



# 17<sup>th</sup> INTERNATIONAL ZEOLITE CONFERENCE

*“Zeolites and ordered porous materials: bridging the gap between nanoscience and technology”*



# Organizers



**Russian National Zeolite Association**



**International Zeolite Association**



**Lomonosov  
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**Irina I. Ivanova** – Professor, Head of the Laboratory of Kinetics and Catalysis, M.V.Lomonosov Moscow State University, Head of the Laboratory Catalysts for Petrochemical Processes, A.V.Topchiev Institute of Petrochemical Synthesis, Russian Academy of Sciences, Director of National Zeolite Association

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**Valery V. Lunin** – Academician, Dean of Faculty of Chemistry, M.V.Lomonosov Moscow State University



**Michael P. Egorov** – Academician, Director of N.D.Zelinsky Institute of Organic Chemistry, Russian Academy of Sciences



**Valentin N. Parmon** – Academician, Director of G.K.Boreskov Institute of Catalysis, Siberian Branch, Russian Academy of Sciences

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## Technical secretary



**Leonid A. Logvin** – Ph.D., Researcher, Laboratory of Catalysts for Petrochemical Processes, A.V.Topchiev Institute of Petrochemical Synthesis, Russian Academy of Sciences, Deputy Director of National Zeolite Association

## Communication



**Liudmila I. Rodionova** – Ph.D., Researcher at the Laboratory of Kinetics and Catalysis, Faculty of Chemistry, M.V.Lomonosov Moscow State University



**Maria A. Nikitina** – Ph.D. student, Laboratory of Kinetics and Catalysis, Faculty of Chemistry, M.V.Lomonosov Moscow State University





# Organizing Committee

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**Prof. Jean-Pierre Gilson** –  
Laboratory of Catalysis and  
Spectrochemistry,  
University of Caen, France



**Dr. Oleg V. Krukov** –  
A.V.Topchiev Institute of  
Petrochemical Synthesis,  
Russian Academy of Sciences

## Pre-conference School



**Leonid M. Kustov** – Professor, Head of the  
Laboratory of Ecological Chemistry, Faculty of  
Chemistry of M.V.Lomonosov Moscow State  
University; Head of the Laboratory of  
Multifunctional Catalyst Development and  
Investigation, N.D.Zelinsky Institute of Organic  
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**Elena E. Knyazeva** – Ph.D.,  
Senior Researcher, Laboratory  
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National Zeolite Association



**Gennady V. Echevsky** –  
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Hydrocarbon Catalytic  
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Catalysis, Siberian Branch,  
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Sciences

## Publication



**Ivan A. Kasyanov** –  
assistant Professor,  
Physical Chemistry  
Department, Faculty of  
Chemistry,  
M.V.Lomonosov  
Moscow State  
University



**Stanislav V. Konnov** –  
Ph.D., Researcher,  
Laboratory of Catalysts  
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Processes,  
A.V.Topchiev Institute of  
Petrochemical  
Synthesis, Russian  
Academy of Sciences



**Yury G. Kolyagin** – Ph.D.,  
Senior Researcher at the  
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Catalysis, Faculty of  
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Moscow State University

## Grants and fellowships



# Organizing Committee



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State University



**Olga A. Ponomareva** – Ph.D.,  
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**Angelina A. Maerle** –  
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**Anna G. Maksimova** –  
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Laboratory of Kinetics  
and Catalysis, Faculty  
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## Scientific committee



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Professor, Physical  
Chemistry Department,  
Faculty of Chemistry,  
M.V.Lomonosov Moscow  
State University



**Girolamo Giordano** –  
Professor, Dean of  
Chemical Engineering and  
Materials Faculty of the  
University, Calabria, Italy



**Eduardo Falabella** –  
Senior Consultant at  
Petrobras (CENPES),  
Professor, School of  
Organic Chemistry  
Processes “UFRJ”, Rio-  
de-Janeiro, Brazil



**Vladimir M. Kapustin** –  
Corresponding Member of  
Russian Academy of Natural  
Sciences, Director of “VNIPIneft”  
JSC, Head of Department of Oil  
Processing Technology,  
I.M.Gubkin Russian State  
University of Oil and Gas

## Scientific secretary



**Elena E. Knyazeva** – Ph.D., Senior  
Researcher, Laboratory of Kinetics and  
Catalysis, Faculty of Chemistry,  
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Zeolite Association





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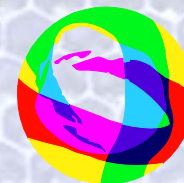




# Partners



**Moscow City Government**



**RUSNANO**

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**Russian Academy of Science**



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## Sponsors





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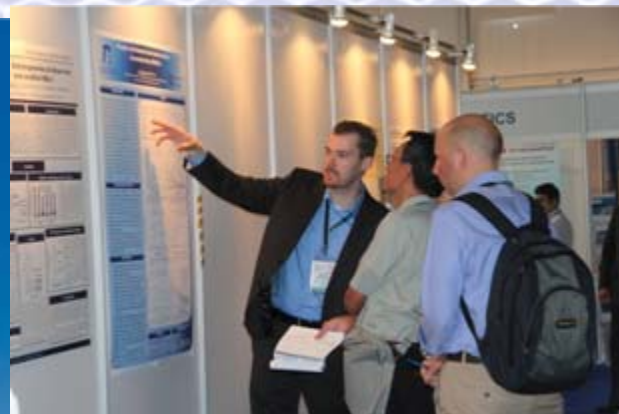


UNISIT





# Venue







# Venue







# Important dates

## Key Dates

Call for abstracts	1 <sup>st</sup> October 2012
Deadline for abstracts submission	<del>1<sup>st</sup> December 2012</del> <b>10<sup>th</sup> December 2012</b>
Notification of acceptance	1 <sup>st</sup> March 2013
Deadline for early registration / Hotels	<del>15<sup>th</sup> April 2013</del> <b>23<sup>rd</sup> April 2013</b>
Deadline for Recent Research Reports	<del>15<sup>th</sup> April 2013</del> <b>25<sup>th</sup> May 2013</b>
Deadline of on-line registration	4 <sup>th</sup> July 2013

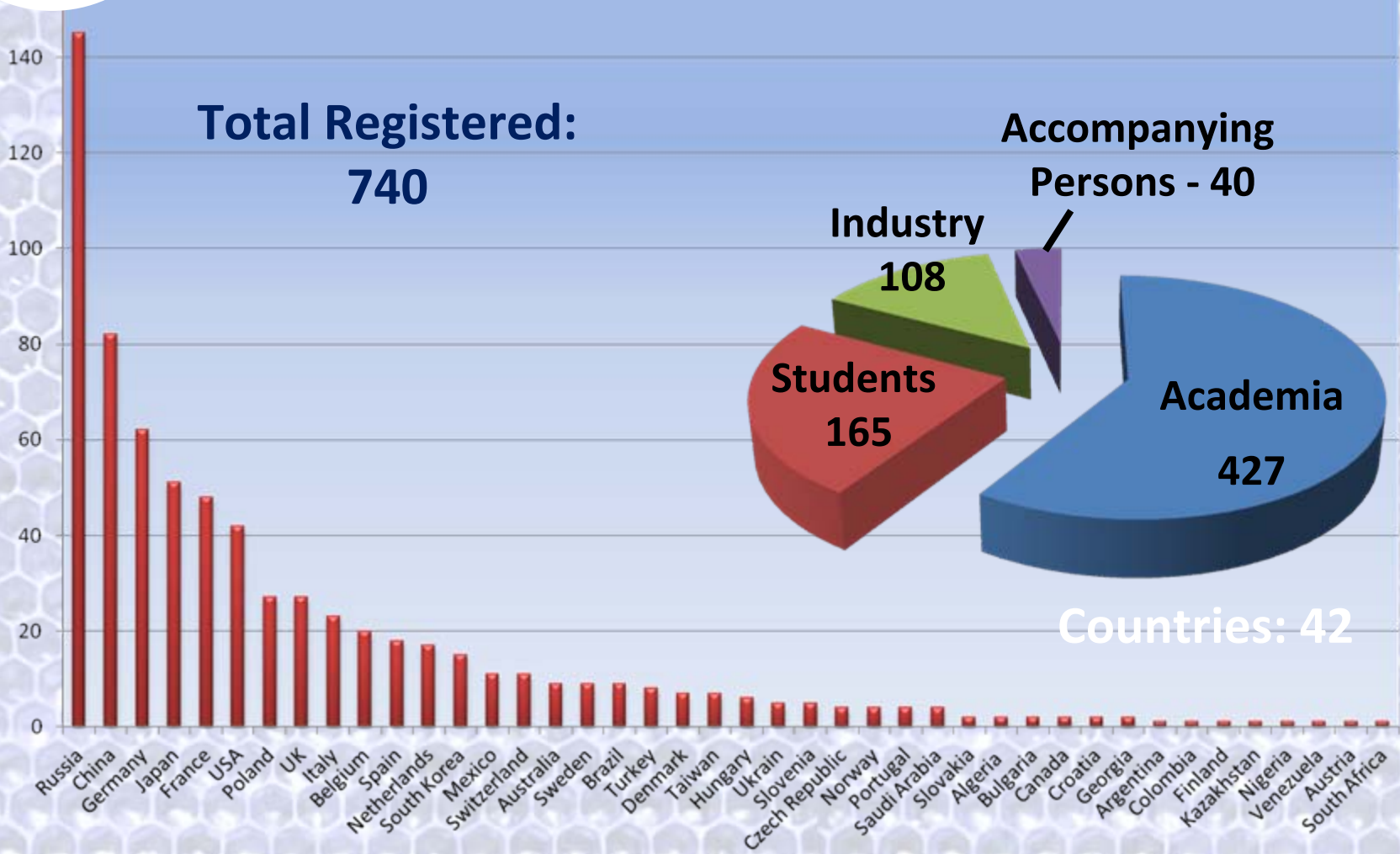
## Main Events

Pre-Conference School	5-6 July 2013
17 <sup>th</sup> International Zeolite Conference	7-12 July 2013
Post-Conference Field Trip	13-15 July 2013





# Participants







# Scientific Programme



## Topics and Topical Chairs

### Ordered porous materials: synthesis and modification

- 1.1 Zeolites and zeotypes (*J. Yu, G. Echevsky, P. Wu, O. Kikhtyanin*)
- 1.2 Natural zeolites (*C. Colella, V. Il'in*)
- 1.3 Mesoporous materials and hierarchical porous structures (*T. Bein, E. Knyazeva*)
- 1.4 Hybrid and composite materials (MOF, POM, ZIF, Porous carbons, etc) (*C. Serre, L. Kustov*)
- 1.5 Zeolite and MOF membranes and films (*F. Kapteijn, D. Fedosov*)

### Advances in fundamental understanding of structure and properties

- 2.1. Theory and modeling (*E. Pidko, G. Zhidomirov*)
- 2.2. Advanced characterization techniques (*Fr. Taulelle, V. Bukhtiyarov*)
- 2.3. Mechanistic studies; impact of *in situ* and *operando* techniques (*F. Thibault-Starzyk, A. Stepanov*)

### Industrial and emerging applications

- 3.1. Oil refinery and petrochemistry (*J. Santiesteban, M. Levinbuk*)
- 3.2. Non-oil fossil feedstocks into end products (*N. Nesterenko, N. Kolesnichenko*)
- 3.3. Environmental catalysis and conversion of biomass (*N. Kumar, A. Stakheev*)
- 3.4. Chemicals and fine chemicals (*B. Sels, A. Maksimov*)
- 3.5 Adsorption and separation (*M. Thommes, A. Toktarev*)
- 3.6. Novel applications (health, electronics, sensors) (*K. B. Yoon, A. Smirnov*)





# Plenary Speakers



**Svetlana Mintova,**  
ENSICAEN, University of Caen, Caen,  
France.  
**“New directions in zeolite synthesis”**



**Zhongmin Liu,**  
Dalian Institute of Chemical Physics,  
Dalian China.  
**“Methanol-to-Olefin: from  
fundamental to commercialization”**



**Raul Lobo,**  
University of Delaware, Newark,  
Delaware, United States.  
**“New insights into porous materials  
from advanced characterization”**

**Susumu Kitagawa,**  
Kyoto University, Yoshida, Kyoto,  
Japan.  
**“Chemistry and application of  
porous coordination polymers  
(PCPs)/metal organic  
frameworks(MOFs)”**



**Avelino Corma,**  
Institute of Chemical  
Technology, Valencia, Spain.  
**“Designing zeolites for specific  
applications”**



# Keynotes



**Tatsuya Okubo**  
Japan  
"Simple Synthesis of Zeolites:  
New directions without the use  
of OSDAs"

**Ute Kolb**,  
Germany  
"Automated electron Diffraction  
Tomography (ADT) for solving structures  
of beam sensitive nanoporous materials"

**Dmitry Yu. Murzin**,  
Finland  
"Depolymerization of wood  
components: role of zeolites"

**Roberto Millini**,  
Italy  
"Beyond the pure inorganic framework  
of zeolites: the ENI Carbon Silicates"



**E. Thomas Habib, Jr.**,  
USA  
"Recent Advances and Current Challenges in Fluid  
Catalytic Cracking: Flexible Pilot Plant Can Evaluate  
Unconventional Feedstocks and Processes"

**Valentin N. Parmon**,  
Russia  
"Direct methane transformations into valuable  
products in zeolites. Is there any chance for the  
methane co-conversion with higher hydrocarbons?"

**Carmine Colella**,  
Italy  
"The IZA Handbook of Natural Zeolites: a  
tool of knowledge of the most important  
family of porous minerals"





# Keynotes



**Ben Slater,**  
UK  
"Structure and properties of zeolite and metal organic framework nanosheets"



**Anne Galarneau,**  
France  
"Monoliths with hierarchical porosity to enhance efficiency and productivity of heterogeneous catalysts"



**Jürgen Caro,**  
Germany  
"Zeolite and MOF Molecular Sieve Membranes – Quo Vadis?"



**Peng Wu,**  
China  
"Clean synthesis of oximes and amides over titanasilicate catalysts"



**Joeri Denayer,**  
Belgium  
"Recent Advances in Adsorptive Separation Science & Technology"



**Bert M. Weckhuysen,**  
The Netherlands  
"Life and death of a fluid catalytic cracking particle"



**Tina M. Nenoff,**  
USA  
"Nanoscale manipulation of zeolites and MOFs for novel bulk scale applications: from tunable photoluminescence to nuclear waste remediation"






# Industrial Panel



The **Industrial Panel** has been organized for the first time in the history of IZC.

10:20 - 10:35	IND-1  <b>RUSNANO</b> <small>FUND FOR INFRASTRUCTURE AND EDUCATIONAL PROGRAMS</small>
10:35 - 10:50	IND-2  <b>SIBUR</b>
10:50 - 11:05	IND-3  <b>SYN</b>
11:05 - 11:20	<b>Q&amp;A</b>

11:20 - 11:35	IND-4 <b>ExxonMobil</b>
11:35 - 11:50	IND-5  <b>eni</b>
11:50 - 12:05	IND-6  <b>TOTAL</b>
12:05 - 12:20	IND-7  <b>СЛОПЕС</b>
12:20 - 12:40	<b>Q&amp;A</b>

14:20 - 14:35	IND-8  <b>BASF</b> <small>The Chemical Company</small>
14:35 - 14:50	IND-9  <b>CLARIANT</b>
14:50 - 15:05	IND-10  <b>KNT group</b> <small>for business and industry</small>
15:05 - 15:20	IND-11  <b>UOP</b> <small>A Honeywell Company</small>
15:20 - 15:35	<b>Q&amp;A</b>

We strongly believe into the big success of the Conference's Industrial Panel in the future.





# Industrial Panel

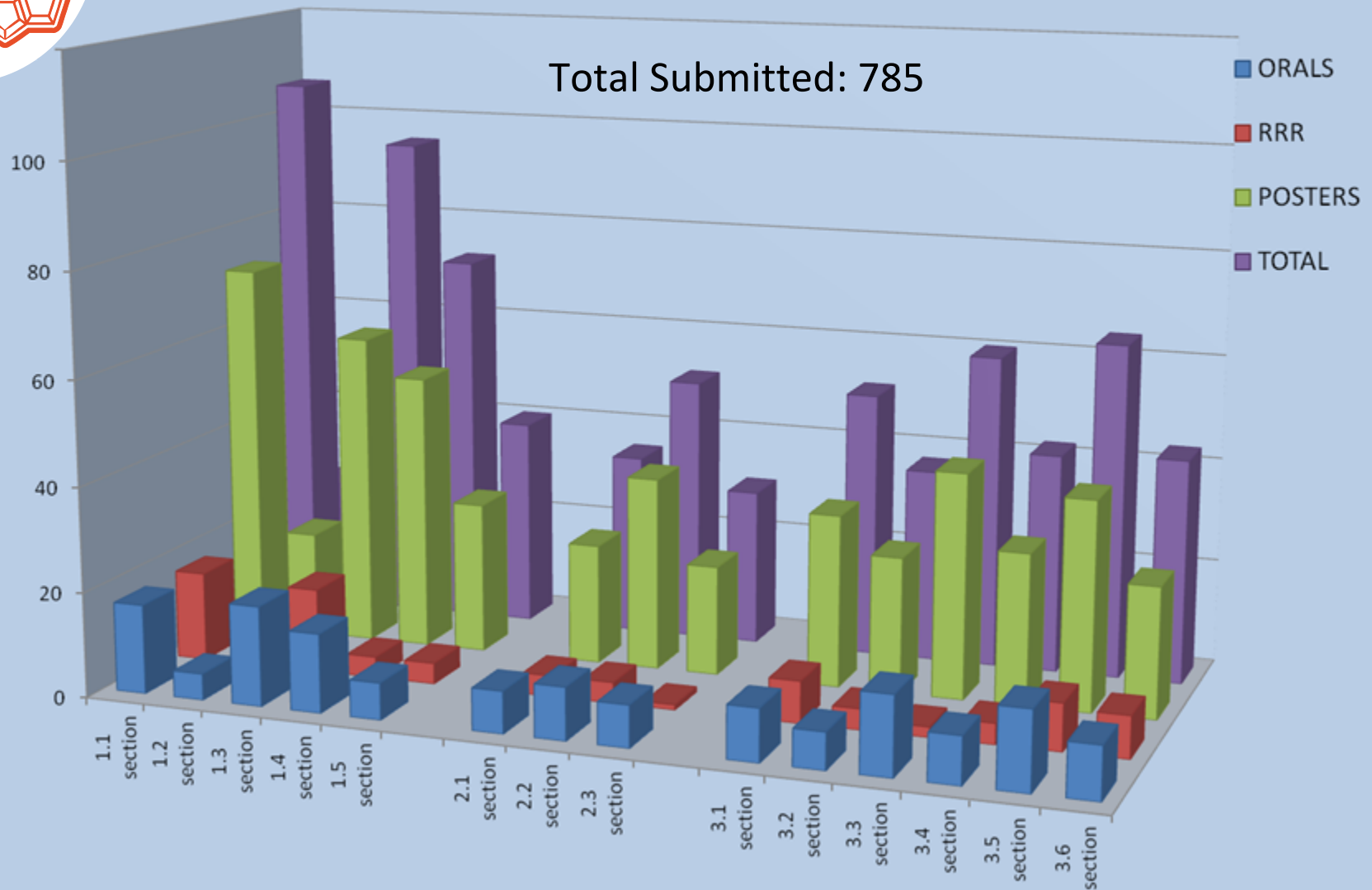


**15:35 - 16:20**  
**ROUND TABLE**





# Communications







# Programme

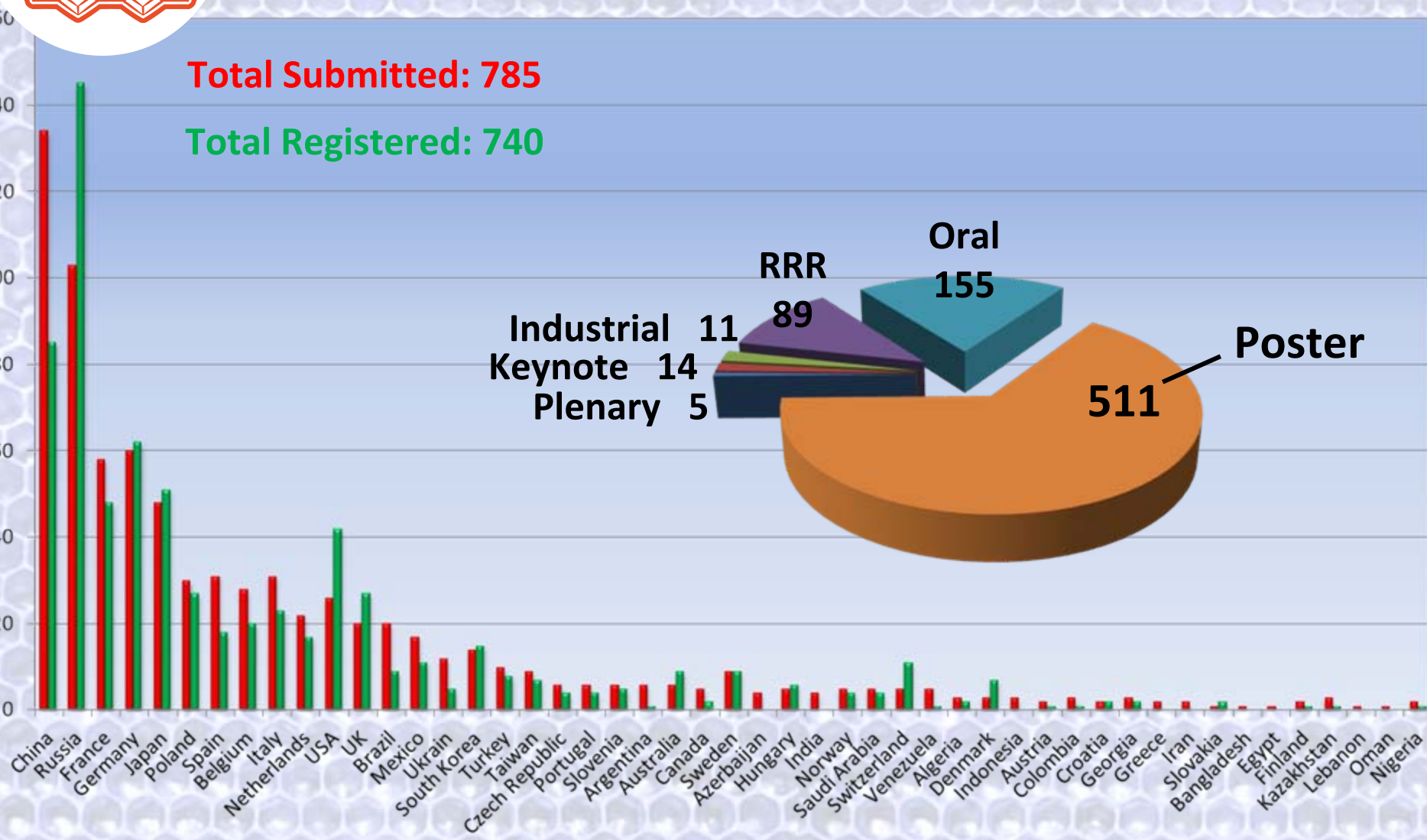
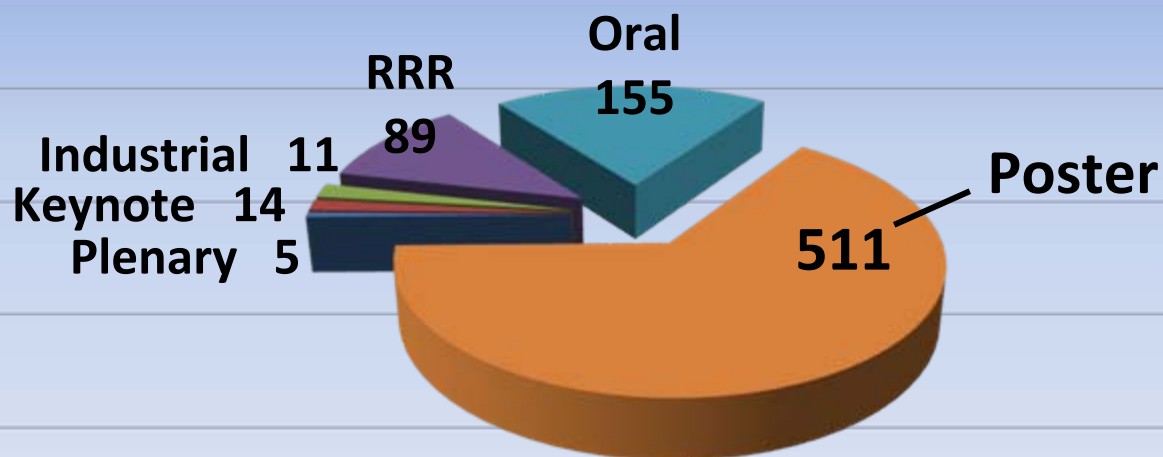
SUNDAY, JULY 7	MONDAY, JULY 8				TUESDAY, JULY 9				WEDNESDAY, JULY 10				THURSDAY, JULY 11				FRIDAY, JULY 12			
9.00 9.20 10.00 10.20 10.40 11.00 11.20 11.40 12.00 12.20 12.40 14.20 14.40 15.00 15.20 15.40 16.00 16.20 16.40 19.00	OPENING CEREMONY				Plenary Lecture 2				Plenary Lecture 3				Plenary Lecture 4				Plenary Lecture 5			
	Plenary Lecture 1 Svetlana Mintova				Zhongmin Liu				Raul Lobo				Susumu Kitagawa				Avelino Corma			
	Coffee-Break / Exhibition				Coffee-Break / Exhibition				Coffee-Break / Exhibition				Coffee-Break / Exhibition							
	Coffee-Break / Exhibition				1.1-11	2.2-03	KN 3.2	INDUSTRIAL	1.3-07	2.3-04	3.3-03	KN 1.2	IZA  GENERAL  ASSEMBLY	1.3-18	1.4-05	3.4-01	KN 3.5			
	KN 1.1	2.1-01	3.1-01	3.6-01	1.1-12	2.2-04	Valentin Parmon		1.3-08	2.3-05	3.3-04	Carmine Colella		1.3-19	1.4-06	3.4-02	Joeri Denayer			
	Tatsuya Okubo	2.1-02	3.1-02	3.6-02	1.1-13	2.2-05	3.2-01		1.3-09	2.3-06	3.3-05	1.2-01		1.5-01	1.4-07	3.4-03	3.5-07			
	1.1-01	2.1-03	3.1-03	3.6-03	1.1-14	2.2-06	3.2-02		1.3-10	2.3-07	3.3-06	1.2-02		1.5-02	1.4-08	3.4-04	3.5-08			
	1.1-02	2.1-04	3.1-04	3.6-04	1.1-15	2.2-07	3.2-03		1.3-11	2.3-08	3.3-07	1.2-03		1.5-03	1.4-09	3.4-05	3.5-09			
	1.1-03	KN 2.1	3.1-05	3.6-05	1.1-16	KN 2.2	3.2-04		1.3-12	KN 2.3	3.3-08	1.2-04		1.5-04	1.4-10	KN 3.4	3.5-10			
	1.1-04	Ben Slater	3.1-06	3.6-06	1.1-17	Ute Kolb	3.2-05		1.3-13	Bert Weckhuysen	3.3-09	1.2-05		1.5-05	1.4-11	Peng Wu	3.5-11			
	LUNCH				LUNCH				LUNCH					LUNCH				LUNCH		
	1.1-05	2.1-05	KN 3.1	3.6-07	1.3-01	2.2-08	3.2-06	PANEL	EXCURSION (15.15 – 19.45)  SOCIAL DINNER (20.00 – 23.30)				KN 1.3	1.4-01	3.3-10	3.5-01	1.5-06	1.4-12	3.4-06	3.5-12
	1.1-06	2.1-06	Thomas Habib, Jr.	3.6-08	1.3-02	2.2-09	3.2-07						Anne Galarneau	1.4-02	3.3-11	3.5-02	1.5-07	1.4-13	3.4-07	3.5-13
	1.1-07	2.1-07	3.1-07	3.6-09	1.3-03	2.2-10	KN 3.3						1.3-14	1.4-03	3.3-12	3.5-03	KN 1.5	1.4-14	3.4-08	3.5-14
	1.1-08	2.1-08	3.1-08	3.6-10	1.3-04	2.3-01	Dmitry Murzin						1.3-15	1.4-04	3.3-13	3.5-04	Jürgen Caro	1.4-15	3.4-09	3.5-15
	1.1-09	2.2-01	3.1-09	KN 3.6	1.3-05	2.3-02	3.3-01						1.3-16	KN 1.4	3.3-14	3.5-05	CONCLUDING REMARKS (15.45 – 16.15)			
1.1-10	2.2-02	3.1-10	Tina Nenoff	1.3-06	2.3-03	3.3-02	1.3-17						Roberto Millini	3.3-15	3.5-06					
Coffee-Break / Exhibition				Coffee-Break / Exhibition									Coffee-Break / Exhibition				Coffee-Break / Exhibition			
Poster session 1: 1.1, 2.1, 3.1, 3.6, RR1				Poster session 2: 1.2, 1.3, 2.2, 2.3, 3.2, 3.3									Poster session 3: 1.4, 1.5, 3.4, 3.5, RR2				Poster session 3: 1.4, 1.5, 3.4, 3.5, RR2			
19.00-21.00 WELCOME PARTY												BANQUET (20.00 – 23.00)								

# Participants/Communications



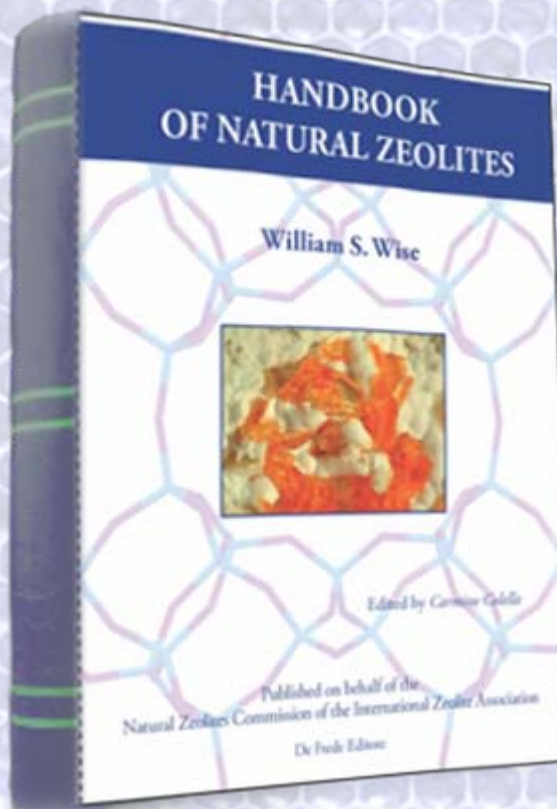
**Total Submitted: 785**

**Total Registered: 740**





# Handbook of natural zeolites



**350 pages**

**Author: W. S. Wise**

**Editor: Prof. C. Colella**





# BRECK AWARDS



**Winners – Prof. Jürgen Caro, Prof. Michael Tsapatsis**





# IZA AWARDS



**Winner – Prof. François Fajula**

# Social events: Excursion







# Social events: Informal dinner







# Social events: Informal dinner





# Social events: Banquet





## Meeting Report

The 17<sup>th</sup> International Zeolite Conference (17<sup>th</sup> IZC) was held from July 7 to July 12, 2013 in Moscow, Russia. It was organized by the Russian National Zeolite Association, the Russian Academy of Science and the Moscow State University under the auspices of the International Zeolite Association.

The Conference covered all aspects of the science and technology associated with ordered porous materials, starting from traditional zeolites and mesostructured materials and leading to novel porous hybrid solids. The scientific scope included the topics going from the design of various porous nanomaterials to the development of their applications via fundamental understanding of their structure and properties. This scientific scope settled the main concept of the conference: ***“Zeolites and ordered porous materials: bridging the gap between nanoscience and technology”***.

The Conference was preceded by the intensive Pre-Conference School (July, 5-6) at the Faculty of Chemistry in Moscow State University and was followed by the Field Trip (July, 13-15) in the beautiful area of Karelia, which is very rich in minerals.

A brief analysis of the amount of participants and communications per countries is presented in Figs. 1 and 2. The conference attracted 740 participants from 42 countries, including 165 students, 427 participants from academia and 108 from industry. The biggest delegations came from Russia, China and European Community. Seven hundreds and eighty five contributions were accepted: 185 oral communications and 600 posters.

The summaries of the accepted papers (785) were published in the Proceedings, which were made available at the beginning of the Conference. The extended abstracts were saved in a CD enclosed to the Proceedings. Besides that, the Handbook on Natural Zeolites authored William S. Wise and edited by Prof. Carmine Colella was launched at the Conference. This book was a precious gift to the participants of the 17<sup>th</sup> IZC.



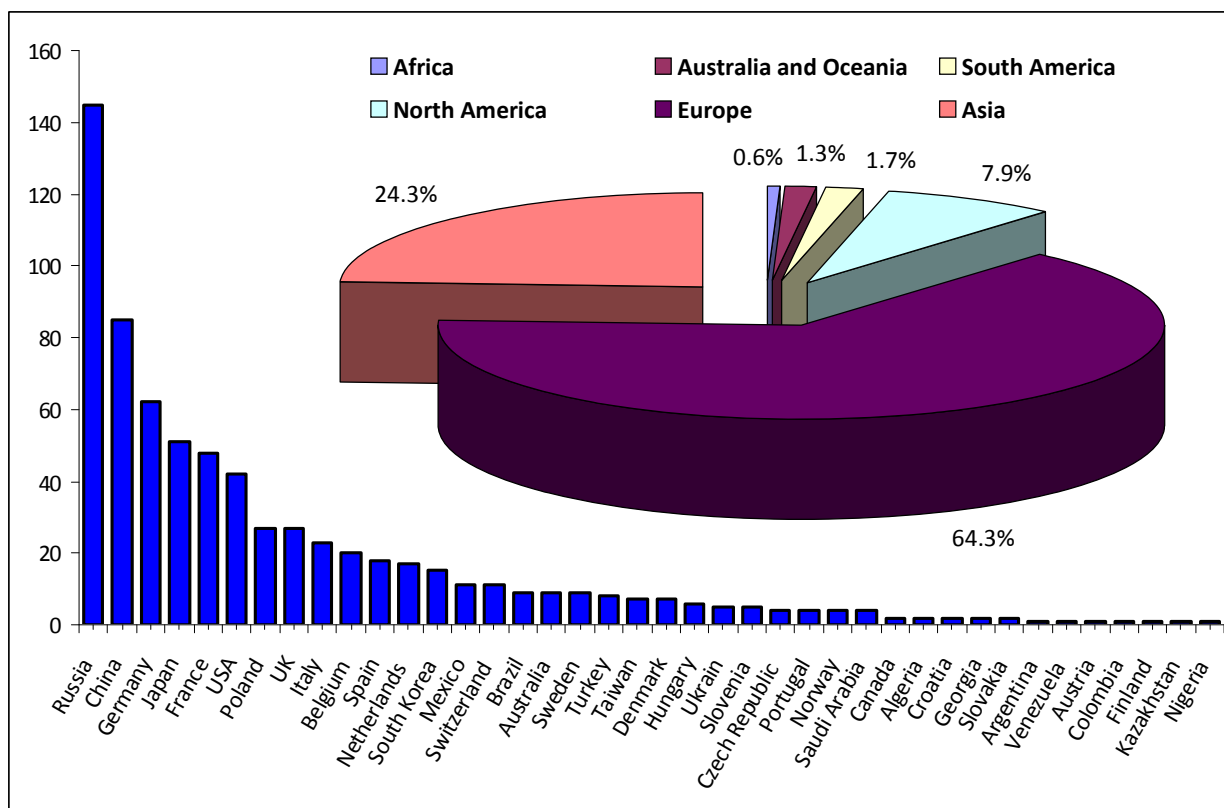


Figure 1. Country distribution of participants

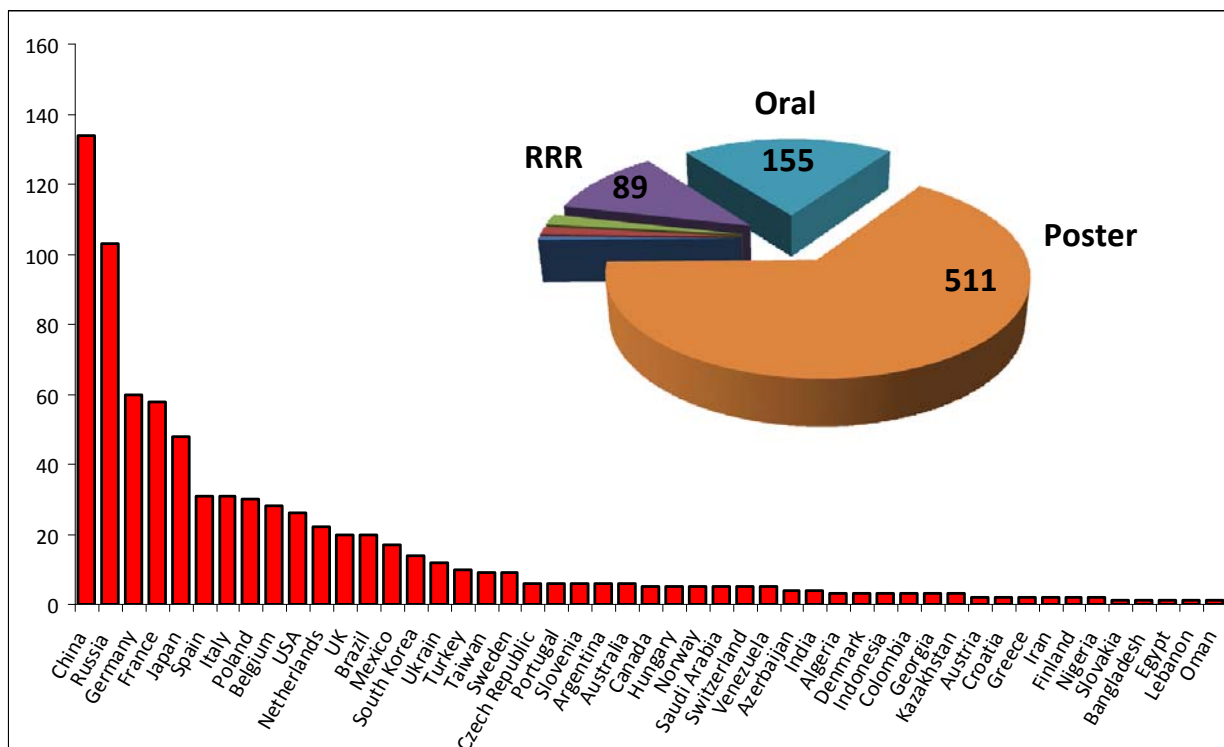


Figure 2. Country distribution of accepted abstracts

The main purpose of the conference was to bring together the academia and industry. To achieve this goal, the Industrial Panel has been organized for the first time in the history of IZC. The Industrial Session involved a series of presentations coming from the industry, which were dedicated to the main achievements, objectives and challenges in the field of zeolite science and technology and contained take-home messages for the academic society. The organizers of the 17<sup>th</sup> IZC believe into the big success of the Conference's Industrial Panel in the future.

The exhibition of scientific materials, commercial products, equipment and the scientific literature related to ordered porous materials took place during the whole official time of the Conference (July, 8-12). Participating companies included SACHEM Inc, Linseis Messgeräte GmbH, Bruker Corporation, Hiden Isochema, Khimexpert, SpringerMaterials, Rubotherm GmbH, SY-LAB, Promenergolab, SciFinder Chemical Abstracts Service, UNISIT LLC, LABTEST.

The Conference Programme was organized in five days (July, 8-12) in four parallel sessions for oral communications and 3 poster sessions, besides that the time was allocated to the traditional IZA business as well as social events to promote human contacts.

The conference was started by the Opening Ceremony, which was headed by Acad. S.N. Khadziev and Prof. I.I. Ivanova, co-Chairs of the Organizing Committee of the 17<sup>th</sup> IZC. Dr. G. Bellussi, the President of the International Zeolite Association (IZA), Dr. F. Fajula, the ex-President of IZA and Mr. V. Ashmarin, the spokesman of Moscow government, gave short speeches at the Opening Ceremony wishing the participants a fruitful conference.

## **SCIENTIFIC PROGRAMME**

The Scientific Programme included 5 plenary lectures, 14 keynote lectures, 11 industrial communications, 155 oral communications, 511 poster communications and 89 recent research reports. All contributions were sub-divided into 14 thematic sub-topics depicted in Fig. 3.

Plenary lectures were presented by well known experts in the field: Svetlana Mintova, (University of Caen, CNRS, France), Zhongmin Liu (Dalian Institute of Chemical Physics, China), Raul Lobo (University of Delaware, United States), Susumu Kitagawa (Kyoto University, Japan), and Avelino Corma (Instituto de Tecnología Química, Spain). They gave an overview covering all thematic pillars of the field and made an outstanding contribution to the quality of the conference.



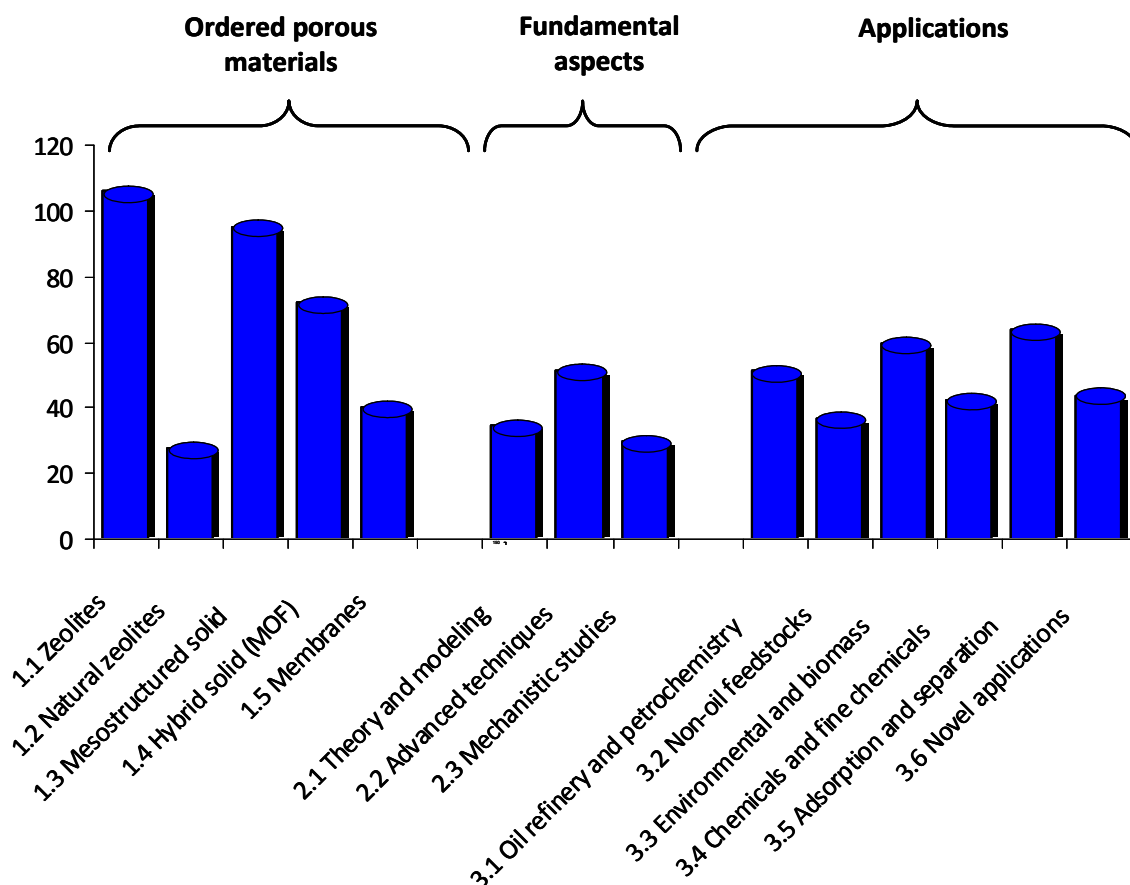


Figure 3. Distribution of communications between different sub-topics

**Prof. Svetlana Mintova** delivered a beautiful lecture on “**New directions in zeolite synthesis**”. The lecture of **Prof. Zhongmin Liu** “**Methanol-to-Olefin: from fundamental to commercialization**” was devoted to one of the most important reactions connecting coal or natural gas based products and petrochemicals. **Prof. Raul Lobo** focused in his lecture on a “**New insights into porous materials from advanced characterization**”. Prof. **Susumu Kitagawa** concentrated on “**Chemistry and application of porous coordination polymers (PCPs)/metal organic frameworks(MOFs)**”. Finally, at the end of the conference **Prof. Avelino Corma** summarized the recent developments in “**Designing zeolites for specific applications**”.

14 Keynotes lectures were delivered by eminent scientists. The list of keynote lectures is given below:

**1.1 Simple Synthesis of Zeolites: New directions without the use of OSDAs**  
**Tatsuya Okubo**, K. Itabashi (*University of Tokyo, Tokyo, Japan*)

**1.2 The IZA Handbook of Natural Zeolites: a tool of knowledge of the most important family of porous minerals**

**Carmine Colella**

*University of Federico II, Naples, Italy*

**1.3 Monoliths with hierarchical porosity to enhance efficiency and productivity of heterogeneous catalysts**

**Anne Galarneau**

*Institut Charles Gerhardt Montpellier, Montpellier, France*

**1.4 Beyond the pure inorganic framework of zeolites: the ENI Carbon Silicates**

**Roberto Millini**

*ENI, Refining and Marketing Division, Rome, Italy*

**1.5 Zeolite and MOF Molecular Sieve Membranes – Quo Vadis?**

**Jürgen Caro**

*University of Hannover, Hannover, Germany*

**2.1 Structure and properties of zeolite and metal organic framework nanosheets**

**Ben Slater**

*University College London, London, UK*

**2.2 Automated electron Diffraction Tomography (ADT) for solving structures of beam sensitive nanoporous materials**

**Ute Kolb, Enrico Mugnaioli**

*Institute of applied geosciences, Technical University Darmstadt, Darmstadt, Germany*

**2.3 Life and death of a fluid catalytic cracking particle**

**Bert M. Weckhuysen**

*Debye Institute for Nanomaterials Science, Utrecht University, Utrecht, The Netherlands*

**3.1 Recent Advances and Current Challenges in Fluid Catalytic Cracking: Flexible Pilot Plant Can Evaluate Unconventional Feedstocks and Processes**

**E. Thomas Habib, Jr., K. Bryden, G. Weatherbee**

*Grace Davison Refining Technologies, W. R. Grace & Co., Columbia, USA*

**3.2 Direct methane transformations into valuable products in zeolites. Is there any chance for the methane co-conversion with higher hydrocarbons?**

**Valentin N. Parmon, A.G. Stepanov,**

*Boriskov Institute of Catalysis of Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia*

**3.3 Depolymerization of wood components: role of zeolites**

**Dmitry Yu. Murzin**

*Åbo Akademi University, Turku (Åbo), Finland*

**3.4 Clean synthesis of oximes and amides over titanasilicate catalysts**

**Peng Wu**

*East China Normal University, Shanghai, China*

**3.5 Recent Advances in Adsorptive Separation Science & Technology**



**Joeri Denayer**, Gino Baron  
*Vrije University Brussel, Brussels, Belgium*

### **3.6 Nanoscale manipulation of zeolites and MOFs for novel bulk scale applications: from tunable photoluminescence to nuclear waste remediation**

**Tina M. Nenoff**

*Sandia National Laboratories, Albuquerque, USA*

The Conference Programme was the result of joint efforts of many people. The evaluation process was accomplished by the timely and efficient refereeing by more than 100 recognized researchers. The work was coordinated by 30 Topical Chairs, whose outstanding input is greatly acknowledged, since the high level of the Conference was hardly possible without their contribution. The names of Topical Chairs are given in Table below.

<b>Topic</b>	<b>Name</b>	<b>Country</b>
1.1.1 Synthesis of zeolites	J. Yu , G. Echevsky,	China, Russia
1.1.2 Zeolites modification	P. Wu, O. Kikhtyanin	China, Russia
1.2 Natural zeolites	C. Colella ,V. Il'in	Italy, Russia
1.3 Mesoporous materials and hierarchical porous structures	T. Bein, E. Knyazeva	Germany, Russia
1.4 Hybrid and composite materials	C. Serre, L. Kustov	France, Russia
1.5 Zeolite and MOF membranes and films	F. Kapteijn, D. Fedosov	The Netherlands, Russia
2.1 Theory and modeling	E. Pidko, G. Zhidomirov	The Netherlands, Russia
2.2 Advanced characterization techniques	Fr. Taulelle, V. Bukhtiyarov	France, Russia
2.3 Mechanistic studies; impact of in situ and operando techniques	F. Thibault-Starzyk, A. Stepanov	France, Russia
3.1 Oil refinery and petrochemistry	J. Santiesteban, M. Levinbuk	USA, Russia
3.2 Non-oil fossil feedstocks into end products	N. Nesterenko, N. Kolesnichenko	Belgium, Russia
3.3 Environmental catalysis and conversion of biomass	N. Kumar, A. Stakheev	Finland, Russia
3.4 Chemicals and fine chemicals	B. Sels, A. Maksimov	Belgium, Russia
3.5 Adsorption and separation	M. Thommes, A. Toktarev	USA, Russia
3.6 Novel applications (health, electronics, sensors)	K. B. Yoon, A. Smirnov	South Korea, Russia
Industrial Pannel	J.-P. Gilson, O. Kryukov	France, Russia

## **INDUSTRIAL PANEL**

The Industrial Panel has generated a lot of interest among the refining, petrochemical and chemical companies taking a lead in advanced zeolite-based technologies. 11 contributions from the leading companies in the field of zeolite science and technology were made. The participants represented such companies, as RUSNANO Corporation; JSC SIBUR Holding; SYN Energy Technology Co., Ltd; ExxonMobil Research and Engineering Co.; ENI s.p.a.; Total Research and Technology Feluy; SINOPEC; BASF Corporation; Clariant Produkte GmbH; KNT Group and UOP, a Honeywell Company.

The Industrial Session has been organized in a series of 15 min presentations on the main achievements, objectives and challenges in the field of zeolite science and technology followed by a 1 h round table discussion, open to the whole audience and addressing the main topics raised during the session. The Proceedings cover all aspects of the experience in different industries: R&D and commercialization, new catalysts technologies and catalytic processes.

## **SOCIAL EVENTS**

A Welcome Reception was held on Sunday evening, July 7, in the Exhibition Hall on the territory of Izmailovo Complex.

The traditional excursion took place on Wednesday afternoon, July 10. Participants had a bus tour around Moscow famous sights and places of interest. Informal open-air dinner followed the excursion. It was held in the Izmailovo Kremlin, where guests could taste traditional Russian dishes and enjoy taking part in different crafts, such as pottery, painting and blacksmithing. The Informal dinner had a great success and was prolonged till a midnight according the wishes of participants.

The Conference Banquet was held on Thursday night, July 11, in the Vega Restaurant at the Izmailovo Convention Center. During the banquet the Breck Award and the IZA Award were delivered.

A special event organized by Elsevier was held on Tuesday, July 9, after the mid-day's coffee break. The ceremony took place in the Exhibition Hall. Elsevier honored the retirement of Microporous and Mesoporous Materials editor-in-chief Prof. Michael Stöcker among all the guests and participants of the International Zeolite Conference. Prof. Wolfgang Schmidt was announced as the new editor-in-chief. The speeches were warmly welcomed by prolonged applause of the audience.



## **IZA BUSINESS**

The IZA Business Meeting was organized on Thursday July 11<sup>th</sup> in the Lecture Hall. The 2013 Donald W. Breck Award was assigned to Prof. Jürgen Caro (Leibnitz University, Hannover) and to Prof. Michael Tsapatsis (the University of Minnesota) for the assembly and processing of zeolite and MOF nanostructures enabling separation membranes. The 2013 IZA Award was assigned to Prof. Francois Fajula (the Institut Charles Gerhardt Montpellier, the Ecole Nationale Supérieure de Chimie, Montpellier) for achievements in the synthesis and modification of zeolites and porous materials and their application in catalysts in refining and petrochemical processes.

At the IZA Business Meeting, the IZA membership selected the venue for the 19<sup>th</sup> International Zeolite Conference in 2019: Perth (Australia). Seven new Council members have been elected to replace those whose term for staying on the board has expired in 2013: Hong Suk Bong, Valentin Valtchev, Raul Lobo, Russel Morris, Michael Tsapatsis, Bert Weckhuysen, Jihong Yu. The Executive Committee of the IZA Council was selected as follows:

President:	Giuseppe Bellussi	Italy
Vice-President:	Paul Wright	UK
Secretary:	Jihong Yu	China
Treasurer:	Raul Lobo	USA

The Conference was concluded on Friday, July 12<sup>th</sup> with closing remarks delivered by the co-Chairs of the Organizing Committee Prof. I. Ivanova and Acad. S. Khadzhiev and IZA President Dr. G. Bellussi.

## **PRECONFERENCE SCHOOL**

The Pre-Conference School on Zeolites, entitled “Zeolites and zeolite-like materials: Quo vadis?” was held at the Faculty of Chemistry, Lomonosov Moscow State University, 5-6 July 2013, under the chairmanship of Prof. Leonid M. Kustov.

Sixty participants came from 23 countries. Lectures were given by 13 scientists from both academy and industry and were focused on advanced porous materials, their synthesis,

characterization and applications, mostly in catalysis. To favour the exchange of ideas, the banquet was organized for all the participants on the last day of the School.

Several grants were provided by International Zeolite Association (IZA) and also Russian, French and Italian National Zeolite Associations and were assigned to the young researchers to encourage their participation.

## **POSTCONFERENCE FIELD-TRIP**

A group of the most active and curious participants of the Conference took part in the fascinating trip to deposits of Karelia. The group consisted of representatives of major educational centers, research and business companies:

- from Taiwan: National University of Taiwan, Sinica Academy;
- from the UK: Universities of St. Andrews, Oxford and Edinburgh;
- from Germany: Universities of Freiburg and Kiel;
- from Sweden: Technical University of Gøteborg;
- from the USA: Exxon Mobil Corporation;
- from Russia: Lomonosov Moscow State University, Boreskov Institute of Catalysis SB RAS (Novosibirsk), Institute of Petrochemistry and Catalysis RAS (Ufa).

During the Field-trip participants visited the Zaonezhskij peninsula, where the Zazhoginskoye deposit of a unique mineral – shungite is located, the unique Shokshinskoye deposit of crimson quartzite and the Kizhi State Open-Air Museum – a pearl of Northwest Russia. The Field trip had a great success and made a lasting impression on the participants.

The next IZC will be held in 2016 in Rio de Janeiro, Brazil.

*Irina Ivanova, Liudmila Rodionova*  
August 2014