



NATIONAL TECHNICAL UNIVERSITY OF UKRAINE
"IGOR SIKORSKY KYIV POLYTECHNIC INSTITUTE"
FACULTY OF LINGUISTICS
JAN KOCHANOWSKI UNIVERSITY IN KIELCE, POLAND

Dear students!
We invite you to take part in the

International Students R&D Online Conference
XXI SCIENCE AND TECHNOLOGY OF THE XXI CENTURY

which will be held on **December 17, 2020**

The program of the conference includes online plenary and working sessions. The publication of students articles electronically is **free of charge**. Prior to the conference a book of abstracts will be posted on the conference's website <http://studconf.fl.kpi.ua>

Languages: English, Polish, German, French, Spanish.

To participate in the conference you need to provide us with the following information **by December 13, 2020**:

1. Electronic registration at <https://forms.gle/2pNKfyPx8d9mSshp7>
2. **Electronic version of the article** which meets the following requirements (see below) should be sent on e-mail of the corresponding section (see below), file name in English (Surname_Tezy.doc).
3. Login at <http://studconf.fl.kpi.ua/2020>

Articles should meet the following requirements:

1. RTF or DOC (2003-2010 file).
2. Text of the abstracts should be typed in WORD A4 format, font Times New Roman, size 14, interval 1 (page fields – 2 cm.), indentation – 1,25, justified alignment.
3. Images, pictures, diagrams, schemes, charts, graphics, tables etc. should be **black-white** and text wrap. All images, which have nothing in common with the theme of the articles will be removed (e. g. photos of the students etc.).
4. Line 1: Topic (center alignment, bold, in capitals).
5. Line 2: Author's first and last name (center alignment, bold, italics).
6. Line 3: place of study – full name of faculty and institution (center alignment, italics).
7. One line indent, next – key words (3-5 words).
8. Next line - the article (the required volume: from **1 full to 2 pages**).
9. The structure of the article must contain the following elements (stated in the **article**): **Introduction-Objectives-Methods-Results-Conclusion**.
10. After the article you should give references according to the APA style. To see the in-depth information about the requirements follow the link <http://kamts2.kpi.ua/node/980>.

Requirements to articles:

- topicality of the problem must be given in the Introduction;
- summarizing of the ideas on the problem given and selection of the unsolved aspects of the problem under research;
- formulation of the objectives of the article; main idea of the research should be illustrated in the main body;
- conclusions and perspectives of further research of the problem;
- the bulk of the thesis is devoted to the presentation of the author's own thoughts except citation in an amount not exceeding 15% of the total volume.

PUBLICATIONS DO NOT ACCEPT ARTICLES IN WHICH:

- available information, the publication of which is restricted by the “Summary of State Secrets”, approved by SSU Order No. 440 dated 12.08.2005 and registered at the Ministry of Justice of Ukraine No. 902/11182 of 17.08.2005, and “List of Official Information, which is the property of the state in the field of education and science of Ukraine”, approved by the order of the Ministry of Education and Science of Ukraine No. 319 of March 18, 2015;
- available information on which patents may be issued;
- used other sources without a link;
- language level below B1;
- no structure of an article.

The participants who wish to give online presentations during the conference should send their presentations on e-mail of the corresponding section by **December 01, 2020** (to find the requirements to presentations please visit <http://kamts2.kpi.ua/node/1386>).

Number of speakers is **limited**. Presentations sent after the deadline will not be included in the conference program.

Attention!

Number of participants is **limited**. Organizing committee reserves the right on selection of articles. Manuscripts won't be returned and articles aren't reviewed. Articles, which don't meet the requirements and which infringe the copyright (according to the Ukraine Law "On Copyright and Related Rights") or which missed the deadline **won't be viewed**. Co-authorship is permitted (but no more than 3 authors). Materials of the conference will be posted on the conference's website **as open access publications**.

Sections:

Section	E-mail for sending the abstracts
1. Engineering Innovations <i>Aeronautical Engineering</i> <i>Instrument Making</i> <i>Mechanical Engineering</i> <i>Material Science</i> <i>Metallurgy</i> <i>Radio Engineering</i> <i>Welding</i>	kpiconf1@ukr.net
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APPLICATION FORM

XXI International Students R&D Online Conference 2020

“Science and Technology of the XXI century”

Deadline: December, 13

Full name (in foreign language)		
Institution, Faculty		
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E-mail		
Section		
The title of the report (in foreign language)		
Participation in the conference (put tick if necessary)	<input type="checkbox"/> Personal participation in online session Multimedia Presentation in Power Point	
	<input type="checkbox"/> Publication of theses	
Research adviser (name, title, position)		Signature
Foreign language teacher (name, title, position)		Signature
Date ___/___/2020	_____ Signature	

USE OF BIODEGRADABLE MATERIALS IN THE MANUFACTURE OF PACKAGING FOR FOOD PRODUCTS

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Key words: biodegradable materials, packaging, food products

Introduction. The sphere of fast food has become widespread in modern life, especially with street coffee beans from the CoffeeToGo series. For now leading companies order paper cups with their own logos and thus combining the presentation of their products with the consumption of hot or cold drinks. That's why, nowadays, the use of biodegradable materials in the manufacture of packaging for food and disposable tableware is one of the most relevant topics. And this is not only due to environmental problems, which are becoming more and more serious every year.

Objectives. The main task is to conduct research for new biodegradable paints, varnishes and materials that will not only be rapidly rotting but also safe for humans and the environment. The first place is the safety of used materials for a human (Robertson, 2012, p. 57).

Methods. There's a classification of packaging and its processing which can be divided into equipment, volume, design, character of the image, material, purpose, an overlay, a method of printing and number of colors, type of printing machine. Cardboard cups are also food packaging. They can be made of cardboard of different density, the choice of which depends on way of their further use. It is widely used use of biodegradable cardboard. At the moment, it is precisely in flexography that many studies are being conducted to achieve this goal. There are attempts to invent the safest biodegradable paint for printing the packaging surfaces. Also, it is relevant to search for components of packaging cardboard, its biodegradable lamination and safe processing methods (Geiger, 2012).

Results. The greatest success in achieving this goal has been achieved in the field of flexographic printing. At the moment, most of the packaging for food products is typed in this way of printing. The biodegradable paints and varnishes used are non-toxic and are made of organic materials. For disposable tableware, for instance, in the manufacture of paper cups have long been not using glue. The edges of the cup are paired with a hot knife or ultrasound (Robertson, 2012).

Conclusion. To sum up, research and the search for biodegradable materials in the manufacture of packaging for food and disposable utensils is a leading theme. This question is being addressed in the field of flexographic printing. Also, for this printing method, the use of biodegradable paints and varnishes is explored.

References:

1. Robertson, G. L. (2012). Food Packaging: Principles and Practice. *CRC Press* 3 (3), 57–61.
2. Geiger, A. (2012). A successful trio: Digistation, Labels and Packaging. *NarrowWebTech*. 3 (1), 68–69.