



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 2017-2018

UNESCO CHAIR
**In 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
2018**

UNITWIN/UNESCO Chairs Programme Progress Report

Period of Activity: 1.06.2017 – 31.05.2018

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, Rector of the National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, 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 main information about the results of its activity in 2017-2018 is represented.

The most significant measures in the sphere of academic activity connected with the organization and holding of seminars, trainings, conferences at national and international level, realization of international projects in the field of education are illustrated. Thus, during the reporting period 1 seminar, 1 information day, 3 international conferences, 1 national festival of innovation projects were carried out and 2 international projects implemented with the participation of the UNESCO Chair.

Interuniversity exchange within the subjects of the UNESCO Chair activity took place (7 visits).

The UNESCO Chair activity was widely illustrated 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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Web Site	http://www.unesco.kpi.ua

II. Available Resources

1. Human Resources

1. For the Administration of the UNESCO Chair

Coordinator	Prof. Sergiy Sidorenko
Executive Secretary	Olena Poptsova
Academic Secretary	Prof. Sergiy Shukayev
Partial time support Academic Secretary	Olena Kizub

2. For the teaching/training/research activities

The UNESCO Chair has sections:

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

3. For the information and documentation activities:

Academic Secretary Prof. Sergiy Shukayev

2. Material Resources

Sources: Host Institution, Governmental body

- **FOR THE ADMINISTRATIVE WORK:** Computers, fax machines, xerocopy machines, printer, and storage systems.
- **FOR THE TEACHING/TRAINING/RESEARCH ACTIVITIES:** Lecture rooms, video-edition, projector, Book edition, CD – edition, proceedings editions, e-learning.
- **FOR THE INFORMATION AND DOCUMENTATION ACTIVITIES:** Web-site, posters, brochures, Proceedings, Book editions.
- **FOR OTHER ACTIVITIES:** Conferencing

III. Activities

1. Academic Activities

Education/Seminars/Training/Research

Seminar “Prospects of Development of Ukrainian-Polish Students and Academic Staff’ Mobility”

Date and place: August 31, 2017, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Partnership: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Polish educational fund «PERSPEKTYWY», Committee on Foreign Cooperation of the Conference of Rectors of Higher Educational Institutions of Poland, Ukrainian-Polish Center of Igor Sikorsky Kyiv Polytechnic Institute.

Participants: 30

- 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	
Arab States	
Asia/Pacific	
Eastern and Central Europe	Ukraine, Poland
Western Europe and North America	
Latin America	

Publications:

Title: Seminar “Prospects of Development of Ukrainian-Polish Students and Academic Staff’ Mobility”

Publishers: <http://kpi.ua/en/node/14929>

Year of Publication: 31 August 2017

Type of document/material:

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

Language(s): Ukrainian, English

Keywords: status, opportunities and prospects of expanding of academic mobility between the universities of Ukraine and Republic of Poland, Ukrainian-Polish Forum of the Association of Rectors of Higher Technical Institutions of Ukraine, Conference of Rectors of Technical Universities of the Republic of Poland.

Information Day “HORIZON 2020”

Date and place: December 12, 2017, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Partnership: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, National Contact Point of the EU Horizon 2020 Programme in such fields as "Information and communication technologies" and "Climate and resource use efficiency including raw materials".

Participants: 80

- 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: Information Day “HORIZON 2020”

Publishers: <http://kpi.ua/2017-12-12>

Year of Publication: January 01, 2018

Type of document/material:

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

Language(s): Ukrainian

Keywords: Horizon 2020 Work Programme 2018-2020; Information and Communication Technologies; Climate and Resource Use Efficiency Including Raw Materials; Science for society.

2. Conferences/Forums/Festivals

XVIII International Scientific and Practical Conference “Renewable Energy and Energy Efficiency of the XXI Century”

Date and place: September 27-29, 2017, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Partnership: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Representative office of the Polish Academy of Sciences in Kyiv, National Academy of Sciences of Ukraine, Institute of Renewable Energy at National Academy of Sciences of Ukraine, Minor Academy of Sciences of Ukraine, State Agency on Energy Efficiency and Energy Saving of Ukraine, UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute and Institute for Applied System Analysis, Ukrainian-Polish Center of development renewable energy sources and energy efficiency.

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

Regional Coverage

- National
- Regional/Interregional/International

Regions	Countries
Africa	
Asia/Pacific	Republic of China, Turkey, Azerbaijan
Eastern and Central Europe	Ukraine, Poland, Germany
Northern Europe	Finland

Publications:

Title: XVIII International Conference “Renewable Power Generation and Energy Efficiency in XXI Century”

Publishers: Kyivsky Polytechnic, No. 27

Year of Publication: October 12, 2017

Type of document/material:

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

Language(s): Ukrainian, English (<http://kpi.ua/en/node/14913>)

Keywords: “Strategy of the Development of Renewable Energy Sources”; “The Transition of Ukraine to Renewable Energy Sources up to 2050: Why and How to Achieve It”; “International Experience of Simultaneous Implementation of Renewable Energy and Electricity Markets”; “Prospects for R&D and Energy Efficiency in Ukraine via Attraction of the Best Practices of International Partners”.

VI Ukrainian Festival of Innovation Projects “Sikorsky Challenge 2017”

Date and place: October 10-13, 2017, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Partnership: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Minor Academy of Sciences of Ukraine, Science Park "Kyivska Politechnica" in partnership with Leonid Kuchma's President's Fund "Ukraine", International Investment Company Noosphere, Investment Company ILand Management, V.S. Myhalevych Venture Fund, Kalinin Invention Fund, Intel, etc.

Participants: 800

- 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, EU
Western Europe and North America	USA
Latin America	

Publications:

Title: Festival ‘Sikorsky Challenge 2017’: grand closure and rewarding of winners of competition

Publishers: <http://new2.kpi.ua/en/node/14914>

Year of Publication: October 10, 2017

Type of document/material:

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

Language(s): Ukrainian, English

Keywords: Innovation Ecosystem of Ukraine; Commercialization of Research Ideas and Innovation; Creation of a Network of Startup Schools at Universities as the Basis for the Development of an Innovative Ecosystem of Ukraine; Business Incubators and Accelerators, Start-up Competition “Sikorsky Challenge”.

V International Scientific and Practical Conference “Clean Water. Fundamental, Applied and Industrial Aspects”

Date and place: October 26-27, 2017, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

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

Participants: 125

- 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	
Eastern and Central Europe	Ukraine, Russia, Poland, Slovakia
Western Europe and North America	USA
Latin America	

Publications:

Title: V International Scientific and Practical Conference "Pure water. Fundamental, Applied and Industrial Aspects"

Publishers: Kyivsky Polytechnic, No. 31

Year of Publication: November 09, 2017

Type of document/material:

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

Language(s): Ukrainian, English (<http://kpi.ua/en/node/15005>)

Keywords: “Scientific Research in the Field of Water Supply, Water Purification and Rational Use of Water Resources”; “Develop and Improve the Principles and Mechanisms of an Integrated Approach to the Protection of Water Objects”, “Innovative Enterprises of Ukraine”.

XX International Conference “System Analysis and Information Technologies”

Date and place: May 21-24, 2018, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Partnership: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Ministry of Education and Science of Ukraine, National Academy of Sciences of Ukraine, UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute and IASA, the Educational-Scientific Complex "Institute of Applied System Analysis", Silesian University of Technology, Gliwice (Poland), Oles Honchar Dnipropetrovsk National University, Science Societies of Students and Postgraduates at Igor Sikorsky Kyiv Polytechnic Institute and ESC "IASA", Student Council of ESC "IASA".

Participants: 270

- 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	Georgia, Azerbaijan
Eastern and Central Europe	Ukraine, Moldova
South Europe	
North America	

Publications:

Title: System Analysis and Information Technology: 20-th International Conference SAIT 2018 (May 21-24, 2018, Kyiv, Ukraine).

Publishers: Igor Sikorsky Kyiv Polytechnic Institute (<http://sait.kpi.ua/books/>)

Year of Publication: 2018

3. Interuniversity Exchanges/Partnership

Visit of M.Z. Zgurovsky to Romania

Date and place: July 03-05, 2017, Romania

Purpose: participation in the meeting within the UNITWIN/UNESCO Chairs Programme

Visit of Prof. Jan Schmidt, President of the Conference of the Rectors of the Academic Schools of the Republic of Poland, Rector of the Warsaw Polytechnic

Date and place: September 04, 2017, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: solemn meeting of the Council Igor Sikorsky Kyiv Polytechnic Institute on the occasion of awarding the diploma of "Honorary Doctor of Igor Sikorsky Kyiv Polytechnic Institute", mantle and memorable sign of the Rector of the Warsaw Polytechnic professor Jan Schmidt

Visit of M.Z. Zgurovsky to Republic of Korea

Date and place: September 05-09, 2017, Republic of Korea

Purpose: participation in the conference

Visit of Mr. Rao Tummala, Well-known Scientist, Professor of Georgia Institute of Technology, Director of The Packaging Research Center (PRC) Georgia Tech, member of the National Academy of Engineering (USA)

Date and place: September 14, 2017, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: familiarization with university, a lecture to students, graduate students and professors

Visit of Mr. Waldemar Siwinski, President of the Polish Educational Foundation "Perspektywy" (Republic of Poland)

Date and place: October 02, 2017, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: solemn meeting of the Council Igor Sikorsky Kyiv Polytechnic Institute on the occasion of awarding the diploma of "Honorary Doctor of Igor Sikorsky Kyiv Polytechnic Institute", mantle and memorable sign of the President of the Polish Educational Foundation "Perspektywy" Mr. Waldemar Siwinski

Visit of M.Z. Zgurovsky to Republic of Poland

Date and place: October 03-05, 2017, Republic of Poland

Purpose: participation in the celebrations on the occasion of the new academic year

Visit of S.I. Sydorenko to Republic of Moldova

Date and place: October 18-21, 2017, Republic of Moldova

Purpose: participation in the meeting of the Executive Board of the Black Sea Universities Network of the Countries Black Sea Region

Visit of S.M. Shukayev to Romania

Date and place: October 26-27, 2017, Romania

Purpose: participation in the Second Open Meeting of Balkan UNESCO Chairs on Education for Entrepreneurship, Innovation and Sustainability in the Knowledge Economy

Visit of Prof. Rolf-Dieter Hoyer, Well-known Scientist (Germany)

Date and place: November 20, 2017, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: familiarization with university, a lecture to students of Igor Sikorsky Kyiv Polytechnic Institute, students of other institutions of higher education in Kyiv and pupils-members of Minor Academy of Sciences of Ukraine

Visit of Mr. Predrag Milovich, Honorary Consul of Ukraine in Montenegro

Date and place: December 04, 2017, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: solemn meeting of the Council Igor Sikorsky Kyiv Polytechnic Institute on the occasion of awarding the diploma of "Honorary Doctor of Igor Sikorsky Kyiv Polytechnic Institute", mantle and memorable sign of the Honorary Consul of Ukraine in Montenegro Mr. Predrag Milovich

Visit of H.E. Mr. Lee Yang-Goo, Ambassador Extraordinary and Plenipotentiary of the Republic of Korea to Ukraine

Date and place: January 16, 2018, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: discussion of cooperation, in particular in the field of science, education and high technologies

Visit of H.E. Mr. Shigeki Sumi, Ambassador Extraordinary and Plenipotentiary of Japan to Ukraine

Date and place: February 05, 2018, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: participation in the opening ceremony of Japanese Garden of Stones at Ukrainian-Japanese Center of Igor Sikorsky Kyiv Polytechnic Institute

Visit of M.Z. Zgurovsky to Republic of Slovenia

Date and place: February 12-16, 2018, Republic of Slovenia

Purpose: participation in the International Congress on Artificial Intelligence and Data Processing

Visit of the Extraordinary and Plenipotentiary Ambassador of the USA to Ukraine, H.E. Ms. Marie Louise Yovanovitch

Date and place: February 13, 2018, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: familiarization with university, communication with the students, postgraduates and staff of the university

Visit of M.Z. Zgurovsky to Republic of Latvia

Date and place: March 01-02, 2018, Republic of Latvia

Purpose: participation in the government delegation

Visit of Mr. James Randolph Breznik, NASA astronaut, Colonel of the US Air Forces (USA)

Date and place: March 15, 2018, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: communication with the students and staff of the university

Visit of H.E. Mr. Gela Dumbadze, Ambassador Extraordinary and Plenipotentiary of Georgia to Ukraine

Date and place: March 21, 2018, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: lecture to students, graduate students and professors of university on the occasion of the 100th anniversary of the establishment of diplomatic relations between Ukraine and Georgia

Visit of Mr. Jules Hoffmann, Prominent Immunologist and Cytologist, 2011 Nobel Prize in Physiology and Medicine (France)

Date and place: April 19, 2018, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: lecture to students and scientists of Igor Sikorsky Kyiv Polytechnic Institute and other institutions of higher education in Kyiv and pupils on the topic: «Innate Immunity: from Insects to Humans»

Results: 250 teachers and students of the university took part in discussion

Visit of H.E. Mr. Lee Yang-Goo, Ambassador Extraordinary and Plenipotentiary of the Republic of Korea to Ukraine

Date and place: April 20, 2018, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: meeting with the leadership of the university, discussion of issues of deepening scientific cooperation between Igor Sikorsky Kyiv Polytechnic Institute and Korean universities

Visit of H.E. Mr. Shigeki Sumi, Ambassador Extraordinary and Plenipotentiary of Japan to Ukraine

Date and place: April 25, 2018, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: meeting with the leadership of the university, discussion of issues of deepening of cooperation between Japan and Ukraine in the field of high technologies

Visit of Mr. Yuriy Heorhiyovych Hohotsi, Honored Professor of Material Science, Founder and Director of the Institute of Nanotechnologies of A.J. Drexel University (USA), a Doctor of Technical Sciences

Date and place: May 14, 2018, Igor Sikorsky Kyiv Polytechnic Institute

Purpose: solemn meeting of the Council Igor Sikorsky Kyiv Polytechnic Institute on the occasion of awarding the diploma of "Honorary Doctor of Igor Sikorsky Kyiv Polytechnic Institute", mantle and memorable sign of the Honored Professor of Material Science, founder and director of the Institute of Nanotechnologies of A.J. Drexel University (USA), a doctor of technical sciences Mr. Yuriy Heorhiyovych Hohotsi

4. Publications and multimedia material

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

2. Title: Mykhailo Z. Zgurovsky Analysis of Socio-economic Processes of Knowledge-based Society Development / International Council for Science (ICSU) and other. – Kyiv : Igor Sikorsky Kyiv Polytechnic Institute, 2017. – 26 p. ISBN 978-966-622-819-5

Publisher(s): electronic edition

Year: 2017

Type of document/material: book (scientific publication)

3. Title: Sergiy V. Voitko, Oleg A. Gavrish, Mykhailo Z. Zgurovsky, Sergey V. Naraevsky. Economy of Aoreign Countries : textbook. – Kyiv : Igor Sikorsky Kyiv Polytechnic Institute, 2017. – 400 p.

Publisher(s): Igor Sikorsky Kyiv Polytechnic Institute

Year: 2017

Type of document/material: textbook

4. Title: Voitko S.V., Gavrish O.A., Zgurovsky M.Z. Principles of Implementing Foresight Scenarios of the Socioeconomic System on the Principles of Balance Approach // Modern Problems of Economy and Entrepreneurship : Collection of Scientific Works. – Kyiv : Publ. house «Polytechnica», 2017. – Issue 19. – P. 95-104.

Publisher(s): Publ. house «Polytechnica»

Year: 2017

Type of document/material: article

5. Title: Michael Zgurovsky, Andrii Boldak, Kostiantyn Yefremov, Ivan Pyshnograiev Modeling and Investigating the Behavior of Complex Socio-economic Systems // Conference proceedings of 2017 IEEE First Ukraine Conference on ELECTRICAL AND COMPUTER ENGINEERING (UKRCON). – 2017. – P. 1113 – 1116

Publisher(s): UKRCON

Year: 2017

Type of document/material: article

6. Title: Mykhailo Z. Zgurovsky Sustainable Development Analysis – Global and Regional Contexts / International Council for Science (ICSU) and other. – Kyiv : Igor Sikorsky Kyiv Polytechnic Institute, 2017. – Part 1. Global Analysis of Quality and Safety of Life (2016). – 208 p.

Publisher(s): Igor Sikorsky Kyiv Polytechnic Institute

Year: 2017

Type of document/material: book (scientific publication)

7. Title: Zgurovsky M.Z. Ensuring the Socio-economic Balance of Ukraine's Regional Development / Mykhailo Z. Zgurovsky, Oleg A. Gavrish, Anna D. Kukharuk, Natalia Y. Skorobogatova // Economy and State. – 2018. – № 2. – P. 11-15.

Publisher(s): Economy and State

Year: 2018

Type of document/material: article

IV. Outcomes

International activity of Igor Sikorsky Kyiv Polytechnic Institute is one of the key directions of the university strategic development. It consists of such basic constituents: preparation of specialists and scientific and academic brainpower including for foreign countries; participating in international educational organizations, funds and calls which are held with the purpose of obtaining grants; exchanging information about scientific publications, participation in conferences, exhibitions, seminars, educational fair; collaboration with the oversea institutes 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 brain power centres of Ukrainian higher technical education, plays an important role in this process. The Chair took the initiative in organizing the international conferences, also seminars, information days and festivals concerning the different aspects of higher education growth and understanding of its importance in modern society.

Faculty members and students of Igor Sikorsky Kyiv Polytechnic Institute use the opportunities of training abroad due to educational grants and programmes; implement joint scientific projects with foreign partners, the results of these workshops being published in the newspaper “Kyivskiy Politechnik”.

One of the important directions of activity for the UNESCO Chair is participation in the programme “UNESCO-UNITWIN OCW/OER INITIATIVE” (UUOOI). The aim of this programme is to promote integrated research system, professional training, programmes preparation (education, natural sciences, social sciences, the humanities, culture, communications and information) and collaboration between universities based on knowledge transfer “through borders”.

UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics traditionally has actively facilitated participation of Igor Sikorsky Kyiv Polytechnic Institute in the most prestigious world university ratings, such as QS World University Rankings, Thomson Reuters, and U-Multirank.

In 2017/18 Igor Sikorsky Kyiv Polytechnic Institute improved its position in the QS World University Rankings – it has got the category 501-550.

In 2017 Igor Sikorsky Kyiv Polytechnic Institute was at the top of the ranking "Top 200 Ukraine".

In July, 2017 Igor Sikorsky Kyiv Polytechnic Institute was the first among Ukrainian universities in the ranking Webometrics.

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

In 2017 Igor Sikorsky Kyiv Polytechnic Institute won in the Jean Monnet project for the first time. As well as participated in 4 educational projects of the European Union within Erasmus+ KA2, 53 projects within Erasmus+ KA1, 3 projects under the programme EURASIA, 2 projects within British Council programme, 4 projects of the

Horizon 2020 programme, 5 NATO projects and other international projects. Currently, students and teachers may participate in all projects of programmes mentioned above.

There is the National Contact Point of the EU Horizon 2020 Programme in such fields as "Information and communication technologies" and "Climate and resource use efficiency including raw materials" on the basis of Igor Sikorsky Kyiv Polytechnic Institute.

3 international scientific and practical conferences were held at Igor Sikorsky Kyiv Polytechnic Institute with the assistance of the Representation of the Polish Academy of Sciences in Kiev during 2017.

During 2017-2018 with the active participation of the UNESCO Chair at the Igor Sikorsky Kyiv Polytechnic Institute specialized seminars, information days were conducted in order to familiarize scientific community of the University with the features of submission of applications for participation in international programmes, the creation of consortia, and with experience of the world leading universities in this direction.

The work of the UNESCO Chair has been fully covered by the media through publications in newspapers and speeches at international conferences.

The Ukrainian Festival of Innovative Projects "Sikorsky Challenge 2017" was held in Igor Sikorsky Kyiv Polytechnic Institute. It is the largest technological and innovation event in Ukraine, which gathers young inventors from almost all regions of Ukraine. The purpose of the Festival is to attract pupils and students, scientists and entrepreneurs to participate in research programmes and design activities for their further commercialization, facilitate the creation of startups and output of innovative products in the international and national markets.

In 2017 the Festival was held for the sixth time and combined the contest of innovative ideas "Sikorsky Challenge 2017" and the contest "Intel-Techno Ukraine 2017-2018", which is the national round of the World Competition of scientific and technical creativity of schoolchildren "Intel ISEF".

At the All-Ukrainian Startup Competition "Sikorsky Challenge" there are project developers in many fields of science and technology and representatives of large investment business. So the victory in the competition of startups provides the authors of the best projects with a chance to get investments. And for the winners of Intel-Techno Ukraine is an opportunity to represent Ukraine at the World Finale of the US Contest.

Due to the active work of the UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics, the international cooperation has become the integral part of Igor Sikorsky Kyiv Polytechnic Institute and IASA for the last years. It creates the favourable conditions for future integration to the international and, in particular, European educational, scientific and informational space and promotes introduction of the reforms which were started with the Bologna process.

VI. Forthcoming Activities

XIX International Scientific and Practical Conference “Renewable Energy and Energy Efficiency of the XXI Century”

Date and place: September 26-28, 2018, Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine

Partnership: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, National Academy of Sciences of Ukraine, Representative office of the Polish Academy of Sciences in Kyiv, Institute of Renewable Energy at National Academy of Sciences of Ukraine, Minor Academy of Sciences of Ukraine, State Agency on Energy Efficiency and Energy Saving of Ukraine, UNESCO Chair in Higher Technical Education, Applied System Analysis and Informatics at Igor Sikorsky Kyiv Polytechnic Institute and Institute for Applied System Analysis, Ukrainian-Polish Center of development renewable energy sources and energy efficiency and other.

VII Ukrainian Festival of Innovation Projects “Sikorsky Challenge 2018”

Date and place: October, 2018, Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine

Partnership: National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Science Park "Kyivska Politechnica".

VI International Scientific and Practical Conference “Clean Water. Fundamental, Applied and Industrial Aspects”

Date and place: October, 2019, Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine

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

VII. Development Prospects

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

Activities will be aimed at the increasing of the collaboration between specialists and experts in the fields of education, science and culture on both national level and international level. The UNESCO Chair will assist employees and students of the University in receiving grants for the educational, research and culture projects.

UNESCO Chair will continue to actively develop and implement ranking of higher education institutions of Ukraine according to the statements of Memorandum about Cooperation with UNESCO-CEPES from 25th April 2006.

The activity of the Ukrainian Gender Education Centre, established at NTUU “KPI” in 2001 under the aegis of the UNESCO Chair, is based on creating tools that allow to implement new information technology into gender education. It acts up to the Memorandum of UNDP in Ukraine and 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 in the frame of Founding of the UNESCO/UNITWIN Chairs Programme, approved in 1992 at the 26th UNESCO General Conference. The main fields of this program’s charity concern higher educational institutions of the developing countries and countries in transit. The UNESCO/UNITWIN Chairs projects refer to research preparation 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 along with typical areas of activity plans to expand its activities in the field of innovation activity. A striking example is holding of the Festival of Innovative Projects "Sikorsky Challenge" in Igor Sikorsky Kyiv Polytechnic Institute. The Festival unites people for whom the sense of life is the opportunity to realize their ideas to improve the world.

In 2018–2019 Igor Sikorsky Kyiv Polytechnic Institute is going to proceed with implementation of the following projects:

- Project "European business models: transformation, harmonization and implementation in Ukraine" Jean Monnet programme;
- Project "Development of a Network Infrastructure for Youth Innovation Entrepreneurship Support on Fablab Platforms" Erasmus+ programme;
- Project "Harmonising Water Related Graduate Education" Erasmus+ programme;
- Project "Master-level Studies in Information Systems" Erasmus+ Programme;

- Project "Approximation Methods for Molecular Modelling and Diagnosis Tools" [AMMODIT] EU Framework Programme for Research and Innovation "Horizon 2020";
- Project "Magnonics, Interactions and Complexity: a multifunctional aspects of spin wave dynamics" [MagIC] EU Framework Programme for Research and Innovation "Horizon 2020";
- Project "Teaching Fuel Cell and Hydrogen Science and Engineering Across" [TeachHy2020] EU Framework Programme for Research and Innovation "Horizon 2020".

UNESCO Chair "Higher Technical Education, Applied Systems Analysis and Informatics" at Igor Sikorsky Kyiv Polytechnic Institute continues to implement activities in order to enhance level of training quality by increasing the number of international projects and Programmes 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" focuses on solving urgent problems of modern higher technical education, in particular the objectives defined in 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 grown, a wider opportunity for spreading one's achievements and experience has appeared.