporation “Science Park “Kyivska Polytehnika”, Ukrainian-Polish Center of Igor Sikorsky Kyiv Polytechnic Institute, Technologies of Nature LLC (Ukraine), Representative Office of the Polish Academy of Sciences in Kyiv, Lublin University of Technology (Republic of Poland), Society of Ecological Chemistry and Engineering (Republic of Poland).

The 22nd International Scientific and Practical Conference “Renewable Energy and Energy Efficiency of the XXI Century”

Date and venue: May 2021, Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine

Organizers: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Warsaw University of Technology, Representative office of the Polish Academy of Sciences in Kyiv, Institute of Renewable Energy at National Academy of Sciences of Ukraine, Junior Academy of Sciences of Ukraine, Inter-Branch Scientific and Technical Center for Wind Power Engineering at NASU, Ukrainian Hydrogen Council, UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute and Institute for Applied System Analysis.

VI. Development Prospects

Further activity of the UNESCO Chair is aimed at fulfilling main tasks in the educational, scientific and innovative areas of University's activities.

The activities will be geared to expand cooperation between specialists and experts in the realm of education, science and culture both at national level and international levels. The UNESCO Chair is supposed to assist employees and students of the University in receiving grants for educational, research and cultural projects.

UNESCO Chair plans to actively develop and implement the ranking system of higher education institutions of Ukraine in accordance with the Memorandum about Cooperation with UNESCO-CEPES dated April 25, 2006.

The activity of the Ukrainian Gender Education Centre established at Igor Sikorsky Kyiv Polytechnic Institute in 2001 under the aegis of the UNESCO Chair, is aimed at creating the instruments for introduction of new information technologies into gender education. The Center operates in conformity with the Memorandum signed by the UNDP in Ukraine and the National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute".

UNESCO Chair in Higher Technical Education, Applied Systems Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute plans to continue development and collaboration within the framework of the UNITWIN/UNESCO Chairs Program established in 1992 by the UNESCO General Conference at its 26th session. The main areas of this program's charitable work comprise higher educational institutions of developing countries and emerging markets economies. The UNITWIN/UNESCO Chairs projects deal with preparation of studies and cover all main fields of UNESCO Chair in Higher Education, Applied Systems Analysis and Informatics: education, human rights, environmental protection, humanities and applied science, communication, etc.

UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics plans to widen the range of its activities in the field of innovation. Holding of the Festival of Innovative Projects "Sikorsky Challenge" at Igor Sikorsky Kyiv Polytechnic Institute serves as a striking example of it. The Festival unites people for whom the meaning of life is the opportunity to implement their ideas meant to improve the world.

In 2020-2021 Igor Sikorsky Kyiv Polytechnic Institute is going to carry out the following projects:

- European Business Models: Transformation, Harmonization and Implementation in Ukraine in pursuance of Erasmus+ Jean Monnet Actions;
- Teaching Fuel Cell and Hydrogen Science and Engineering Across [TeacHy2020] in accordance of the EU Framework Programme for Research and Innovation Horizon 2020;
- NTNU-KPI Collaboration within Industry 4.0 Education in pursuance of the Eurasia Programme.

UNESCO Chair “Higher Technical Education, Applied Systems Analysis and Informatics” at Igor Sikorsky Kyiv Polytechnic Institute continues to carry out measures in order to improve the quality of training by increasing the number of international projects and programs with foreign partner universities, where students will have an opportunity to undergo training/internship at renowned foreign universities and gain experience of international education.

Activities of the UNESCO Chair “Higher Technical Education, Applied System Analysis and Informatics” are to focus on solving the pressing problems of modern higher technical education, particularly the goals set in the 2030 Agenda for Sustainable Development.

Igor Sikorsky Kyiv Polytechnic Institute has become more open and susceptible to the experience of other universities, its interuniversity and international relations have been on the rise, the ample opportunity to spread one’s achievements and experience has arisen.