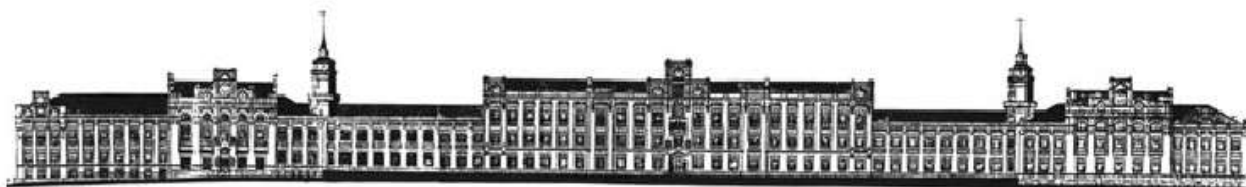


# UNITWIN/UNESCO CHAIRS PROGRAMME

## ***PROGRESS REPORT 2020-2021***

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  
2021**

## UNITWIN/UNESCO Chairs Programme Progress Report

**Period of Activity:** 1.06.2020 – 31.05.2021

**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 2020-2021 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, one international conference, one national festival of innovation projects were carried out and five 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.

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

	<b>Address of the Chairholder (or Coordinator). Other contact person</b>
<b>Name</b>	Mykhailo Zgurovsky
<b>Function/ Title</b>	Rector
<b>University/ Institution</b>	National Technical University of Ukraine 'Igor Sikorsky Kyiv Polytechnic Institute' (Igor Sikorsky Kyiv Polytechnic Institute)
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<b>Web Site</b>	<a href="http://www.unesco.kpi.ua">http://www.unesco.kpi.ua</a>

## 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/Trainings/Projects/Summer schools

#### Ukrainian-Norwegian Summer School ‘Sustainable Manufacturing in Industry 4.0: Technologies and Solutions’

**Date and venue:** September 14-17, 2020, National Technical University of Ukraine ‘Igor Sikorsky Kyiv Polytechnic Institute’, Kyiv, Ukraine

**Organizers:** National Technical University of Ukraine ‘Igor Sikorsky Kyiv Polytechnic Institute’, Norwegian Agency for International Cooperation and Quality Enhancement in Higher Education (Diku).

**Participants:** 110

- 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	

#### **Publications:**

**Title:** Joint Ukrainian-Norwegian Summer School ‘Sustainable Manufacturing in Industry 4.0: Technologies and Solutions’ is a New Milestone in Virtual Education at Igor Sikorsky Kyiv Polytechnic Institute

**Publishers:** <https://kpi.ua/en/2020-09-17-no>

**Year of Publication:** September 17, 2020

**Type of document/material:**

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

**Language(s):** English

**Keywords:** Industry 4.0; additive production technologies; history of innovative development of KPI; Ukrainian ‘green’ startups; education; science; innovation.

## Information Day ‘From HORIZON 2020 to HORIZON EUROPE’ (online)

**Date and venue:** October 27, 2020, 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’.

### **Participants: 200**

- 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**

<b>Regions</b>	<b>Countries</b>
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 Information Day ‘From Horizon 2020 to Horizon Europe’ – the opinion of the participant

**Publishers:** <https://ncp.kpi.ua/infoday-summary/>

**Year of Publication:** October 29, 2020

**Type of document/material:**

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

**Language(s):** Ukrainian

**Keywords:** place of international project activity in the KPI Development Strategy until 2025; the results of a survey of KPI research groups on the participation and implementation of international projects; web resource ‘International Mosaic’; the results of participation of ukrainian organizations (including KPI) in the projects of Horizon 2020 Programme - in comparison with the results of other European countries; structure, priorities and tools of Horizon Europe Programme; 20 new calls for proposals announced under the European Green Deal; conditions of participation of organizations in competitions of research and innovation programmes of the EU: independently and as a part of consortia.

## Seminar-Training ‘From Idea to Project Application. We are preparing for the new EU Horizon Europe Programme (online)’

**Date and venue:** November 24, 2020, 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’.

### **Participants: 168**

- 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**

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

### **Publications:**

**Title:** We offer to get acquainted with the materials of the online training seminar (24.11.2020)!

**Publishers:** <https://ncp.kpi.ua/seminar-24-11-2020/>

**Year of Publication:** November 19, 2020

**Type of document/material:**

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

**Language(s):** Ukrainian

**Keywords:** new tasks of divisions in the international project-grant activity; development of a project idea, checking the feasibility of the project, levels of technological readiness; formation of a consortium, search for partners; project proposal: preparation and assembly; application procedure, expert evaluation, issues of the protection of intellectual property rights in the international projects and programmes.



## 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

<b>Regions</b>	<b>Countries</b>
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

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

## 2. Conferences/Forums/Festivals

### The 22nd International Scientific and Practical Conference 'Renewable Energy and Energy Efficiency of the 21st Century' (online)

**Date and place:** May 20-21, 2021, 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:** 250

- 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
Asia/Pacific	Uzbekistan, Kazakhstan
Eastern and Central Europe	Ukraine, Poland
Northern Europe	Norway
Western Europe	Germany

#### **Publications:**

**Title:** 40 young researchers of the Junior Academy of Sciences of Ukraine took part in an international conference May 20-21, 2021

**Publishers:** <https://upc.kpi.ua/8377/40-%d0%bc%d0%be%d0%bb%d0%be%d0%b4%d0%b8%d1%85-%d0%b4%d0%be%d1%81%d0%bb%d1%96%d0%b4%d0%bd%d0%b8%d0%ba%d1%96%d0%b2-%d0%bc%d0%b0%d0%bd-%d0%b2%d0%b7%d1%8f%d0%bb%d0%b8-%d1%83%d1%87%d0%b0%d1%81%d1%82%d1%8c/>

**Year of Publication:** May 24, 2021

**Type of document/material:**

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

**Language(s):** Ukrainian

**Keywords:** problems and prospects of the development of use of renewable energy sources, electric and bioenergy resources, heat of the earth and heat supply of the country at the expense of energy of the sun, wind, hydropower resources; energy saving and energy efficiency measures.

## The 9th Festival of Innovation Projects ‘Sikorsky Challenge 2020’ (online)

**Date and venue:** November 03-13, 2020, 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, Corporation ‘Science Park ‘Kyivska Polytechnika’ in partnership with Golden Egg Science and Technology LLC, Boeing, Foundation of Scientific and Technological Development of Ukraine named by V.S. Mikhalevich, USP Capital Venture Fund, JSC Ukreximbank, Progresstech-Ukraine LLC, Business Incubator ‘Eazi Start’ etc.

### **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**

<b>Regions</b>	<b>Countries</b>
Africa	
Asia/Pacific	Israel, China
Eastern and Central Europe	Ukraine, EU
Western Europe and North America	USA
Latin America	

### **Publications:**

**Title:** The 9th Festival of Innovation Projects ‘Sikorsky Challenge 2020’

**Publishers:** <https://www.sikorskychallenge.com/festival-2020/>

**Year of Publication:** 2020

**Type of document/material:**

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

**Language(s):** Ukrainian, English (<https://www.sikorskychallenge.com/festival-en/>)

**Keywords:** startup competition; Innovation Ecosystem ‘Sikorsky Challenge’; forum ‘Development of innovative economy in regional, national and international aspects’; models of development of high-tech economy of Ukraine and state support of development of innovation in Ukraine; development of innovation in the field of medical engineering; innovation clusters of Ukrainian cities; development of Ukrainian innovations in the international aspects.

### 3. Interuniversity Exchanges/Partnership

#### Visit of H.E. Mr. Joel Lion, Ambassador Extraordinary and Plenipotentiary of the State of Israel to Ukraine

**Date and place:** February 16, 2021, Igor Sikorsky Kyiv Polytechnic Institute

**Purpose:** meeting with the leadership of the university, discussion of prospects for the development of cooperation.

#### Visit of H.E. Mr. Wali Monawar, Ambassador Extraordinary and Plenipotentiary of the Republic of Afghanistan to Ukraine

**Date and place:** February 19, 2021, Igor Sikorsky Kyiv Polytechnic Institute

**Purpose:** meeting with the leadership of the university, familiarization with the university, discussion of recovery directions and development of cooperation.

#### Visit of H.E. Ms. Elena Leticia Teresa Mikusinski, Ambassador Extraordinary and Plenipotentiary of the Argentine Republic to Ukraine

**Date and place:** February 22, 2021, Igor Sikorsky Kyiv Polytechnic Institute

**Purpose:** meeting with the leadership of the university, familiarization with the university, discussion of the state and prospects of cooperation between Igor Sikorsky Kyiv Polytechnic Institute and the Embassy of the Argentine Republic.

#### Visit of H.E. Mr. Alisher Kurmanov, Ambassador Extraordinary and Plenipotentiary of the Republic of Uzbekistan to Ukraine

**Date and place:** March 3, 2021, Igor Sikorsky Kyiv Polytechnic Institute

**Purpose:** meeting with the leadership of the university, familiarization with the university, discussion of cooperation, in particular in the field of innovation.

## 4. Publications and multimedia material

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

2. **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

3. **Title:** The EU Horizon Europe Programme: new opportunities for Igor Sikorsky Kyiv Polytechnic Institute research schools, 2020. – pp. 3-4.

**Publisher(s):** Kyiv Polytechnic, # 13

**Year:** 2020

**Type of document/material:** article

4. **Title:** How to find partners to participate in the international project grant programmes, 2020. – p. 3.

**Publisher(s):** Kyiv Polytechnic, # 15

**Year:** 2020

**Type of document/material:** article

5. **Title:** International scientific mobility of youth is a driver of university development, 2020. – pp. 4-6.

**Publisher(s):** Kyiv Polytechnic, # 19

**Year:** 2020

**Type of document/material:** article

6. **Title:** The EU Horizon Europe Programme: support for the space industry, 2020. – p. 5.

**Publisher(s):** Kyiv Polytechnic, # 21

**Year:** 2020

**Type of document/material:** article

7. **Title:** Sergii I. Sidorenko. Adapt the best practices of the world's universities and take leadership positions. An excerpt from the Report of the Vice-Rector for International Relations Sergii I. Sidorenko at the Academic Council of Igor Sikorsky Kyiv Polytechnic Institute January 29, 2021. – pp. 3-5.

**Publisher(s):** Kyiv Polytechnic, # 6

**Year:** 2021

**Type of document/material:** article

## 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 the international education organizations, funds and the calls that are opened 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.

Thanks to educational grants and programs, academics and students of Igor Sikorsky Kyiv Polytechnic Institute get opportunities to undergo practical training abroad. They carry out joint scientific projects in collaboration with the foreign partners. The results of these studies are published in the 'Kyiv Polytechnik' newspaper.

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, etc.

In 2021 Igor Sikorsky Kyiv Polytechnic Institute was listed in the QS World University Rankings at 701-750 position.

It took 66th place in the QS Emerging Europe and Central Asia (EECA) University Rankings.

In 2021 the University took part in the QS World University Rankings by Subject, where the educational programme – 'Computer Science and Information Systems' - took a position higher than 500.

In 2020 Igor Sikorsky Kyiv Polytechnic Institute took first place in the ranking 'Top 200 Ukraine'.

In January 2021 Igor Sikorsky Kyiv Polytechnic Institute was ranked second among Ukrainian universities in the ranking 'Webometrics'.

Another direction of activities of the Chair is comprehensive assistance to university researchers in their participation in the international research programmes (HORIZON 2020, HORIZON EUROPE, ERASMUS+, EURASIA, NATO, etc.). Support of the international projects on technology transfer was significantly strengthened.

In 2020 Igor Sikorsky Kyiv Polytechnic Institute participated in two projects within Erasmus+ Jean Monnet Actions; one project within NAWA; four projects within the EURASIA programme; three NATO projects; three projects within the Horizon 2020 programme and other international projects.

Currently, two National Contact Points of the EU Horizon 2020 Programme 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, international scientific and practical conference was held online in cooperation with the UNESCO Chair at Igor Sikorsky Kyiv Polytechnic Institute in 2021.

With the active participation of the UNESCO Chair at Igor Sikorsky Kyiv Polytechnic Institute in October 2020 the Information Day dedicated to the framework research and innovation programmes of the European Union: 'Horizon 2020' and 'Horizon Europe' was held online. Also in November 2020 was held the Seminar-Training, in the course of which practical issues of participation in the framework research and innovation programmes of the EU were considered.

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

The Festival of Innovative Projects 'Sikorsky Challenge 2020' was held online at Igor Sikorsky Kyiv Polytechnic Institute. The purpose of the festival is to attract pupils and students, as well as scientists and entrepreneurs to participate in the research programmes and design activities for their further commercialization, creation of startups and launch of the innovative products on the international and national markets.

As a part of this year's Festival, the Startup Competition (in the asynchronous mode) and the Forum 'Development of Innovative Economy in Regional, National and International Aspects' (in the synchronous mode) were held.

On October 16, 2020, the UNESCO Chair in Higher Technical Education, Applied Systems Analysis and Informatics participated in the open meeting with UNESCO Chairs on 'Education for Sustainable Development', which took place online.

The meeting was held by the UNESCO Chair in 'Business Administration' in the framework of the 3rd International Conference on Economics and Social Sciences – 'Innovative Models for the Renewal of Global Economy' organized by the Bucharest University of Economic Studies from 15 to 16 October 2020 in Bucharest, Romania.

The conference is aimed at the exploration of common interests and expansion of the bilateral and multilateral cooperation between UNESCO Chairs and UNITWIN institutions through the initiation and development of the joint projects according to the United Nations' Sustainable Development Goals.



Over the recent years international cooperation has become an 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 the future integration into the international, particularly European education, research and information area and promotes the implementation of the reforms, which were initiated by the Bologna Process.

## V. Forthcoming Activities

### The 10th Festival of Innovation Projects ‘Sikorsky Challenge 2021’

**Date and venue:** August 17-20, 2021, Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine

**Organizers:** National Technical University of Ukraine ‘Igor Sikorsky Kyiv Polytechnic Institute’, Innovation Ecosystem Sikorsky Challenge, Corporation ‘Science Park ‘Kyivska Polytechnika’, etc.

### The 7th International Scientific and Practical Conference ‘Clean Water. Fundamental, Applied and Industrial Aspects’

**Date and place:** November 25-26, 2021, 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 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).

### The 23th International Scientific and Practical Conference ‘Renewable Energy and Energy Efficiency of the XXI Century’

**Date and venue:** May 2022, 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 the cooperation between specialists and experts in the realm of education, science and culture at both national 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 the assessment 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 the 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 the development and collaboration within the framework of the UNITWIN/UNESCO Chairs Program established in 1992 by the UNESCO General Conference at its 26th session. Higher educational institutions of developing countries and emerging markets economies provide the basis for this program's charitable work. The UNITWIN/UNESCO Chairs projects deal with the 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 this intention. The Festival unites people for whom the meaning of life is the opportunity to implement their ideas, which are meant to improve the world.

In 2021-2022 Igor Sikorsky Kyiv Polytechnic Institute is going to carry out the following projects:

- European Business Models: European Integration: legislation and the Internet of Things in pursuance of Erasmus+ Jean Monnet Actions;
- Knowledge at the Tip of Your fingers: Clinical Knowledge for Humanity in pursuance of the EU Framework Programme for Research and Innovation – Horizon 2020;
- Simultaneous transformation of ambient heat and undesired vibrations into electricity via nanotriboelectrification during non-wetting liquid intrusion-extrusion

into-from nanopores in pursuance of the EU Framework Programme for Research and Innovation – Horizon 2020;

– Teaching Fuel Cell and Hydrogen Science and Engineering Across Europe within 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 activities aiming to improve the quality of training by increasing the number of the international projects and programmes with the foreign partner universities, which will give students the 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’ will be focused on solving the pressing problems of modern higher technical education, particularly the achievement of 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 substantially increased, the ample opportunity of spreading one’s achievements and experience has arisen.