REHVA Bederation of European Heating, Ventilation and Air Conditioning Associations





REHVA Annual Meeting & Conference 2015 with special student sessions on "Advanced HVAC and Natural Gas Technologies"

> 06–09 May, 2015 Riga, Latvia Radisson Blu Hotel Latvija Conference centre

FINAL ANNOUNCEMENT — CALL FOR REGISTRATION TILL 19 APRIL 2015 FOR EARLY REGISTRATION



Professor Egils Dzelzitis President of Organising Committee in Riga, Fellow REHVA, Fellow ASHRAE and REHVA Vice-President Dear Colleagues,

It is my great pleasure to invite you to the REHVA Annual Meeting and the 9th Conference on Advanced HVAC and Natural Gas Technologies which takes place this spring in one of the Baltic States – Riga, Latvia on 6-9 May 2015.

This year, Latvia, for the first time, is assuming the Presidency of the Council of the European Union and I am very honoured to meet the leading international scientific and engineering colleagues and friends in the field of Heating, Ventilation and Air Conditioning (HVAC) during this historical moment. "We welcome you to Riga - the place where meetings, knowledge sharing and experience inspires for new cooperation and further industry development."

Be present and enjoy a wonderful springtime in Latvia! Be witness how rich and colourful the history of the country meets new and modern 21st century technologies. We are proud of the fastest broadband internet in the European Union and admirable Art Nouveau architecture in Riga.

On behalf of the organising Committee, I warmly invite you to register for the events and looking forward to meeting you in Riga.

CONNECT WITH YOUR COLLEAGUES AND FRIENDS IN RIGA FOR:

- Two conference days
- Professional networking
- Workshop sessions

- REHVA professional award ceremony
- Technical & social events
- REHVA student competition

REHVA ANNUAL MEETING 2015

WEDNESDAY, 6 MAY Working sessions in committees

09:00–18:00

Analyses by REHVA Committees on the impact to related EU policies and its national level implementation in REHVA countries. Our members will work on planning REHVA's further activities.

09:00–10:15	Publishing and Marketing Committee Meeting	Membership Committee Meeting
10:15–10:30	Coffee break	
10:30–12:00	REHVA Journal Editorial Board Meeting	Education Committee Meeting
12:00–13:00	Lunch	
13:00–15:00	Supporters Committee Meeting	External Relations Committee Meeting
15:00–15:30	Coffee break	
15:30–17:00	Technology and	—
17:00–18:00	Research Committee Meeting	Awards Committee Meeting
19:30	REHVA Welcome Cocktail	

THURSDAY, 7 MAY

Official day of General Assembly and satellite meetings 09:00–18:00

Current REHVA issues, creating continuity for dissemination of the best practices, European knowledge and latest technologies will be discussed during this day.

09:00–12:00	REHVA Board Meeting	COP Meeting	SCANVAC/ BALTVAC Meeting
12:00–13:00	Lunch		
13:00–15:30	General Assembly		
15:30–16:00	Coffee break		
16:00–18:00	General Assembly		
20:00	REHVA Gala Dinner and professional awards		

REHVA GALA DINNER AND PROFESSIONAL AWARD CEREMONY*

THURSDAY, 7 MAY

We welcome you to a special event where we celebrate success and the fruits of professional work. Congratulations to all the nominees of 2015. Let's celebrate!



Venue: Culture Palace "Ziemeļblāzma" ("Northern light") - architectural landmark situated in a five-hectare large park in the northern suburb of Riga city centre. It was built in 1913 by lumber magnate and patron of the arts Augusts Dombrovskis for local residents to enjoy a full social and cultural life.

Now the 100-year-old edifice has been entirely restored, bringing back its historic worth and architectural beauty.

* By invitation only

WORKSHOP SESSIONS WITH LEADING EXPERTS FROM LATVIA AND GERMANY**

THURSDAY, 7 MAY

Innovative systems and products for smart buildings 13:00–18:00



13:00–15:30 — Sustainable indirect evaporative cooling systems 16:00–18:00 — Building automation developments and trends

Workshop speakers and programme available here

Registration

till April 20

** Separate registration needed

REHVA CONFERENCE AND STUDENT COMPETITION 2015

FRIDAY, 8 MAY

Student competition 08:00–10:00

Conference ADVANCED HVAC & NATURAL GAS TECHNOLOGIES 10:00–17:00



This conference is a unique platform for researchers and engineers. Gathering 50 speakers from 15 countries, it becomes the major event of the year. Meet the leading experts from the international heating, ventilation and air conditioning community. This conference will serve as start base for practical implementation of innovative ideas and future practical application of modern technologies.

KEYNOTE SPEAKERS



Laurent Deleersnyder, European Commission – DG Energy



Bjarne W. Olesen, DTU, Chair CEN TC 156 WG19

Update on EU building regulations: EPBD revision and CEN standards

Mr Deleersnyder is a policy officer at DG ENERGY of the European Commission and he has more than 15 year experience on working with building related policies.

In his presentation, he will give an update on EU building related policies and regulation. EPBD directive review process has started this year and will be supported by some studies to be launched in the coming months.

The commission is following EPBD implementation which includes intermediate nZEB targets for new buildings and assessment of compliance of national EPB calculation methods as well as the preparation of European Voluntary Certification scheme for non-residential buildings.

Residential ventilation in the revised EN 15251 (prEN16789-1 and DTR16789-2)

Mr Olesen is professor at DTU, International Centre for Indoor Environment and Energy, Denmark. He has extensively solid background in the indoor climate research and standardization with many outstanding merits and being a most known leading expert in this field.

In his presentation, Prof. Olesen will discuss how residential ventilation is dealt in the most important European indoor climate standard, the revised EN 15251. It is widely known that energy efficient buildings need adequate ventilation systems, but in many countries binding ventilation requirements still do not exist.

EN 15251 will specify ventilation airflow rates and other requirements that can be implemented in national building codes.



Jarek Kurnitski, REHVA Vice-President, TTU

Progress with national nZEB applications in the EU

Mr Kurnitski is professor at two universities, at TUT Estonia and Aalto, Finland being the leader of Nearly Zero Energy Buildings nZEB research group. He is one of leading European experts in energy performance of buildings, being known from development of REHVA nZEB technical definition and Estonian and Finnish energy frames based on dynamic energy simulation.

In his presentation, Prof. Kurnitski is reporting about the results of REHVA nZEB Task Force which is following the technical progress of nZEB buildings and situation with national nZEB definitions. Numeric values of nZEB definitions, inclusion of renewable energy contribution and indicators allowing describing the grid load will be discussed.

William P. Bahnfleth, ASHRAE, The Pennsylvania State University

Updates to ASHRAE ventilation standards

Mr. Bill Bahnfleth is a professor and director of the Indoor Environment Center at The Pennsylvania State University. He was also the President of ASHRAE (2013-2014).

As an ASHRAE president, he initiated a program leading to the formation of the Indoor Environmental Quality Global Alliance to unite key IEQ-focused organizations including REHVA to support the development of better standards and practices for IAQ worldwide. He has chaired ASHRAE's Technology Council, Members Council, Technical Activities Committee and Technical Committee 6.9 Thermal Storage, among others.

In his presentation, he will discuss an updates to ASHRAE ventilation standards being under development similarly to European standards.

ON SPOTLIGHT

Energy efficient Cooling systems

- Indirect and direct adiabatic cooling
- Innovations in field of direct expansion systems
- Hydronic cooling systems
- Environmentally friendly Refrigerants
- Natural resources for cooling of the buildings
- Absorption cooling systems

Advanced Heating and Ventilation systems

- Heat recovery
- Natural ventilation
- Heating systems operation and maintenance specifics
- Centralized heating systems
- Indoor air quality and thermal comfort

Sustainable buildings

- Integration of renewables
- Rain water and Potable Water reuse
- Green buildings
- Retrofitting of existing building stock
- Sustainable building materials

Efficient and clean Natural Gas technologies

- Efficient and clean natural gas technologies for energy generation transportation and distribution
- Increasing the energy efficiency of natural gas applications in environmental protection
- Urban innovations on the base of natural gas
- Natural Gas advanced technologies
- Role of the Natural Gas transmission and distribution operators in the liberalized energy market

CONFERENCE PROGRAMME, 8 MAY

8:00–10:00	REHVA student competition	13:00–13:20
10:00–10:20	Coffee Break	
SESSION 1: EU POLICY	AND REGULATION	13:20–13:40
10:20–10:30	Opening words by N.N. Latvia, REHVA President Karel Kabele and AHGWTEL	13:40–14:00
10:30–11:00	Update on EU building regulations: EPBD revision and CEN standards Laurent Deleersnyder, European Commission - DG Energy	14:00–14:15
11:00–11:20	EPBD legislation in practice – challenges regarding compliance and quality of the works Peter Wouters, INIVE EEIG	
11:20–11:40	Eurovent certification programmes for HVAC products with verified performance Sylvain Courtey, Eurovent Certita Certification	14:15–14:30
11:40-12:00	Synergies in energy efficiency criteria and indoor environment quality in building certification systems Maija Krizmane, Latvian Sustainable Building Council	14:30–14:45
12:00–13:00	Lunch Break	14:45–15:00

SESSION 2: NZEB APPLICATIONS

40

00

15

30

00

SESSION 3: EPBD RELATED STANDARDS

Progress with national nZEB applications in the EU Jarek Kurnitski, REHVA Vice-President, TTU	15:00-15:20	Revision of EPBD overarching standard – time schedule and national options	
Danish nZEB application and energy calculation methodology		Jaap Hogeling, REHVA, Chair CENTC 371 Program Committee on EPBD	
Søren Aggerholm, Danish Building Research Institut		Updates to ASHRAE ventilation standards William P. Bahnfleth, ASHRAE, The Pennsylvania State University	
US energy policy developments towards nZEB	15:20-15:40		
SA Sherif, University of Florida Ventilation in prefabricated multifunctional building elements for modular NZE retrofitting of	15:40-16:00	Dynamic simulation as a tool for compliance approval with energy performance regulation <i>Mika Vuolle, IBPSA-Nordic</i>	
residential buildings (MORE- CONNECT) Peter Op't Veld, Huygen Engineers & Consultants, The Netherlands	16:00-16:20	New performance requirements for filtration and air cleaning in EN 13779/prEN 16798-3 and EN779:2012	
Training and Qualification Platform for Continuing Professional		Claus Händel, European Ventilation Industry Association EVIA	
Development on nZEB (PROF- TRAC) Anita Derjanecz, Policy and Project Officer, REHVA	16:20-16:40	Residential ventilation in the revised EN 15251 (prEN16789-1 and DTR16789-2) Bjarne W. Olesen, DTU, Chair CEN TC 156	
nZEB refurbishment of Italian hotel		Large differences in real-life IAO	
Stefano Corgnati, REHVA Vice-President, POLITO	16:40-17:00	and Energy performance of code compliant residential ventilation systems – experience from Dutch dwellings Rob van Holsteijn, VHK, The Netherlands	
Coffee Break			

CONFERENCE PROGRAMME DRAFT, 9 MAY

	OPENING SESSION AND KEYNOTE SPEAKERS
8:30–10:30	AWARDING CEREMONY OF THE STUDENT COMPETITION US ENERGY POLICY DEVELOPMENTS TOWARDS NZEB SA Sherif, University of Florida NZEB NEW TREND OR KNOWLEDGE FROM THE PAST Hendrik Voll, Tallinn University of Technology, Estonia RENEWABLE ENERGY DEVELOPMENT AND FUTURE ROLE IN ENERGY SUPPLY Peteris Shipvoks, Riga Technical University
10:30–11:00	Coffee Break

Room 1	Room 2	Main hall	
11:00–12:30			
Session 4: Energy Efficient Buildings Chair: Anatolijs Borodinecs, Latvia	Session 5: Heat Pumps and refrigeration Chair: Agnese Lickrastina, Latvia	Poster Session	
Towards nearly-zero energy buildings: HVAC system's performances in the expected operative scenarios of Turin Energy Centre Antonio Mangogna, Daniela Valagussa, Temitope Akintola, Matteo Arietti, Salvatore Cicero, Federica Mordillo, Anna Pagani, Rachele Sipione, Stefano P. Corgnati	GreenHP: Next Generation Heat Pump for Retrofitting Buildings – new evaporator component for large capacity air-to-water heat pumps Christoph Reichl, Thore Oltersdorf, Simon Braungardt, Marco Pröhl, Peter Benovsky, Mirza Popovac, Thomas Fleckl	Optimization of Solar Cooling System in Latvia Peteris Shipkovs, Janis Shipkovs, Andrejs Snegirjovs, Galina Kashkarova1, Kristina Lebedeva, Lana Migla, Vidas Lekavichius	
Performance of Heat Recovery Ventilation System with Ground Source Brine Heat Exchanger Pre- Heating System in the Context of nZEB Kalle Kuusk, Jaanus Hallik, Targo Kalamees, Tõnu Mauring	Improving Energy Efficiency of a Refrigeration System with a Rankine Cycle and an Expander Alison Subiantoro	Hydrological Performance of Green Roofs Zuzana Poórová, Zuzana Vranayová	
Evaluation of indoor environment in apartment buildings before and after their refurbishment Dušan Petráš, Veronika Földváry, Hana Pustayová Bukovianská	Development of a Hardware-in-the-Loop test method for heat pumps and chillers Stutterecker Werner, Schoberer Thomas, Steindl Gernot	The urban developments of Tirana after 90 years and its environmental problems	

CONFERENCE PROGRAMME DRAFT, 9 MAY

Room 1	Room 2	Main hall
Comparison of simplified and detailed window models in energy simulations Martin Thalfeldt M.Sc., Jarek Kurnitski D.Sc., Hendrik Voll Ph.D	COP Evaluation for a Membrane Liquid Desiccant Air Conditioning System Using Four Different Heating Equipment Ahmed H. Abdel-Salam, Carey J. Simonson	The Impact of Authorized Representatives on Energy Efficiency in Multifamily Apartment Houses and Prolongation of the Lifetime of the Buildings Aleksandra Cimbale
Simulation study of solar thermal and photovoltaic collector options for solar-assisted heating of a residential building in Germany Amar Abdul-Zahra , Tillman Faßnacht, Christian Glück and Andreas Wagner		Evaluation of the impact of the additional mass of an innovative AC system on the overall energy consumption of a battery electric vehicle in tropical climate Srikkanth Ramachandrana, Alison Subiantoro, Ooi Kim Tiow, Masanari Ukai
12.30 - 13	Analysis of thermal comfort conditions and actual energy efficiency for different heating systems in test buildings Stanislavs Gendelis, Andris Jakovičs, Toms Dzenis, Liene Bandeniece	
13.30	The Technical-economic Analysis of Hot Water Supply Systems for Residential Buildings Karina Tumanova, Aleksandra Cimbale	
Session 6 : indoor climate Chair: Galina Stankevica, Latvia	Session 7: heat, gas supply and air-conditioning Chair: Artus Lesinskis, Latvia	Structurally-oriented design of the heat insulation plastering material Vladimir Kersh, Prof., PhD, Andrey Kolesnikov, Maria Pidkapka
Impact of Indoor Climate on energy efficiency and productivity in office buildings Galina Stankevica, Andris Kreslins	The evaluation of exhaust gas condensing economizer installation at Riga CHP plants Maris Kunickis, Maris Balodis, Olegs Linkevics, Polina Ivanova	Energy efficiency of short-term room natural ventilation Andrii Zakovorotnyi, Olga Tadlia, Pavel Krukovsky
Indoor air quality and thermal comfort assessment of two Portuguese secondary schools: main results Luísa Dias Pereira, Luis Neto, Manuel Gameiro da Silva	Heat Consumption Assessment of the Domestic Hot Water Systems in the Apartment Buildings Dzintars Grasmanis, Normunds Talcis, Aldis Grekis	Modeling of indirect evaporative air cooler for thermal performance study Guntars Fridenbergs, Arturs Lešinskis

CONFERENCE PROGRAMME DRAFT, 9 MAY

Room 1	Room 2	Main hall
Relationship between Thermal Environmental Acceptability and Individual Characteristics in an Office Shiori Saito, Masanari Ukai, Yuta Ichikawa, Tatsuo Nobe, Shigeki Kametani	Low-temperature heating systems control in low- energy buildings Vojtech Mazanec, Karele Kabele	Case Study of Indoor Air Quality and Energy Efficiency in Passive House in Latvia Gatis Plavenieks, Arturs Lesinskis, Ilze Dimdina
Compliance with Summer Thermal Comfort requirements in Apartment Building Raimo Simson, Jarek Kurnitski, Mikk Maivel, Targo Kalamees	Large-scale heat pumps review and their introduction to natural gas markets potential Vasili Sakavets, Hans Havtun	
Usage Survey of Personal Underfloor Air Outlet System and Thermal Environment Acceptability Masanari Ukai, Kogakuin University, Yoshito Arai, Shimizu Corporation, Mitsuhiro Takahashi	Predesign stage on reconstruction of system of heat supply of the campus of SPbSTU Anna Nefedova, Julia Bykova, Sergei Kosov, Nikolai Vatin	
Development of Air Supply Nozzle for Stadium Chair Tatsuya Yada, Tatsuo Nobe	Indirect Evaporative Cooling in Air Condition Systems Arturs Brahmanis, Arturs Lesinskis	
	Session 8 Building materials Chair: TBC	
	Influence of silica fume on durability of cement-based materials exposed to chlorides Martina Kovalcikova, Adriana Estokova	
	Effect of Physical Treatment on the Properties of Composites Based on Natural Fibres Ivana Schwarzova, Nadezda Stevulova, Eva Terpakova, Jozef Junak	
	Cellulose fibres used in building materials Nadezda Stevulova, Viola Hospodarova	
	Air Heating Solar Collector for Hemp Drying Ilze Pelēce, Ādolfs Ruciņš, Oskars Valainis	

CLOSING SESSION OF THE CONFERENCE

TECHNICAL & SOCIAL EVENTS

FRIDAY, 8 MAY

Tour to the Incuklans Under Gas Storage Facility 08:00–12:00

You are also invited to join technical & social tours outside the city.



Inčukalns Underground Gas Storage is the only functioning gas storage facility in the Baltic States. The highest capacity of this Underground Gas Storage Facility is 4.47 billion m³.

Excursion by bus and tour guide: 20 EUR

Please mark this tour within registration on www.hvacriga2015.eu

TECHNICAL & SOCIAL EVENTS

FRIDAY, 8 MAY

Tour to Combined Cycle Gas Turbine Power Plant 08:00–12:00

Riga TEC-2 is the largest Latvian combined heat and power plant. It began operation in 1973. The reconstruction of Riga TEC-2 was initiated in 2006. the first power unit was commissioned in late 2008 and the second power unit was commissioned in late 2013, thus finalising the reconstruction of combined heat and power plants of the Group. Along with the commissioning of the Riga TEC-2 second power unit, the exploitation of inefficient and environmentally unfriendly power units, commissioned during 1972–1979, has been suspended. Currently Riga TEC-2 has become the most efficient and up-todate combined cycle power plant in the Baltics.

Two combined-cycle gas turbine (CCGT) units and five water boilers are currently exploited at Riga TEC-2. Upon the commissioning of the second power unit, the electrical capacity of Riga TEC-2 in cogeneration mode reaches 832 MWel. while the total thermal energy capacity of the two power units reaches 544 MWth in cogeneration mode. The full thermal energy capacity of Riga TEC-2, including the boilers, is 1,124 MWth.

In 2013, the Riga TEC-2 generated 1550 GWh of electricity and 1533 GWh of thermal energy.

Excursion by bus and tour guide: 20 EUR Please mark this tour within registration on www.hvacriga2015.eu

MEETING AND CONFERENCE VENUE

LOCATED IN THE HEART OF RIGA CITY CENTRE Radisson Blu Hotel Latvija Conference centre Elizabetes street 55, Riga

Located in the heart of the city's business and shopping centre, the hotel and conference centre at only 400 metres from the beautiful Old Town. The hotel is only 15 km from Riga International Airport. The Riga Train Station is 2 km from the hotel.



REGISTRATION

REHVA Annual Meeting 6–7 May

We welcome you to register till 19 April for early registration

Registration

REHVA Conference on "Advanced HVAC & Natural Gas Technologies" 8–9 May

We welcome you to register till 19 April for early registration

Registration

USEFUL AND PRACTICAL INFORMATION ABOUT RIGA

TIME IN RIGA

ELECTRICITY

220 volts AC, 50 Hz; Europeanstyle 2-pin plugs are in use

Riga is three hours ahead of GMT during the summer season. Daylight savings time is set on the same dates as in Western Europe. Riga is located in the same time zone as Helsinki, Tallinn and Vilnius.

CURRENCY AND CURRENCY EXCHANGE

The Latvian currency is the euro (EUR), which is divided into 100 euro cents.

THE BEST INTERNET

Hotel and conference venue have internet access. Internet cafes can easily be found throughout Riga – both in the city centre, and in other parts of the city. Laptop computers can also be connected to the Internet in many cafes and restaurants. Internet access is often free of charge.





BOOK A TICKET TO RIGA



PARTNERS & SUPPORTERS

All of this could not have been possible without the cooperation and support of our valued partners. Organisers of REHVA Annual Meeting and Conference on "Advanced HVAC & Natural Gas Technologies 2015" want to express our gratitude on support and cooperation in this regard.



















SECRETARIAT

Secretariat of REHVA Annual Meeting and Conference 2015

Baltic Travel Group Tel: +371 67228428 Fax: +371 67228337 E-mail: hvacriga2015@btgroup.lv