



WSAM 2012

WINTER SCHOOL IN APPLIED MATHEMATICS

DUBAI, UAE

19–20 January 2012

Organising Committee

TGT UAE
PO Box 121494
Almas tower, JLT, Dubai, UAE

Tel: +971 6 5579945
Fax: +971 6 5579946
info-uae@tgtoil.com
www.tgtoil.com

Dear Colleagues,

We are happy to invite you to participate in the 4th International Winter School in Applied Mathematics (**WSAM 2012**) to be held 19–20 January 2012 in Dubai, United Arab Emirates. **WSAM 2012** is organised and sponsored by **TGT Oil and Gas Services** for a broad audience of experts using modern mathematical methods in their daily work. Apart from commercial applications, **TGT** supports various activities and events in applied mathematics, including open-source research, problem workshops and training.

The conference is focused on applied mathematics in oil and gas production: data processing, numeric neutron scattering simulations, electromagnetic response simulation, flow noise, heat flow and temperature simulations, new tools for full-field flow simulations, numeric pressure simulations, etc. Hardware solutions will also be discussed, particularly in relation to physical fundamentals and mathematical models.

For more information, please visit **WSAM 2012** Section on **TGT**'s website at:

http://www.tgtoil.com/index.php?option=com_content&view=article&id=234

Please send a one-page abstract of your paper to WSAM 2012 Secretary Dr. Andrey Arbuzov at

andrey.arbuzov@tgtoil.com

With best regards,

Dr. Arthur Aslanyan
Head of the Organising Committee
Managing Director
TGT Oil and Gas Services

TOPICS

1. Numerical simulations
 - a. Subsurface modelling
 - b. Heat and mass transfer
 - c. Electromagnetic scanning
 - d. Neutron scattering
 - e. Noise propagation

2. Data processing
 - a. Interpolation, approximation and filtration
 - b. Wavelets
 - c. Correlation analysis
 - d. Artificial neural networks

3. Software techniques
 - a. Database platforms
 - b. Interprocess communication
 - c. Parallel and cluster computing
 - d. Graphics and animation

ORGANISING COMMITTEE

Arthur Aslanyan (TGT HQ, Dubai) – Chairman
Andrey Arbuzov (TGT Prime, Kazan) – Secretary
Jamal Barghouti (TGT HQ, Dubai)
Dmitry Davydov (TGT Prime, Kazan)
Georgy Vasilyev (TGT HQ, Dubai)

INVITED LECTURERS

1. Prof. Nikolay Neprimerov (Kazan State University, Kazan, Russia)
2. Dr. Jamal Barghouti, Consultant (TGT HQ, Dubai, UAE)
3. Dr. Vasiliy Shelkov (Rock Flow Dynamics, Moscow, Russia)
4. Dr. Kirill Bogachev (Rock Flow Dynamics, Moscow, Russia)
5. Dr. Andrey Amurskiy (VNIIA, Moscow, Russia)
6. Dmitry Pyatnitskiy (Special Geophysical Systems, Saratov, Russia)
7. Prof. Ayrat Ramazanov (BSU, Ufa, Russia)
8. Dr. Arthur Aslanyan, Managing Director (TGT HQ, Dubai, UAE)
9. Dr. Irina Aslanyan, Senior Well & Reservoir Analyst (TGT HQ, Dubai, UAE)
10. Vladislav Sudakov, Head of Geological Modelling Department (TGT Prime, Kazan, Russia)
11. Dmitry Davydov, Managing Director (TGT Prime, Kazan, Russia)
12. Prof. Andrey Salamatin (Kazan State University, Kazan, Russia)
13. Dr. Andrey Savinkov, Mathematician (TGT Prime, Kazan, Russia)
14. Prof. Ravil Nigmatullin (Kazan State University, Kazan, Russia)
15. Vladimir Bochkarev, Assistant Professor (Kazan State University, Kazan, Russia)
16. Dr. Dmitry Chistyakov, Senior Mathematician (TGT Prime, Kazan, Russia)
17. Yuliya Maslennikova, Mathematician (TGT Prime, Kazan, Russia)
18. Dr. Andrey Arbuzov, Project Manager (TGT Prime, Kazan, Russia)
19. Sergey Volkov, Senior Mathematician (TGT Prime, Kazan, Russia)
20. Elena Toropova, Mathematician (TGT Prime, Kazan, Russia)
21. Yuliya Evseeva, Mathematician (TGT Prime, Kazan, Russia)
22. Dmitry Ivanov, Reservoir Engineer (TGT Oman, Muscat, Oman)
23. Andrey Karuzin, Senior Mathematician (TGT Prime, Kazan, Russia)
24. Prof. Grigory Kabatiansky (KUSTAR, Abu-Dhabi, UAE & IPPI RAS, Moscow, Russia)
25. Dr. Sergey Shatalin (SILIXA, London, UK)

CONFERENCE PROGRAMME

19 January 2012

Opening session

- 09.00–09.10 Dr. Arthur Aslanyan, Managing Director, TGT HQ, UAE
- 09.10–09.20 Mr. Saad Bargach, Managing Director, Lime Rock Partners, USA
- 09.20–09.30 Dr. Jamal Barghouti, Consultant, TGT HQ, UAE
- 09.30–09.40 Prof. Andrey Salamatin, Professor of Kazan State University, Russia
- 09.40–09.50 Prof. Nikolay Neprimerov, Professor of Kazan State University, Russia
- 09.50–10.00 Coffee break

Main session

- 10.00–11.00 Dr. Arthur Aslanyan: *TGT R&D Programme*
- 11.00–12.00 Prof. Andrey Salamatin: *New Approaches Based on Long-Term Research and Field Experience. Temperature Simulators*
- 12.00–13.30 Lunch (*all participants are welcome for buffet*)
- 13.30–14.30 Prof. Ravil Nigmatullin: *Non-Orthogonal Amplitude-Frequency Analysis of Smoothed Signals: How to See a Melody of "a Randomness"*
- 14.30–15.30 Dr. Andrey Arbuzov: *Time-Domain Resistivity*
- 15.30–15.45 Coffee break
- 15.45–16.30 Dmitry Davydov: *Time-domain Sigma Data Analysis*
- 16.30–17.00 Dr. Andrey Savinkov: *Spectral Noise Log Data Processing*
- 17.00–17.15 Coffee break
- 17.15–20.15 Tour of Dubai

20 January 2012

- 09.00–09.30 Dr. Vasiliy Shelkov: *Flow Simulator tNavigator 2012: New Features*
- 09.30–10.00 Vladislav Sudakov: *Full-Field Flow Modelling Based on Reservoir-Oriented Production Logging*
- 10.00–10.30 Yuliya Evseeva: *Numerical Pressure Transient Simulations*
- 10.30–10.45 Coffee break
- 10.45–11.20 Elena Toropova: *Numerical Simulation of a Multiphase Producer*
- 11.20–12.00 Dmitry Ivanov: *Temperature and noise logging in reservoir flow modeling*
- 12.00–13.00 Lunch (*all participants are welcome for buffet*)
- 13.00–13.30 Prof. Grigory Kabatiansky: *Approximation by polynomials: Old Wine into New Wineskins*
- 13.30–14.00 Dr. Irina Aslanyan: *Formation Pressure and Productivity from Dual-Rate Spectral Noise Logging and Temperature Simulations*
- 14.00–15.00 Dr. Arthur Aslanyan: *Open-Hole Volumetric Modelling*
- 15.00–15.30 Yuliya Maslennikova: *Permeability Prediction with Artificial Neural Network Modelling*
- 15.30–15.45 Coffee break
- 15.45–16.15 Dr. Sergey Shatalin: *In-well Fibre Optic Distributed Temperature and Acoustic Sensor*
- 16.15–17.00 Dr. Jamal Barghouti: *How to Make Friends and Good Business in a Culture Jungle*
- 17.00–17.15 Coffee break
- 17.15–18.00 Dr. Arthur Aslanyan: Conference summary

ABOUT DUBAI

Dubai is the largest city of the United Arab Emirates, the administrative capital of the Emirate of Dubai, the trading and financial centre of the Middle East and a major tourist destination. Dubai is situated on the coast of the Arabian Gulf to the northeast of the capital Abu Dhabi, near the city of Sharjah. In 2010, its population was estimated at 2,262,000.

Oil was discovered near Dubai in 1966 to launch its rocketing development. Local oil reserves are smaller than those of the neighbouring regions of the Gulf but are effectively used to their full capacity.

The recent building boom in Dubai is similar in scale to that of the largest Chinese towns. The following fact speaks for itself: one-fifth of all tower cranes in the world are located between Abu Dhabi and Dubai. The biggest construction projects include the world's tallest building, Burj Dubai, the artificial Palm Islands, The World Archipelago and Ski Dubai, the first indoor ski resort to open in the Middle East on 22.5 thousand square metres (or three football fields) covered with snow all year round. Your eyes are not deceiving you: Dubai lives in the future!

The dry subtropical climate offers beautiful weather from mid-September to mid-May with warm sunny days and cool nights. Light clothing is fine for most of the year except winter evenings, the best time to wear a sweater, cardigan or jacket.



ABOUT HOLIDAY INN EXPRESS HOTEL

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Stay at the contemporary Holiday Inn Express Dubai Internet City in the heart of the Knowledge Village business zone, minutes from Internet City technology park.

Friendly staff offer a warm welcome in the air-conditioned Lobby of Holiday Inn Express Dubai Internet City, an easy 30-minute taxi trip from Dubai International Airport. Mingle with colleagues in our sleek Lobby bar, or catch up on work via wireless Internet. You can also access high-speed Internet from the comfort of our Guest rooms, some of which have views of the famous Burj Al Arab hotel and Palm Jumeirah.



Doing business is easy at the Holiday Inn Express Dubai Internet City, close to the Internet City and Media City business zones. There is space for up to 120 delegates in the largest of our three naturally lit meeting rooms, and plenty of PCs available in the 24-hour self-service Business Centre.

Pack your bucket and spade and head for family-friendly Jumeirah Beach or catch the hotel's complimentary shuttle to the Mall of the Emirates where you can combine shopping with indoor skiing. Cool off on the thrilling water slides at nearby Wild Wadi water park.



Set your own pace at the Holiday Inn Express Dubai Internet City. You can access the MiniGym 24 hours a day, and snacks and drinks are always available from the 24-hour kiosk. Our self-service buffet breakfast is complimentary, as is onsite guest parking.

Features

The Mall of the Emirates is less than 10 minutes from the Holiday Inn Express Dubai Internet City by convenient complimentary shuttle. To travel in style ask friendly Front Desk staff about our limo service.