

PETROLEUM ENGINEERING SUMMER SCHOOL

INTER-UNIVERSITY CENTRE
DUBROVNIK, CROATIA

JUNE 21 - 25, 2010



University of Zagreb
**FACULTY OF MINING,
GEOLOGY AND PETROLEUM
ENGINEERING**



PETROLEUM
ENGINEERING
SUMMER
SCHOOL

Inter
University
Centre
Dubrovnik 

Interactive Seminar - Workshop 30

Oil and Gas Exploration, Production and Transport Including New Tehnologies like GTL and CNG Technologies

Short Course - Round Tables:

Natural Gas Market and Development and Energy Security, Adria LNG Project

FINAL PROGRAM



Inter-University Centre
4, Don Frana Bulića



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OIL AND GAS EXPLORATION AND PRODUCTION

Ina's Exploration and Production Segment, deals with the exploration, development and production of oil and natural gas in Croatia and abroad. It was founded in 1952. Since then, Croatia has recorded a constant surge in the area of exploration and development. Soon upon its inception, Ina's Exploration and Production Segment started its business operations abroad. So far, it has been involved in 20 foreign countries, and currently it runs operations in Angola, Egypt, Syria, Namibia and Iran.



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Oil and Gas Exploration, Production and Transport Including New Technologies like GTL and CNG Technologies

Short Courses – Round Tables:
Natural Gas Market and Development and Energy Security,
Adria LNG Project

Final Program

Inter-University Centre
4, Don Frana Bulića

DUBROVNIK
JUNE 21 - 25 , 2010

DIRECTORS

Igor Dekanić (*University of Zagreb, Croatia*)

Michael Mertl (*Adria LNG, Croatia*)

Katarina Simon (*University of Zagreb, Croatia*)

INTERACTIVE SEMINAR - WORKSHOP DESCRIPTION

The task of the course is to explore and give the comprehensive knowledge of technology development and new technologies in oil and gas exploration and production, including new technologies like gas to liquid and compressed natural gas transport and use.

The Short Course will give the up to date knowledge on natural gas market management and management of LNG terminals.

The format of this 5-day interactive seminar-workshop provides morning and afternoon sessions which include lectures (about three quarter of total working time available) and exchanging the experience (panel discussion, short scheduled presentations). One day of the time will be reserved for the each Short Course - Round Table.

PARTICIPANTS

Petroleum industry professionals and managers, upstream technology and R&D experts, geoscientists, academic staff, PhD students, PE educators, oil and gas company consultant, energy and economics experts.

SOCIAL ACTIVITIES

- Welcome Cocktail – Monday, June 21, 1.00 p.m., IUC Atrium
- Excursion by bus to Pelješac Peninsula – Wednesday, June 23 - afternoon
- Walking tour (guided) through the historic sights of the Old City of Dubrovnik – Thursday, June 24 - afternoon
- Reception – Thursday, June 24, 8.30 p.m., Hotel Hilton Dubrovnik
- Farewell Cocktail - Friday, June 25

GENERAL INFORMATION

www.rgn-pess.com

www.iuc.hr

www.dubrovnik-online.com

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Only the participants with paid Registration fee are entitled to Conference bag with Conference Proceedings and materials and also entitled to participate in all Workshop's activities.

Dress code: Opening, Closing session & Reception – Business Casual.
Other part – Casual.

LECTURE TOPICS

Branimir Cvetković, PhD

(Bayerngas Norge AS, Norway)

- Multilateral Wells and Downhole Processing Challenges; Multilateral Wells & Downhole Water Separation - Future Challenges
- A Multifractured Horizontal Well Modeling (semi-analytical approach) with Risk Analysis Reservoir-to-Surface Modelling
- A Multifractured Horizontal Well (semi-analytical model) Coupled to a Network Simulator

Professor Katarina Simon, PhD

(Faculty of Mining Geology and Petroleum Engineering, University of Zagreb, Croatia)

- Development of LNG Technology (liquefaction, transportation and regasification)
- Future Changes of the LNG Technology

Michael Mertl, PhD

(Adria LNG, Croatia)

- Adria LNG Project

Professor Igor Dekanić, PhD

(Faculty of Mining Geology and Petroleum Engineering, University of Zagreb, Croatia)

- Energy Security and Energy Supply in SE of Europe
- Global Financial Crisis, Energy Consumption and Energy Companies

ROUND TABLES & SHORT COURSES

- **Natural Gas Market and Development and Energy Security**
- **Adria LNG Project**

LECTURER BIOGRAPHIES



Dr. **Branimir Cvetković** holds PhD in Petroleum Engineering from NTNU in Trondheim, Master of Science degree and Diploma in Physics from Electro-Technical and Natural Sciences Faculties of University in Zagreb, Croatia. He has been working in Oil and Gas Companies: Bayerngas Norge AS, based in Oslo, Norway, and INA Croatian Oil and Gas Co., based in Zagreb, Croatia; further, in service companies: Schlumberger, based in London, Gatwick, Milan, Budapest and Moscow, and Aker-Kvaerner based in Oslo; and research institutes: Institute for Energy Technology, IFE at Kjeller, Norway, and Institute for Petroleum Technology and Applied Geophysics at NTNU in Trondheim. In addition he had partly worked at petroleum engineering faculties: NTNU Petroleum Engineering and Applied Geophysics Faculty in Trondheim Norway and at the Petroleum and Mining Faculty Zagreb Croatia. Recently, he has been active in FORCE under Technical committee (TC) for Improved Oil and Gas Recovery (IOGR), the program initiated by Norwegian Petroleum Directorate. FORCE is a co-operating forum for improved oil and gas recovery (IOGR) and improved exploration (IE) between oil and gas companies and authorities in Norway. He has been involved in reservoir engineering and reservoir simulation studies of North Sea Bayerngas assets located in Norway, Denmark and UK, as the Chief Reservoir Engineer and recently as the Senior Reservoir Staff Engineer in Bayerngas Norge AS, Oslo, Norway.



Dr. **Katarina Simon** is an Associate Professor at the Petroleum Engineering Department of the Faculty of Mining, Geology and Petroleum Engineering, University of Zagreb. Her area of interest is oil and gas processing and transportation as well as directional drilling. She was the Head of PE Department from 2005 to 2007. Currently she is a researcher and a collaborator on a few scientific and professional projects in petroleum engineering.



Dr. **Michael Mertl** is Managing Director of Adria LNG d.o.o., a consortium comprising E.ON Ruhrgas AG, OMV Gas & Power GmbH, TOTAL Gas & Power Ventures S.A.S., RWE Supply & Trading GmbH, and Geoplin d.o.o. Ljubljana to setup up together with Croatian partners the detailed planning and construction phase of the LNG receiving terminal on the Croatian coast. Previously dr. Mertl was Managing Director of Elster-Instromet, a leading company of natural gas metering and control systems and at these times a subsidiary of Ruhrgas Industries. In that capacity, he was responsible for Elster-Instromet's joint ventures in China and Russia and served as Managing Director of IGA Ltd. in UK. Before Elster-Instromet, dr. Mertl joined Ruhrgas Industries as Head of Technical Controlling and was also responsible for the development of the group's market strategies in the energy and utilities sector.

Prior to joining Ruhrgas Industries, dr. Mertl worked 10 years for major chemical companies.



Dr. **Igor Dekanić** graduated from the Mining, Geology and Petroleum Engineering Faculty of the University of Zagreb 1975; M.S. degree in 1977 and PhD in 1981. In 1987 he acquired Eisenhower Exchange Fellowships in USA. He received some other special training in USA 1996 and 2000, Northern Ireland 1998 and Great Britain 1999. He worked for INA (Oil Industry), Zagreb, as research specialist and the Advisor to the General Director of INA Group; 2000 – 2005 he was the Advisor to the President of the Republic of Croatia. Since 1990 Associate Professor, 1999 elected Full Professor, and since 2004 Permanent Full Professor at the University of Zagreb. He is author of 7 books and some 90 articles on petroleum economics and energy geopolitics. He led several research projects in energy economics, energy geopolitics and development strategies. He was involved in a number of projects and consulting in the energy sector of Croatia. He was elected as Vice President of the Energy Council of Croatian Academy of Sciences & Arts.

LIST OF ROUND TABLES PRESENTATIONS

1. **Nikolay Dobronravin** (St. Petersburg State University, Russian Federation): *Oil and Gas Transportation Politics: Trans- Boundary Issues and Transit States*
2. **Maria Lagutina** (St.Petersburg State University, Russian Federation): *EU- Russia Energy Relations: Problems and Prospects*
3. **Leo Prelec**, Sonja Tomašić Škevin, Snježana Blagajac, Marko Blažević (HROTE, Croatia): *Croatian Gas Market Operator*
4. **Bernard Luka Baraka** (Adria LNG, Croatia): *Location Selection Procedure*
5. **Bernard Luka Baraka** (Adria LNG, Croatia): *Key Environmental Issues in the EIA Procedure*
6. **Dejan Gnjidić** (Adria LNG, Croatia): *EIA Procedure for the Adria LNG Terminal*
7. **Evelina Kukova** (Adria LNG, Croatia): *Key Technical Issues in the EIA Procedure*

LIST OF SHORT PRESENTATIONS

1. **Pavel Marinescu** (M-I SWACO, Romania), József Dormán, Ferenc Udvari (MOL Plc., Hungary): *Improving Gas Productivity With "Flow Back" Chemistry*
2. **Vedran Majerus**, Ivica Mađer (INA Plc., Croatia): *The Importance of Starting the Production of Gas Fields in Međimurje Region*
3. **Vedran Majerus**, Draženka Filjar, Dragan Crnčević (INA Plc., Croatia): *The Project of Conversion of Natural Gas Gathering Plant into an Oil Gathering and Delivery Plant*
4. **Zvonko Mrčela** (INAgip Plc., Croatia): *Annamaria Gas Field Development*
5. **Lidia Hrnčević** (University of Zagreb, Croatia): *LNG Spill- Hazards and Consequences*
6. **Daria Karasalihović Sedlar** (University of Zagreb, Croatia): *Unconventional Gas Impact on the LNG Industry*

PROGRAM

Sunday – June 20, 2010

4:00 p.m. – 7.00 p.m. Registration of Participants
(Inter- University Center (IUC), 4 Don Frana Bulića, Dubrovnik)

Monday – June 21, 2010

8.00 a.m. – 9.15 a.m. Registration of Participants
(IUC, PESS Office, First Floor)

9.30 a.m. – 10.00 a.m. Opening Ceremony
Welcome Addresses
(IUC, Conference Room, Ground Floor)

Biljana Kovačević Zelić, Dean of Faculty of Mining Geology and Petroleum Engineering, University of Zagreb, Croatia
(or other representative of Faculty of Mining Geology and Petroleum Engineering)

10.00 a.m. – 10.30 a.m. Coffee Break

**10.30 a.m. – 1.00 p.m. The First Session -
Lectures / Discussion**
(IUC, Conference Room, Ground Floor)

Chairmen / Moderators: **Igor Dekanić** (University of Zagreb, Croatia)
Katarina Simon (University of Zagreb, Croatia)
Michael Mertl (Managing Director, Adria LNG Plc.)

10.30 a.m. – 12.30 p.m. **Branimir Cvetković** (Bayerngas Norge AS, Norway): *Multilateral Wells and Downhole Processing Challenges; Multilateral Wells – Future Challenges; Downhole Water Separation - Future Challenges*

12.30 p.m. – 1.00 p.m. Panel Discussion

1.00 p.m. – 2.00. p.m. Welcome Cocktail
(IUC Atrium)

4.00 a.m. – 6.30 p.m.

**The Second Session -
Lectures / Discussion**

(IUC, Conference Room, Ground Floor)

Chairmen / Moderators:

Zvonko Mrčela (INAgip Plc. Croatia)

Vedran Majerus (INA Plc. Croatia)

4.00 p.m. – 5.00 p.m.

Branimir Cvetković (Bayerngas Norge AS, Norway):

A Multifractured Horizontal Well Modeling (semi-analytical approach) with Risk Analysis

5.00 p.m. – 5.30 p.m.

Coffee Break

5.30 p.m. – 6.00 p.m.

Branimir Cvetković (Bayerngas Norge AS, Norway):

Reservoir- to- Surface Modelling- A Multifractured Horizontal Well (semi-analytical model) Coupled to a Network Simulator

6.00 p.m. – 6.30 p.m.

Panel Discussion

Tuesday – June 22, 2010

10.15 a.m. – 1.30 p.m.

**The Third Session - Short Course / Round Table
Natural Gas Market Development and Energy Security**
(IUC, Conference Room, Ground Floor)

Chairmen / Moderators:

Daria Karasalihović Sedlar (University of Zagreb, Croatia)

Igor Dekanić (University of Zagreb, Croatia)

10.15 a.m. – 10.45 a.m.

Nikolay Dobronravyn (St. Petersburg State University, Russian

Federation): *Oil and Gas Transportation Politics:*

Trans- Boundary Issues and Transit States

10.45 a.m. – 11.15 a.m.

Maria Lagutina (St.Petersburg State University, Russian

Federation):

EU- Russia Energy Relations: Problems and Prospects

11.15 a.m. – 11.45 a.m.

Coffee Break

11.45 a.m. – 12.15 p.m.

Pavel Marinescu (M-I SWACO, Romania), József Dormán,

Ferenc Udvari (MOL Plc., Hungary): *Improving Gas*

Productivity with "Flow Back" Chemistry

12.15 p.m. – 1.00 p.m.

Marko Blažević, Leo Prelec, Sonja Tomašić Škevin,

Snježana Blagajac (HROTE, Croatia): *Croatian Gas Market Operator*

Vedran Majerus, Ivica Mađer (INA Plc. Croatia):
*The Importance Of Starting The Production Of Gas
Fields In Međimurje Region*

1.00 p.m. – 1.30 p.m. Panel Discussion

4.00 a.m. – 6.00 p.m. **The Forth Session -
Short Presentations / Discussion**
(IUC, Conference Room, Ground Floor)

Chairmen / Moderators: **Pavel Marinescu** (M-I SWACO, Romania)
Branimir Cvetkovic (Bayerngas Norge AS, Norway)

4.00 p.m. – 5.00 p.m. Short presentations:

Zvonko Mrčela (INAgip Plc. Croatia): *Annamaria Gas
Field Development*

Vedran Majerus, Draženka Filjar, Dragan Crnčević
(INA Plc. Croatia): *The Project of Conversion of Natural
Gas Gathering Plant into an Oil Gathering and
Delivery Plant*

5.00 p.m. – 5.30 p.m. Coffee Break

5.30 p.m. – 6.00 p.m. **Lidia Hrnčević** (University of Zagreb, Croatia):
LNG Spill- Hazards and Consequences

Daria Karasalihović Sedlar (University of Zagreb,
Croatia): *Unconventional Gas Impact on the LNG
Industry*

6.00 p.m. – 6.30 p.m. Panel Discussion

Wednesday – June 23, 2010

9.30 a.m. – 12.30 p.m. **The Fifth Session -
Lectures / Discussion**
(IUC, Conference Room, Ground Floor)

Chairmen / Moderators: **Lidia Hrnčević** (University of Zagreb, Croatia)
Michael Mertl (Adria LNG Plc., Croatia)

9.30 a.m. – 11.00 a.m. **Katarina Simon** (University of Zagreb, Croatia): *LNG and CNG
Technology Review*

11.00 a.m. – 11.30 a.m.	Coffee Break
11.30 a.m. – 12.00 a.m.	Katarina Simon (University of Zagreb, Croatia): <i>LNG and CNG Technology Review</i>
12.00 a.m. – 12.30 p.m.	Panel Discussion
2.00 p.m. – 8.00 p.m.	Excursion (Pelješac Peninsula)

Thursday – June 24, 2010

9.30 a.m. – 1.00 p.m. **The Sixth Session - Short Course / Round Table:
Adria LNG Project**
(IUC, Conference Room, Ground Floor)

Chairmen / Moderators: **Katarina Simon** (University of Zagreb, Croatia)
Igor Dekanić (University of Zagreb, Croatia)

9.30 a.m. – 9.40 a.m. **Michael Mertl** (Adria LNG, Croatia)

9.40 a.m. – 11.00 a.m. **Bernard Luka Baraka** (Adria LNG, Croatia): *Location Selection Procedure*

Dejan Gnjidić (Adria LNG, Croatia): *EIA Procedure for the Adria LNG Terminal*

Evelina Kukova (Adria LNG, Croatia): *Key Technical Issues in the EIA Procedure*

11.00 a.m. – 11.30 a.m. Coffee Break

1.30 a.m. – 12.15 p.m. **Bernard Luka Baraka** (Adria LNG, Croatia): *Key Environmental Issues in the EIA Procedure*

Michael Mertl (Adria LNG, Croatia): *Stakeholder Management Approach During the EIA Procedure*

12.15 a.m. – 12.45 p.m. Panel Discussion

12.45 p.m. – 1.00 p.m. **Michael Mertl** (Adria LNG, Croatia): *Conclusion & Wrap-up*

4.00 p.m. – 7.00 p.m. **Walking Tour** – Old City of Dubrovnik

8.30 p.m. **Reception** (Hotel Hilton Dubrovnik)

Friday – June 25, 2010

10.00 a.m. – 12.30 p.m. **The Final Session -
Lectures / Discussion / Closing Ceremony**
(IUC, Conference Room, Ground Floor)

Chairmen / Moderators: **Katarina Simon** (University of Zagreb, Croatia)
 Michael Mertl (Adria LNG, Croatia)
 Igor Dekanić (University of Zagreb, Croatia)

10.00 a.m. – 11.00 a.m. **Igor Dekanić** (University of Zagreb, Croatia): *Energy
Consumption, Global Financial Crisis Energy Companies*

11.00 a.m. – 11.30 a.m. Coffee Break

11.30 a.m. – 12.00 a.m. Panel Discussion

12.00 a.m. – 12.30 p.m. **Closing of Interactive Seminar Workshop 30**

12.30 p.m. – 1.00 p.m. **Press Conference**

1.00 p.m. **Farewell Cocktail** (IUC Atrium)

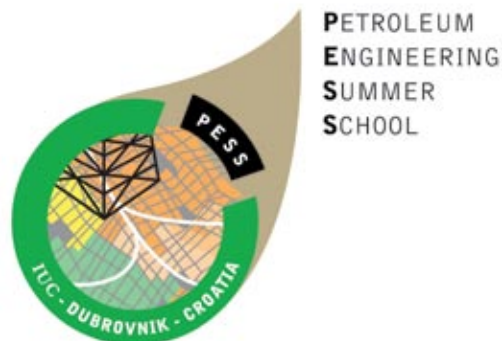


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