Proposals for cooperation

Department of Automation of the Technological Systems and Ecological Monitoring of NTU «KhPI»

Briefly about Department:

Department of Automation of the Technological Systems and Ecological Monitoring
Web: http://web.kpi.kharkov.ua/acem

The Faculty of Integrated Technologies and Chemical Technique
Web: http://web.kpi.kharkov.ua/it/golovna/

The department was founded in 1964. It is engaged in both an educational and scientific activities. The results of scientific research and practical developments implement in different areas of the industry. Our graduates are in demand not only in Ukraine but also in overseas enterprises.

Head of Department: Prof., Dr. habil., Mykhaylo Podustov
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Member of the Faculty Council, Member of the University Council, Member of the Specialized Council for Defending Theses.

Scientometric data : Scholar / ORCID

Educational Activity

The department trains bachelors and masters of Science in the fields on a specialty "Automation and computer-integrated technologies" in the following specializations:
- Computer Integrated Manufacturing and Applied Programming
- Automated Control of Technological Process

Our students obtain a thorough theoretical and practical knowledge in many disciplines, including both fundamental and applied sciences. From the first year our students begin to learn different basic subject, including:
- information systems and programming;
- automatic control theory;
- control system reliability diagnostics;
- design automation systems;
- CAD basics;
- PLC software;
- fieldbuses.

Scientific Activity

Over the past 10 years, the department has implemented a number of research projects, which are funded from the state budget. Also, research on the basis of bilateral agreements with the leading enterprises of Ukraine ("Severodonetsk Azot Association", PrJSC ORGHIM, SUMYKHIMPROM et al.) were carried out

At the moment, the department conducts research in two main areas:
- – Development of automated eco-oriented technologies with energy and resource saving.
- – The development of energy-efficient computer-integrated technologies and systems in the production of nitrate acid and ammonia.

Cooperation with International Companies

The OWEN Company

The department provides scientific and technical cooperation with the OWEN Company.

Our department is the only in Ukraine, which has a laboratory equipped with imitation stands with modern technical means of OWEN. This laboratory is the base for training and retraining of developers and users of automation systems and computer integrated control system from all over Ukraine.

Such cooperation is possible to introduce into the educational process of hardware and software produced by the company. It is also possible to use advanced computer-integrated manufacturing sciences of automation in the execution of degree projects.

On the production capacity of the OWEN company carried out the practical training for the students of our department with the possibility of further employment.

ABB

Swedish-Swiss company that specializes in the field of electrical and power engineering and information technology.

Within the bounds of cooperation, the department received a demo software and hardware system Freelance 800F. This equipment package is used in educational process at studying of special disciplines: "PLC Software", "ICS Software" and "Industrial Networks".

FESTO

The FESTO Company is a leading global supplier of automation technology.

The department placed stands on the basis of PLC FEC34 Festo, which are used in educational process at studying of discipline "Software PLC".

SV Altera

SV Altera – the official dealer of many foreign companies, including manufacturer industrial controllers VIPA and developer special software COPA-DATA .

VIPA German company specializing in the design and manufacture of programmable logic controllers that are compatible with Siemens controllers.
The department got a concessional equipment of VIPA company, namely, programmable logic controllers VIPA System100V, System200V and System300S and software license WinPLC V4.44, and operator panels for local automation systems.

The department received a special software license – Zenon SCADA-system. Zenon SCADA-system is the main product of COPA-DATA GmbH Austrian company.
This equipment and software used in educational process at studying of special disciplines: "Software PLC", "ICS Software" and "Industrial Networks".

Publications

The scientific results of the department used in the preparation of Ph.D. theses and student research papers.

Below are some of the works on the themes of research conducted by our department. A more complete list of the works can be found in Google [Google Scholar](#).

Podustov M.A., Bobukh A.A., Kovalyov D.A. «Algorithm of Pseudo-Optimum Control of Dynamic Systems» // Intehrovani Tekhnolohii ta Enerhozberezhennya. – 2014. – № 1. – C. 57-62. ([link](#))

Bobukh A.A., Dzevochko A.M., Podustov M.A., Kravchenko A.S. «Double-step adaptive algorithm of identification of non-stationary objects» // Vistnyk NTU «KhPI», Chemistry, Chemical Technology And Ecology Series. – 2015. – № 30 (1139). – C. 11-17. ([link](#))

Bobukh A.A., Kovalyov D.A., Dzevochko A.M., Klimov A.O., Podustov M.A., Pereverzieva A.N. Optimal In Class of Adaptive Recurrent Procedures Control Algorithm // Intehrovani Tekhnolohii ta Enerhozberezhennya. – 2015. – № 2. – C. 23-29. ([link](#))

Babichenko A.K., Lysachenko I.G., German E.E. «Implementation of the Adaptive PID Controller Using OPC-Technology» // Informacijno-keruûci sistemi na zaliznicnomu transporti. – 2015. – № 6 (115). – C. 67-71. ([link](#))

German E.E., Klimenko L.A. «Design of Fuzzy Models of Intelligent Industrial Controllers And Control Systems» // Informacijno-keruûci sistemi na zaliznicnomu transporti. – 2015. – № 3 (112). – C. 24-31. ([link](#))

Contacts

If you are interested in mutual cooperation or want to specify any details, this contact information will be useful:

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