Solaris Beach Resort - Hotel Jure
Šibenik, Croatia

THE 49TH GOMA SYMPOSIUM
PROGRAM SCHEDULE
ORGANIZING BOARD
Ivana Lukec – chair
Adriana Petrović – co-chair
Neda Marčec Rahelić
Roberta Gorup
Bruno Novina
Boris Čavrak
Maja Fabulić Ruszkowski
Marko Mužic
Zoran Lulić
Marija Mioč
Vanda Mandić

ADVISORY BOARD
András Holló
Milka Jelić
Heather Hamje
Ilona Vári
Andras Jozsef Toth
Sylvain Jonckheere

Symposium Secretary
Andrina Barbarić, GOMA Zagreb

Organized by
Croatian Society for Fuels and Lubricants
Berislavićeva 6, HR-10000 Zagreb
www.fuels.goma.hr
Dokazano najbolja...
<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
<th>Affiliation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O1</td>
<td>Oil and Fossil Fuels Outlook: Policies, Reasoning and Reality</td>
<td>Adriana Petrović</td>
<td>GOMA, Zagreb, Croatia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O2</td>
<td>Improving Refinery Profitability and Flexibility Thanks to Revamping Solutions</td>
<td>Antoine Fournier</td>
<td>Axens, France</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O4</td>
<td>Implementation of Fuel Quality Legislations in the EU Member States</td>
<td>Sylvain Jonckheere</td>
<td>Hart Energy – Stratas Advisors, Belgium</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O5</td>
<td>Lignocellulosic Bioethanol Production in Serbia – Case Study</td>
<td>Milan Martinov¹, Djordje Djatkov¹, Stanka Leskovac², Vladimir Koprivšek², Ivan Souček³</td>
<td>Faculty of Technical Sciences, Serbia, NIS a.d., Serbia, NIS, a.d., Serbia/VŠCHT Prague Czech Republic</td>
</tr>
</tbody>
</table>

**19.10.2016.**

starting at 13.00, HOTEL JURE
Arrival and hotel accomodation

from 14.00 on
SYMPOSIUM INFO DESK IN HOTEL JURE

REGISTRATION OF PARTICIPANTS
Symposium proceedings and accreditation badge will be given to participants after registration.

starting at 15.00
HOTEL JURE CONFERENCE HALL

15.00 – 16.45
Overview Section A: Energy, Efficiency, Economy

Moderators: Neda Marčec Rahelić, Ilona Vári

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
<th>Affiliation(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O1</td>
<td>Oil and Fossil Fuels Outlook: Policies, Reasoning and Reality</td>
<td>Adriana Petrović</td>
<td>GOMA, Zagreb, Croatia</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O2</td>
<td>Improving Refinery Profitability and Flexibility Thanks to Revamping Solutions</td>
<td>Antoine Fournier</td>
<td>Axens, France</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O4</td>
<td>Implementation of Fuel Quality Legislations in the EU Member States</td>
<td>Sylvain Jonckheere</td>
<td>Hart Energy – Stratas Advisors, Belgium</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O5</td>
<td>Lignocellulosic Bioethanol Production in Serbia – Case Study</td>
<td>Milan Martinov¹, Djordje Djatkov¹, Stanka Leskovac², Vladimir Koprivšek², Ivan Souček³</td>
<td>Faculty of Technical Sciences, Serbia, NIS a.d., Serbia, NIS, a.d., Serbia/VŠCHT Prague Czech Republic</td>
</tr>
</tbody>
</table>

16.45 – 17.15
HOTEL JURE - Terrace Outdoors

COFFEE BREAK
17.15 – 18.45

Overview Section B:
Energy, Excellence, Education
Technological Solutions, Maintenance, Safety and Reliability, Trends in Education and Continuous Knowledge Transfer

Moderators: Marinela Bojc, Igor Šepić

O6 Andras Jozsef Toth
BME-VBK Department of Chemical and Environmental Process, Hungary
Integration of Biomass Treatment and Production Technologies into Petroleum Residue Upgrading

O7 András Holló, Jenő Hancsók, Zoltán Varga, Zoltán Szerencsés
University of Pannonia, Veszprém, Hungary
Industry Driven Chemical Engineering Education at MOL Department of University of Pannonia

O8 Angelika Brnada, Vojtech Merva, Una Radulović
INA, d.d., Zagreb, Croatia
Process Safety Management System at INA Group

O9 Boris Čavrak
GOMA, Zagreb, Croatia
Directives 2008/114/EC (ECI) and 2012/18/EU (Seveso) in Oil&Gas Industry

19.00 - 20.30
HOTEL JURE - Terrace Outdoors

WELCOME DRINK & COCKTAIL
20.10.2016.

starting at 9.00
HOTEL JURE CONFERENCE HALL

9.00 – 9.30
Opening – Welcome Address from Organiser & Sponsors
Plenary Lecture

Moderator: Adriana Petrović
Heather DC Hamje, Lucía González Bajos
Concawe, Brussels, Belgium
The Effect of Emission Reduction Scenarios on Compliance with the Ambient Air Quality Limit Values for EU27 Countries in Urban Environments

9.30 – 11.00
Section A – 1st part: Energy
Conventional Fuels, Alternative Fuels and Renewables, Energy and Efficiency Policy, Performance and Quality

Moderators: Adriana Petrović, Sylvain Jonckheere

A1 Ilona Vári
MOL Group, Hungary
Update on EU Environmental Regulation for the Refining Sector

A2 Balázs Tóth, Márk Alföldy-Boruss
MOL Group, Hungary
Alternative Fuels: Threat or Opportunity?

A3 Ludwig Völkel
BASF SE, Germany
Fuel Additive Technologies

A4 Simon Mulqueen
Innospec Limited, United Kingdom
The Role of Diesel Fuel Additives in Improving and Maintaining Vehicle Performance Standards

11.00 – 11.30
COFFEE BREAK
HOTEL JURE - Terrace Outdoors
11.30 – 12.00

Sponsored Presentation

**Moderators: Maja Fabulić Ruszkowski, Milka Jelić**

Dorf Ketal Sponsored Presentation
Erwin Leitner, Sr. VP Dorf Ketal Europe
P.N. Ramaswamy, Technical Director

**Changing Perspectives on TAN Management in Refining**

12.00 – 13.00

**Section B: Process Excellence**

Technological Solutions, Emerging Technologies, Maintenance, Safety and Reliability, Catalyst Development

**Moderators: Maja Fabulić Ruszkowski, Milka Jelić**

B1 Nadège Guernalec
Axens, France

**Axens New Catalyst Generations for Maximum Middle Distillate Production—Industrial Feedback**

B2 Monika Péter¹, József Koncsik²
¹MOL Plc., Hungary; ²MOL Petchem, Hungary

**C9+ Stream Utilization (Valuable Products After Styrene Recovery)**

B3 Ivan Boras, Nikola Dupor, Marko Lukačević
IVICOM Consulting d.o.o., Croatia

**Closed Blowdown System on Delayed Coker Unit – Initial Startup in Sisak Refinery**

13.00 – 14.30

**Hotel Jure - RESTAURANT**

**LUNCH BREAK**
14.30 – 16.15

Section C: Process Efficiency: Process Monitoring, Process Optimization

Moderators: Ivana Lukec, András Holló

C1 Nenad Bolf¹, Ivan Mohler¹, Romano Karlović², Ivana Šarlija², Boris Žeželj², Željka Ujević Andrijić¹, Hrvoje Dorić¹, Marija Lukić¹
¹University of Zagreb, Faculty of Chemical Engineering and Technology, ²INA d.d., Rijeka Refinery Croatia

**Process Control Performance Improvements at INA Rijeka Refinery**

C2 Boris Žeželj, Ivana Šarlija
INA d.d., Rijeka Refinery, Croatia

**Fieldbus Online Diagnostic as Part of the Solution Program Establishment at Rijeka Oil Refinery**

C3 Zlatko Unetić, Robert Joskić, Mirna Roksandić, Davor Brnić, Andrea Abramović, Eda Prpić
INA d.d., Sisak Refinery, Croatia

**Refinery Material Balance – In House Solution**

C4 France Chopinet
INA d.d., Rijeka Refinery, Croatia

**Unit Stable Operation and Environment Protection**

C5 Giovanni Conforti
Grace Catalysts Technologies, Germany

**Driving FCC Units into Maximum Propylene to Increase Profitability**

16.15 – 16.45

**HOTEL  JURE - Terrace Outdoors**

COFFEE BREAK
P1 Darko Klarić, Igor Gregurić, Ivica Matasić, Sergej Horvat  
INA d.d., Rijeka Refinery, Croatia  
**Synthesis - Advanced Solutions for Smart Refinery**

P2 Igor Posarić, Martina Brajković, Vladimir Jedvaj, Anton Petričić, Zoran Malnar  
INA d.d., Rijeka Refinery, Croatia  
**Increasing Energy Efficiency in Crude Oil Refining Process**

P3 Una Radulović, Nikola Praštalo, Goran Pepić  
INA d.d., Sisak Refinery, Croatia  
**Process Safety Management System Implementation at Sisak Refinery**

P4 Zoran Grgić, Ivica Matasić  
INA d.d., Rijeka Refinery, Croatia  
**Opralog - Unlocking Operational Intelligence**

P5 Vedran Dobrovolny, Andreja Prtenjak, Ana Škrobica, Marko Milinković  
INA d.d., Sisak Refinery, Croatia  
**Advanced Corrosion Protection in FCC Unit in Sisak Refinery**

P6 Boris Žeželj, Romano Karlović, Andrija Marković, Goran Bakarčić  
INA d.d., Rijeka Refinery, Croatia  
**Moving to Central Control at Rijeka Oil Refinery**

P7 Lucija Konjević, Dijana Blažek, Maja Fabulić-Ruszkowski, Ljiljana Marinić-Pajc  
INA d.d., Zagreb, Croatia  
**Influence of Total Acidity of Pyrolysis Oil at Crude Oil Fractions**

P8 Lucija Kurte, Ivana Čović Knezović, Miro Licitar  
INA d.d., Zagreb, Croatia  
**Application of Infrared Spectroscopy for Fast Determination of Physical and Chemical Properties of Fuels**
P9 Iva Beer Romac, Lucija Kurte, Branka Špehar
INA d.d., Zagreb, Croatia
**Monitoring Environmental Parameters in Fuel Oil by Elemental Analysis**

P10 Lucija Kurte, Lucija Konjević, Dijana Blažek, Miro Licitar, Ljiljana Marinčić Pajč
INA d.d., Zagreb, Croatia
**LEAN Methodology – Application Possibilities in a Petroleum Testing Laboratory**

P11 Jelena Parlov Vuković, Lana Magić
INA d.d., Zagreb, Croatia
**Modern Analytics for Alternative Fuels**

P12 Dániel Sági, Géza Varga, András Holló, Jenő Hancsók
University of Pannonia, Hungary
**Investigation of the Quality Improvement Possibilities of FCC Light Cycle Oil with Waste Triglycerides and Free Fatty Acids**

P13 Gregor Buhaneč, Luka Talajić
INA d.d., Rijeka Refinery, Croatia
**Co-processing of Animal Fats at HDS Unit**

P14 Péter Solymosi, András Holló, Orsolya Tóth, János Sója, Jenő Hancsók
University of Pannonia, Veszprém, Hungary
**Bio blending Components for Middle Distillates**

P15 Manja Moder¹, Vid Čopi²
Petrol d.d., Slovenia
University of Ljubljana, Faculty for chemistry and chemical technology, Slovenia
**The Validation of Test Method ASTM D7668 / EN 16715 for the Determination of Derived Cetane Number (DCN)**

P16 Martina Brajković, Gregor Buhaneč, Ivo Korić, Zvonko Vujić
INA d.d., Rijeka Refinery, Croatia
**JET Production and Drawing off on Hydrocracking Unit in Rijeka Refinery**

P17 Štefica Čelap
INA d.d., Rijeka Refinery, Croatia
**Bioethanol in Laboratory**
<table>
<thead>
<tr>
<th>Page</th>
<th>Authors</th>
<th>Affiliations</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>P18</td>
<td>Nikola Praštalo, Goran Pepić, Helie Weissenbacher, Zvonimir Popić</td>
<td>INA d.d., Sisak Refinery, Croatia</td>
<td>Effect of Sulphur Content in Fuel Oil on Boiler Performance</td>
</tr>
<tr>
<td>P19</td>
<td>Robert Joskić, Mirna Roksandić, Zlatko Unetić, Davor Brnić, Andrea Abramović</td>
<td>INA d.d., Sisak Refinery, Croatia</td>
<td>Algorithms for Analyzing the Composition of Multi-component Tank</td>
</tr>
<tr>
<td>P20</td>
<td>Milka Jelić, Aleksandra Nešić</td>
<td>NIS a.d., Serbia</td>
<td>Influence of Cetane Number Improver on Diesel Fuel Lubricity Additive Efficiency</td>
</tr>
<tr>
<td>P21</td>
<td>Dunja Šeremešić¹, Manja Moder², Marija Tirić Unetić³</td>
<td>INA d.d., Zagreb, Croatia, Laboratorij, Petrol d.d., Slovenia, INA d.d., Sisak Refinery, Croatia</td>
<td>Laboratory's Experiences in the Application of Test Method for Total Contamination in Fuels</td>
</tr>
<tr>
<td>P22</td>
<td>Krisztina Nagy, Mónika Péter</td>
<td>MOL Plc., Hungary</td>
<td>Improvements of Analytical Requirements Due to REACH Regulation in MOL Plc.</td>
</tr>
<tr>
<td>P23</td>
<td>Jozef Mikulec, Marek Banič, Martina Slezáčková</td>
<td>VÚRUP, a. s., Slovakia</td>
<td>The Integration of Microalgae Production with Anaerobic Digestion</td>
</tr>
<tr>
<td>P24</td>
<td>Jozef Mikulec¹, Pavol Hudec², Iveta Chovancová¹</td>
<td>VÚRUP, a. s., Slovakia</td>
<td>Nitrogen Oxide Storage and Reduction on Hydrotalcite like Compounds</td>
</tr>
<tr>
<td>P25</td>
<td>Jozef Mikulec¹, Jaroslav Blaško², Robert Kubinec², Ludmila Joríková, Marek Banič¹</td>
<td>VÚRUP, a. s., Slovakia, PrF UK, Slovakia</td>
<td>The Catalytic Conversion of Acids, Aldehydes and Phenols in Bio-oil</td>
</tr>
</tbody>
</table>
Section D: Energy & Environment
Alternative Fuels and Renewables, Performance and Quality

Moderators: Boris Čavrak, Heather Hamje

D1 Fadi Mhaini
Chevron Lummus Global, Czech Republic
CLG/ARA Biofuels ISOCONVERSION Process

D2 Vesna Kučan Polak, Luka Štajduhar, Slavica Rukavina, Mladen Ištuk
INA, d.d., Zagreb, Croatia
The Potential Feedstock for the Production of Advanced Biofuels in Croatia with a Focus on Second-Generation Bioethanol

D3 Lucija Konjević, Lucija Kurte, Luka Štajduhar, Mato Burić, Maja Fabulić Ruzskowski, Lana Magić, Dijana Blažek, Jelena Parlov-Vuković, Tihana Goričnik, Tatjana Tomić, Iva Sanja Beer-Romac
INA d.d, Zagreb, Croatia
Alternative Biofuels - New Challenges for Petroleum Laboratory

D4 Barbara Bertović
STSI d.o.o., Croatia
Bioremediation of Soil Contaminated with Petroleum Hydrocarbons

20.00
HOTEL JURE – Restaurant & Terrace Outdoors
GALA DINNER
starting at 9.00
HOTEL JURE CONFERENCE HALL
9.00 – 11.00
Section A – 2nd part: Energy
Conventional Fuels, Energy and Efficiency Policy, Performance and Quality

*Moderators: Marko Mužić, Zoran Lulić*

| A5 | Igor Vukres, Petar Ilinčić, Goran Šagi, Rudolf Tomić, Zoran Lulić  
    | University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia  
    | **Emissions from Motor Vehicles Powered by Liquefied Petroleum Gas in the Republic of Croatia** |
| A6 | Dževad Bibić, Ivan Filipović, Boran Pikula  
    | Mechanical Engineering Faculty, University of Sarajevo, Bosnia and Herzegovina  
    | **Influence of Determining the Period of Ignition Delay on the Heat Release Characteristic of Diesel Engines Fuelled with Diesel and Biodiesel** |
| A7 | Ante Vučetić, Mladen Božić, Darko Kozarac, Zoran Lulić  
    | University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia  
    | **Experimental Testing of the Spark Ignition and HCCI Engine** |
| A8 | Mladen Božić, Ante Vučetić, Darko Kozarac, Zoran Lulić  
    | University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture, Croatia  
    | **Examination of the Low-Temperature Heat Release occurrence in SI Engine** |
| A9 | Ivana Štagljar Mikac, Igor Silaj, Krešimir Periček  
    | INA d.d., Sisak Refinery, Croatia  
    | **High Octane Gasoline Performance and Economics** |
| A10 | Peter Heiman, Jürgen Haas  
    | LiQode Marking Systems GmbH, Austria  
    | **Brand Protection on the Fuel Retail Market - Impact of Problems and New Ways for Protection** |

11.00
CLOSING OF THE SYMPOSIUM
GOLD SPONSOR

INA

SILVER SPONSORS

BASF
We create chemistry

BRONZE SPONSORS

CBI

IVICOM
CONSULTING

ROFA

DORF KETAL

EXHIBITORS

Anton Paar

Metso