

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
NATIONAL AVIATION UNIVERSITY

## PROGRAM

of VII International Scientific-Technical Conference

**«PROBLEMS OF CHEMMOTOLOGY.  
THEORY AND PRACTICE OF RATIONAL USE  
OF TRADITIONAL AND ALTERNATIVE FUELS  
& LUBRICANTS»**

June 17–22, 2019



Kyiv–Paris, Ukraine–France

## ORGANIZATIONAL COMMITTEE

**Conferences Founding Chairman:** Sergii Boichenko – National Aviation University (Ukraine), D.Sc. in Eng., Professor.

**Conferences Honorary Chairman:** T. Hikmet Karakoc – Eskisehir Technical University, (Turkey) Dr. Sc., Professor.

### ***Chairman of the Committee:***

**Volodymyr Isaienko** – Rector of the National Aviation University (Ukraine), professor, academician of the Academy of Sciences of the Higher School of Ukraine, Honored Worker of Education of Ukraine, D.Sc. in Biol.

### ***Co-Chairman of the Committee:***

**Sergii Boichenko** – Scientific adviser of Ukrainian Research & Educational Center of Chemmology and Certification of Fuels, Lubricants and Technical Liquids, Dean of Faculty of Environmental Safety, Engineering and Technologies, National Aviation University (Ukraine), D.Sc. in Eng., Professor.

### ***Members of the Committee:***

**Kateryna Babikova** – Chief of Institute of Innovative Technologies and Leadership, National Aviation University (Ukraine), Ph.D. in Agr.

**Mykhailo Bratychak** – Head of the Department of Chemical Technology of Oil and Gas, National Technical University «Lviv Polytechnic» (Ukraine), D.Sc. in Chem., Professor.

**Iurii Beliudnyi** – Director of Ltd. «YUKOIL» (Ukraine).

**Roza Vinetskaya** – Vice-Rector, National Aviation University (Ukraine).

**Oksana Vovk** – Vice-Rector, National Aviation University (Ukraine), D.Sc. in Eng., Professor.

**Edgar Sokolovskij** – Vilnius Gediminas Technical University (Lithuania).

**Oleksandr Zaporozhets** – Vice-Rector, National Aviation University (Ukraine), D.Sc. in Eng., Professor.

**Georgy Kuharyonok** – Professor of the Department «Internal Combustion Engines», Belarusian National Technical University, (Belarus), D.Sc. in Eng., Professor.

**Kazimierz Lejda** – Head of the Department of Internal Combustion Engines and Transport, Faculty of Mechanical Engineering and Aeronautics, Rzeszow University of Technology (Poland), D. Sc. in Eng., Professor.

**Krzysztof Stanislaw Szafran** – Warsaw Aviation Institute (Poland), D.Sc. in Eng., professor.

**Andrii Pushak** – Director General of the Ltd. «Fuel and Alternative Technologies».

**Petro Topilnytskyi** – Associate Professor of the Department of Chemical Technology of Oil and Gas Processing, National Technical University «Lviv Polytechnic» (Ukraine), Ph.D. in Eng., Associate Professor.

**T. Hikmet Karakoc** – Eskisehir Technical University, (Turkey) Dr. Sc., Professor.

**Volodymyr Kharchenko** – Vice-Rector, National Aviation University (Ukraine), D.Sc. in Eng., Professor.

**Elena Shevchenko** – Associate Professor of the Department of Chemical Technology of Fuel, Ukrainian State University of Chemical Engineering (Ukraine), Ph.D. in Eng.

## PROGRAM COMMITTEE

### *Chairman of the Committee:*

**Sergii Boichenko** – Scientific adviser of Ukrainian Research & Educational Center of Chemmotology and Certification of Fuels, Lubricants and Technical Liquids, Dean of Faculty of Environmental Safety, Engineering and Technologies, National Aviation University (Ukraine), D.Sc. in Eng., Professor.

### *Co-Chairman of the Committee:*

**Iryna Shkilniuk** – Chief of Ukrainian Research & Educational Center of Chemmotology and Certification of Fuels, Lubricants and Technical Liquids, Chief of Test Interactive Laboratory «AVIATEST», National Aviation University (Ukraine).

### *Secretariate:*

**Igor Trofymov** – Associate Professor of the Department of Ecology, Faculty of Environmental Safety, Engineering and Technologies, National Aviation University (Ukraine), Ph.D. in Eng., Associate Professor.

**Andrian Iavniuk** – Assistant Professor of the Department of Ecology, Faculty of Environmental Safety, Engineering and Technologies, National Aviation University (Ukraine).

**Anna Iakovlieva** – Associate Professor of the Department of Ecology, Faculty of Environmental Safety, Engineering and Technologies, National Aviation University (Ukraine), Ph.D. in Eng.



**182-ДБ18**

Acknowledgement to EC ANIMA Project № **H2020-MG-2017-SingleStage-INEA-769627** (Aviation Noise Impact Management through Novel Approaches).

Acknowledgement to National Project «Improving operational characteristics of fuel for gas-turbine engines, safety of aviation transport and its environmentality»

## GENERAL CONFERENCE PARTNER



Company «Innospec Speciality Chemicals» (Ltd. «Fuel and Alternative Technologies»)



## CONFERENCE PARTNERS

Ltd. «YUKOIL»



Ltd. «KSM PROTEC»



IMAGE OIL INVEST



## ORGANIZERS

National Aviation University



Ukrainian Research & Educational Center  
of Chemmotology and Certification of Fuels,  
Lubricants and Technical Liquids



Scientific and Technical Community  
of Chemmotologists



Faculty of Environmental Safety,  
Engineering and Technologies



Politechnika Rzeszowska  
im. Ignacego Łukasiewicza



## MEDIA PARTNERS

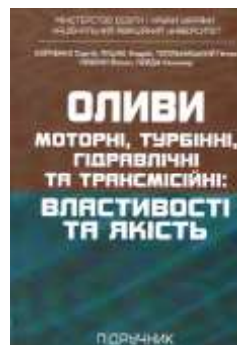
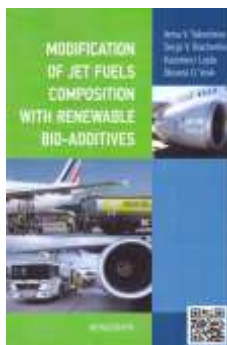
**Scientific and Technical Journal**  
«ENERGY TECHNOLOGIES AND RESOURCE SAVING»

**Scientific and Productional Journal**  
«OIL & GAS INDUSTRY OF UKRAINE»

**Scientific Journal**  
«PROCEEDINGS OF THE NATIONAL AVIATION UNIVERSITY»

## PRESENTATIONS

**In honor** of the **25<sup>th</sup>** Anniversary  
of the Ukrainian Research & Educational Center of Chemmotology  
and Certification of Fuels, Lubricants and Technical Liquids



# Awards of Scientific-Technical Union of Chemmotologists-2019



## **Scientific-Technical Union of Chemmotologists**

with support of

**The Prime Partner**

**„Fuel-alternative technologies” Ltd**

**and Scientific-Research and Educational Center of Chemmotology  
and Certification of Fuels, Lubricants and Technical Liquids**

Announce call for Awards of

## **Scientific-Technical Union of Chemmotologists 2019**

**The Awards will be given during**

**VII International Scientific-Technical Conference**

**«PROBLEMS OF CHEMMOTOLOGY. THEORY AND PRACTICE OF RATIONAL  
USE OF TRADITIONAL AND ALTERNATIVE FUELS & LUBRICANTS»**

**19-22 June 2019**

**In nominations:**

**Theoretical Aspects  
of Chemmotology,  
Chemical Technology  
and Engineering**

**Impact of Aviation  
on Environment and  
Development  
of Ecological Logistics**

**Properties of Fuels&Lubricants,  
Chemmotological Reliability  
and Operational Technology  
of Transport**

**Youth and Progress  
In Rational Use  
of Operational Materials  
for Transport**

**Awards Winners will receive Awards and memorable gifts!**

## Conference Timetable-Business Card

June 18-19, 2019, (28 Avenue du General de Gaulle BP 311 93170 Bagnole France)	
14 <sup>00</sup> –18 <sup>00</sup>	<b>Registration</b> (B&B Hotel Campanile Hall)
15 <sup>00</sup> –16 <sup>00</sup>	<b>Lunch</b> (B&B Hotel Campanile Restaurant)
16 <sup>00</sup> –18 <sup>00</sup>	<b>Presentation</b> in honor of the <b>25<sup>th</sup></b> Anniversary of the Ukrainian Research & Educational Center of Chemmotology and Certification of Fuels, Lubricants and Technical Liquids

June 20, 2019 (28 Avenue du General de Gaulle BP 311 93170 Bagnole France)	
10 <sup>00</sup> –10 <sup>30</sup>	<b>Conference Opening</b> (B&B Hotel Campanile Meeting Room)
10 <sup>30</sup> –13 <sup>00</sup>	<b>Presentations, Discussions &amp; Coffee</b>
13 <sup>30</sup> –15 <sup>30</sup>	<b>Lunch</b> (B&B Hotel Campanile Restaurant)
15 <sup>30</sup> –17 <sup>30</sup>	<b>Presentations, Posters &amp; Discussions</b>
18 <sup>00</sup> –20 <sup>00</sup>	<b>Friendly cocktail &amp; Announcement</b> of Results of <b>Awards</b> of Scientific-Technical Union of Chemmotologists-2019. <b>Awarding Awards. Discussions</b> (B&B Hotel Campanile Restaurant)

June 21, 2019	
10 <sup>00</sup> –13 <sup>00</sup>	<b>Presentations of Certificates of Internships, Posters &amp; Discussions.</b>
13 <sup>00</sup> –19 <sup>00</sup>	

June 22, 2019	
10 <sup>00</sup> –13 <sup>00</sup>	<b>Young Scientists Time Discussions &amp; Conference Closing</b>
13 <sup>00</sup> –19 <sup>00</sup>	

## SESSION

### «Theoretical aspects of chemmotology, chemical technology and engineering»

20 June, 2019 / 10.00–13.00 / Conference hall

**Chairman: T. Hikmet Karakoc** – Eskisehir Technical University (Turkey)

**Co-Chairman: Iryna Shkilniuk**, Ukrainian Research & Educational Center of Chemmotology and Certification of Fuels, Lubricants and Technical Liquids, National Aviation University (Ukraine).

1. **T. Hikmet Karakoc**, Eskisehir Technical University

*Sustainable Aviation Technologies and SARES*

2. **Sergii Boichenko, Aleksey Tselishev, Marina Loriaa, Serhii Kudryavtsev, Serhii Leonenko**, National Aviation University, Educational and Scientific Institute of International Relation of Volodymyr Dahl East Ukrainian National University, Department of electronic devices of Volodymyr Dahl East Ukrainian National University, Faculty of Engineering of Volodymyr Dahl East Ukrainian National University, Department of Public Administration, Management and Marketing of Volodymyr Dahl East Ukrainian National University

*The study of the influence of cavitation treatment on detonation stability of gas condensate gasoline with additives of bioethanol*

3. **Olena Tertyshna, Kostiantyn Zamikula, Oleh Tertyshnyi**, Ukrainian State University of Chemical Technology

*The problems of formation of asphalt-resin-paraffin deposits. Prevention and utilization*

4. **Lina Kieush, Serhii Fedorov, Andrii Koveria, Artem Sybyr**, National Metallurgical Academy of Ukraine, National Technical University «Dnipro Polytechnic»

*The biomass use to obtain high-purity carbonaceous materials*

5. **Alexandr Moiseev, Alexandr Oreshencov, Nikolay Grishin**, The Scientific-Research Institute of Chemmotology

*Methods virtualization in chemmotology researches*

6. **Serhiy Pyshyev, Volodymyr Gunka, Yuriy Prysiaznyi**, National University «Lviv Polytechnic»

*Polymer modified bitumen*

7. **Alexandr Moiseev, Nikolay Grishin, Alexandr Oreshencov**, The Scientific-Research Institute of Chemmotology

*Statistical methods in virtualization*



## SESSION

### «The relationship between the properties of fuels and lubricants, chemmotological reliability, operational technology and economics of road and air transport»

20 June, 2019 / 15.30–17.30 / Conference hall

**Chairman:** Elena Shevchenko, Ukrainian State University of Chemical Engineering (Ukraine)

**Co-Chairman:** Iryna Novakovska, National Aviation University (Ukraine)

1. **Oksana Mikosianchyk, Rudolf Mnatsakanov, Nataliia Kichata**, National Aviation University

*Chemmotological, tribotechnical and rheological properties of boundary lubricating layers used in evaluation of operation reliability of tribosystems*

2. **Anatoliy Ranskiy, Olga Gordienko, Taras Titov, Natalia Didenko**, Vinnytsia National Technical University, National Pirogov Memorial Medical University

*Formation of copper (II) coordination compounds under the friction process and their impact on the tribotechnical characteristics of the lubricating compositions*

3. **Anna Iakovlieva, Sergii Boichenko, Kazimierz Lejda, Hubert Kuszewski, Oksana Vovk**, National Aviation University, Faculty of Mechanical Engineering and Aeronautics of Rzeszow University of Technology

*Development of alternative jet fuels modified with camelina oil bio-additives*

4. **Artur Zaporozhets, Serhii Ivanov, Roman Serhiienko**, Institute of Engineering Thermophysics of NASU

*Means of quality control of biofuels, their production and combustion*

5. **Igor Trofymov, Mykhailo Svyryd, Olena Matveyeva, Oleksandr Sydorenko**, National Aviation University

*Influence of electromagnetic treatment of fuels and oils on the formation of wear resistance of friction pairs*

6. **Sergii Boichenko, Yuri Golych, Anna Iakovlieva, Iryna Shkilniuk, Petro Topilnytskyi, Victoriia Romanchuk, Olufemi Babatunde**, Faculty of Mechanical Engineering and Aeronautics of Rzeszow University of Technology, JSC «Ukratnafta», National Aviation University, National University «Lvivska Polytechnica»

*Influence of antioxidants and antiwear additives on jet fuel properties*

7. **Georgy Kuharyonok, Denis Kapsky, Vitaly Berezun**, Belarusian National Technical University

*Nitrogen oxide and disperse particles emission reduction in diesel engines*

**8. Elena Shevchenko, Valeriia Kameneva, Alyona Shkekina,** Ukrainian State University of Chemical Engineering

*Modification of diesel fuel composition with methyl esters of fatty acids from non-edible fats*

**9. Valeriy Yefymenko, Tetiana Kravchuk, Lidiya Kovshun, Natalya Atamanenko,** National Aviation University

*The influence of oxygen concentration on the fire safety of aircrafts fuel systems*

**10. Iryna Shkilniuk, Sergii Boichenko, Tetiana Kondratiuk, Nataliia Shevchuk,** National Aviation University, National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute», Educational and Scientific Center «Institute of Biology and Medicine»

*Identification and assessment of biological risk of aviation fuel supply*

## SESSION

### «The impact of aviation on the environment and the development of ecological logistics»

**21 June, 2019 / 10.00–13.00 / Conference hall**

**Chairman: Oleksandr Zaporozhets,** National Aviation University (Ukraine)

**Co-Chairman: Viktoriia Khrutba,** National Transport University (Ukraine)

**1. Alina Dychko, Igor Yeremeev, Nataly Remez, Liubov Yevtieieva,** National Technical University of Ukraine «Igor Sikorsky Kyiv Polytechnic Institute», Taurida National V.I. Vernadsky University

*Reliability of monitoring of aviation influence on environment*

**2. Iryna Novakovska, Natalia Belousova, Natalia Ishchenko, Liliia Skrypnyk, Valerii Frolov,** National Aviation University

*Aviation industry of XXI century: development and necessity or serious threats for natural ecosystems*

**3. Sergii Boichenko, Iryna Shkilniuk, Lesia Pavliukh, Kateryna Babikova, Anna Iakovlieva, Roza Vinetskaya,** National Aviation University

*Analysis of the environmental properties of the components of traditional and alternative aviation gasoline*

**4. Viktoriia Khrutba, Vasyl Mateichyk, Oksana Spasichenko, Svitlana Marunych,** National Transport University, Development and Environmental Safety Airports Division of State Aviation Administration

*Ecological approach to evaluation of the effects of transport on environment in intermodal transportation*

**5. Mikhal Bukala, Oleksandr Zaporozhets, Volodymyr Isaienko, Andrzej Chyla,** SVANTEK Spz.o.o., Department of Quantitative Methods of Rzeszow University of Technology, National Aviation University

*Noise monitoring for improvement of operational performances of the aircraft in vicinity of airports*

6. **Yuri Kutlakhmedov, Iryna Matvieieva, Andrian Iavniuk, Valentyna Groza, Iryna Burlakova**, Institute of Cell Biology and Genetic Engineering of the National Academy of Sciences of Ukraine, National Aviation University

*Estimation of radiocapacity and reliability of water ecosystems*

7. **Kateryna Synylo**, National Aviation University

*Models for assessment of NO<sub>x</sub> emissions from turbofan engine of aircraft*

8. **Mykola Tsiuman**, National Transport University

*Evaluation of fuel consumption and harmful substances emissions by vehicle with spark ignition engine under operation conditions with using of fuel containing ethanol*

9. **Kateryna Krayushkina, Andriy Belyatynsky, Tetiana Khymeryk**, State company «DerzhdorNDI», National Aviation University

*Features of interaction of organic binder and slag filler*

## Young Scientists Session

22 June, 2019 / 10.00–13.00 / Conference hall

**Chairman:** Anna Iakovlieva, National Aviation University (Ukraine).

**Co-Chairman:** Olena Todorovych, National Aviation University

1. **Vladyslav Stadnichenko**, National Aviation University

*Production of biodiesel from micro algae*

2. **Iryna Matviiv**, National Aviation University

*Analysis of Hydrogen potential as alternative motor fuel*

3. **Alina Hudz**, National Aviation University

*Estimation of projects efficiency for biodiesel fuel production*

4. **Serhii Ternovenko**, National Aviation University

*Study of anti-wear properties of jet fuels with bio-additives*

5. **Vasyl Boshkov**, National Aviation University

*Reduction of aircraft exhaust gases emissions using alternative jet fuels*

6. **Olena Todorovych, Iryna Syrotina**, National Aviation

University

*Development of microalgae waste water treatment from oil products*

7. **Justyna Niedbała, Patryk Magoń**, Rzeszow University

of Technology

*Sposoby utylizacji i recyklingu akumulatorów samochodowych*

8. **Aleksandra Makarska, Łukasz Zdyński**, Rzeszow University

of Technology

*Sposoby utylizacji i recyklingu opon*

## MAP OF THE CONFERENCE

<b>June 18–19, 2019</b> (28 Avenue du General de Gaulle BP 311 93170 Bagnole France)	
14 <sup>00</sup> –18 <sup>00</sup>	Registration (B&B Hotel Campanile Hall)
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13 <sup>00</sup> –19 <sup>00</sup>	International Paris Air Show – Paris Le Bourget
<b>June 22, 2019</b>	
10 <sup>00</sup> –13 <sup>00</sup>	Young Scientists Time Discussions & Conference Closing
13 <sup>00</sup> –19 <sup>00</sup>	International Paris Air Show – Paris Le Bourget



[https://www.youtube.com/watch?v=KsCYn5\\_Zy-Q](https://www.youtube.com/watch?v=KsCYn5_Zy-Q)

<https://www.youtube.com/watch?v=Ifo22sCQ4HM>

[https://www.youtube.com/watch?v=vHW\\_уYH7ilo](https://www.youtube.com/watch?v=vHW_уYH7ilo)



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Web site: <http://chemmotology.com.ua/>

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