

FROM THE 49TH SYMPOSIUM FUELS 2016

Croatian Society for Fuels and Lubricants has successfully organized the 49th international Symposium – FUELS 2016. Symposium has been held from October 19th to 21st, 2016 in Solaris Resort in Šibenik, Croatia. The Symposium had 33 presentations and 25 posters prepared by 137 authors. It gathered 150 participants coming from 55 companies and 15 countries.

Symposium was opened by opening words from Ivana Lukec, Chair of the Organizing Committee of the Symposium, by Bruno Novina, President of GOMA and by Davor Mayer who was representing INA d.d. - gold sponsor of the Symposium. Opening words emphasized long tradition of GOMA symposiums and satisfaction of organizer for gathering all the participants. Special appreciation was expressed to all authors, sponsors and participants who actively participated at the 49th GOMA international Symposium - FUELS 2016. Davor Mayer expressed acknowledgement and appreciation to organizer for all the work done.



Ivana Lukec, Bruno Novina, Davor Mayer; Adriana Petrović

The 49th GOMA Symposium FUELS 2016 was discussing topics of fuel production excellence, quality requirements, improved process efficiency, alternative fuels, knowledge transfer, safety and profitability together with inevitable topics of solutions in environment preservation.



Participants during lectures

A lot of attention attracted the opening invited lecture: *Oil and Fossil Fuels Outlook: Policies, Reasoning and Reality* presented by Adriane Petrović, Co-chair of the Organizing committee of the Symposium. The lecture explained what is present and possible future of the oil industry and fossil fuels, which are the constraints and challenges, what are the expectations, plans and reality of fossil fuels. Regarding the expectations in usage of fossil fuels, the author's conclusion was that usage of fossil fuels will be present in respectable share in the energy mix till 2050, in particular for transport. The legislation, especially in EU, will need to be more stringent to meet the 2030-2050 expectations; therefore, new solutions and technologies must be developed to accomplish these goals.

The following presentations during the first symposium afternoon were covering topics in Energy, Efficiency and Economy. Sonja Kaplar from INA d.d. presented the topic of improvement in Energy efficiency in INA d.d. and presented savings of the program for particular locations in INA d.d.

Antoine Fournier, the representative of Axens, presented the topic of improving refinery profitability and flexibility with revamping solutions. The presentation covered the steps in the identification of process limitations and ways of finding optimal revamping options.

Stanka Leskovac has presented the paper in front of the group of authors from NIS, Serbia and Faculty of Technical Sciences in Novi Sad, Serbia. The presentation covered the topic of viability of lignocellulose bioethanol (LCB) production in NIS refinery Novi Sad and identification of barriers and constraints that should be overcome in future. The author presented all the challenges that investors and producers of bioethanol are facing suggesting the key steps for improvements and harmonization with EU regulations. Boris Čavrak, GOMA, and Vojtech Merva, INA d.d., were both presenting topics related to safety of industrial plants, safety regulations and recommendations, conditions in real plants and suggesting actions for improvements. Andras Hollo, author from MOL Group had an interesting presentations about experiences related to training and education in refining and successful cooperation between MOL Group and Pannonia University. Heather Hamje, Science Executive for Fuel Quality and Emissions, from CONCAWE, Brussels in her invited lecture has shown results in European air quality as the consequence of transport air pollution.



Heather Hamje, CONCAWE

She presented local measurements of air quality and also presented the steps necessary to achieve further improvements in urban areas of EU countries. According to her presentation, nitrogen-dioxide is the most sincere problem in meeting the necessary regulations of air quality, while steps for improvements require further progress in replacement of old vehicles (before Euro 5 regulations) with new ones, further improvements related to vehicles such as busses and providing zones with ultra-low emissions near dense inhabited areas such as big cities.

Another interesting lecture was presented by Ilona Vari from MOL Group, who presented new EU regulations related to environments preservation. The lecture has also shown the progress in lowering emissions in EU countries achieved over last few decades. Current and future improvements and requirements in environment protection are defined with the documents “Best Available Techniques” (BAT) and IPPC-D, IED – 2010/75/EU related to oil industry. Further industrial investments are necessary to accomplish defined requirements prescribed with these documents.

Ludwig Völkel, from BASF, Simon Mulqueen, Innospec Limited and Ervin Leitner, Dorf Ketal presented features of additives application in refining.



Ludwig Völkel, BASF

Section related to process excellence covered topics about performed technological solutions and included authors from MOL Petchem, IVICOM Consulting and Axens covering the topic of catalyst application. Section about efficiency improvement and process optimization included authors from Faculty of chemical engineering and technology in Zagreb. They have shown on practical example the results of process control improvements achieved with tuning of regulatory loops of the Atmospheric unit in INA Rijeka Refinery. Ivana Šarlija presented possibilities of advanced diagnostics that can be achieved thanks to Fieldbus system. This was presented on the example from INA Rijeka Refinery. Group of authors from INA Sisak Refinery has described their in-house solution of material balancing on the refinery level.

France Chopinet, INA d.d., has presented the approach to data analysis with the goal of process improvement and troubleshooting on the practical example of sour water stripper in INA Rijeka Refinery. Christophe Chau, from Grace Catalysts Technologies has presented options for improvement of the fluid catalytic cracking unit with the goal to accomplish higher propylene yield that has a high impact on overall financial balance of the FCC unit. Section Energy and Environment has gathered presentations related to production, challenges and analysis of biofuels and included presentations from Chevron Lummus Global, INA d.d. and STSI d.o.o.



The last, Friday morning section, covered topics related to fuels usage, fuel properties and characteristics. Three interesting presentations were presented by the group of authors from Mechanical University in Zagreb and Dževad Bibić from Mechanical University Sarajevo. Ivana Štagljar Mikac, INA d.d. with her presentation introduced importance and profitability of high-octane gasoline production.

A lot of attention from symposium participants was attracted to poster section that included 25 interesting and very well prepared posters covering wide range of topics:

- Technology solutions.
- Production excellence.
- Development and application of analytical methods.
- Emissions measurement and control.
- Advanced process monitoring.
- Process safety.



Croatian Society for Fuels and Lubricants would specially like to thank all the authors and sponsors, who actively participated at the 49th GOMA Symposium – FUELS 2016 without whose work and support this Symposium wouldn't be possible.

We invite you to jubilee 50th GOMA Symposium – Lubricants and Base Oils 2017 which will be organized in October 2017 in Zagreb!

(read more at: www.lubricants.goma.hr)

Prepared by
Ivana Lukec