

CURRICULUM VITAE

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PERSONAL INFORMATION

Name: Vojislav Novakovic
Year of birth: 1953
Nationality: Norwegian
Position: Professor

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EDUCATION

November 1978 – January 1982
Ph.D. (Dr.ing.), Department of Mechanical Engineering, Norwegian Institute of
Technology, Trondheim, Norway. Thesis: "Digital Control of Heating Coils"
September 1971 – June 1977
M.Sc. (Dipl.ing.), Faculty of Mechanical Engineering, University of Belgrade,
Yugoslavia (Serbia).

PROFESSIONAL EXPERIENCE

May 1994 - Present
Professor, Norwegian University of Science and Technology (NTNU), Department of
Energy and Process Engineering.

September 1988 – April 1994
Lecturer, Adjunct Professor, Division of Heating and Ventilating, Norwegian Institute
of Technology.

May 1994 – August 2014
Scientific adviser, SINTEF Energy Research, Energy Processes (SINTEF - The
Foundation for Scientific and Industrial Research at the Norwegian University of
Science and Technology).

August 1983 – April 1994
Researcher, Research Manager, Senior Researcher, SINTEF Applied
Thermodynamics, HVAC section.

September 1985- December 1989
Lecturer, Norwegian Correspondence Engineering School.

June 1982 – July 1983

Consulting engineer, Consulting Group at "Zavarivac", (engineering workshop),
Belgrade, Yugoslavia (Serbia).

November 1978 – January 1982

Ph.D. student, Division of Heating and Ventilating, Norwegian Institute of
Technology.

July 1977 – September 1977

Scientific assistant, Division of Thermodynamics, Faculty of agriculture, University of
Belgrade, Yugoslavia (Serbia).

MAIN FIELDS OF COMPETENCE

- Energy efficiency and energy conservation in buildings
- Zero energy and emission buildings
- Life-time commissioning of buildings and building services systems
- Mathematical modeling and simulation of dynamics in HVAC control loops
- Traditional and digital control of HVAC-systems
- Building energy management systems
- Indoor environment and indoor air quality
- Numerical calculations of air and pressure distribution and gas-spreading through ducts
- Airflow patterns in ventilated rooms
- Design of ventilating, heating and cooling plants for industrial purposes
- Project management

TEACHING/EDUCATION EXPERIENCE

M.Sc. courses

1992-present	Energy management in buildings
1996-present	Building environmental design and engineering
2001-present	Building automation

Ph.D. courses

1997-present	Simulation and optimization of thermal systems
2009-present	Modeling energy and indoor environmental systems
2010-present	Zero emission buildings

Supervision of Ph.D.-candidates

1996-2000	Optimization of pathways for building installations through buildings
1996-2001	Energy efficient ventilation plants
2002- terminated	Continuous supervision of energy and indoor environment in buildings
2005-2008	Real-time supervision of building HVAC system performance
2006-2009	Using building energy monitoring to verify building energy performance
2010-2014	Influence of occupant's behavior on the performance of Net-Zero Emission Buildings
2011-present	Highly efficient building services for Zero Emission Buildings

PROFESSIONAL ASSIGNMENTS

Present

- The collaborative project inside HERD Energy: “Quality Improvement of Master programs in Sustainable Energy and Environment” – Project leader and Scientific responsible (2014-present)
- Centre for Environment-friendly Energy Research: Zero Emission Buildings (ZEB) - Scientific adviser (2014-present)
- Visiting professor, University of Belgrade, Republic of Serbia (2013-present)
- Chief editor for the textbook: “Buildings and energy – Norwegian approach” (2013-present)
- International Building Performance Simulation Association (IBPSA) – Nordic Chapter – Board member (2011-present)
- REHVA Educational committee – Norwegian representative (2003-present)

Previous (selection)

- The collaborative project “MSc Study Program: Sustainable Energy and Environment in Western Balkans” inside HERD Energy – Project leader and Scientific responsible (2010-2014)
- Centre for Environment-friendly Energy Research: Zero Emission Buildings (ZEB) - Member of the Lead team and Work package leader (2009-2013)
- ISO/TC 163/SC 2 'Thermal performance and energy use in the built environment - Calculation methods' - Chairman of the Sub-Committee TC 163/SC 2 (2004-2013).
- Norwegian Program for Life-Time Commissioning – Project leader and Scientific responsible (2005-2012)
- IEA - Programme for Energy Efficiency in Communities and Buildings, Annex 53: Total Energy Use in Buildings: Analysis & Evaluation Methods – Leader of the Norwegian national team (2009-2012)
- International conference Roomvent 2011 – President of the Organizing Committee
- CERBOF - the Centre for energy and resource efficiency in construction and facilities management - Research and innovation programme initiated by the Swedish Energy Agency – Member of the project evaluation panel (2008-2009).
- International Conference Cold Climate HVAC 2003 – Trondheim, Norway - President of the organizing committee (2003)
- Opponent at doctorate defenses at LTH, Lund, Sweden (1990), DTH, Denmark (1993), KTH, Stockholm, Sweden (1996, 2000), Chalmers, Gothenburg, Sweden (2005, 2008), Hong Kong Polytechnic University, Hong Kong (2009, 2011) and NTNU (2001, 2002, 2005, 2007, 2008, 2012, 2014)
- Member of committees appointed to evaluate applicants to professorships and PhD scholarships in Norway, Sweden and China (Hong Kong).
- Member of committees appointed to evaluate applications for grants for research projects in Norway, China (Hong Kong) and Canada.

AVARDS

- Selected by the Recruitment Program of High-end Foreign Experts of the State Administration of Foreign Experts Affairs, PR China (2015)
- Visiting professor, University of Belgrade, Republic of Serbia (2013)

- REHVA Professional Award for outstanding achievements in science and the improvements of energy efficiency and the indoor environment of buildings (2011)
- The Norwegian Society of HVAC Engineers – NORVAC – Honorary Member (2010)
- American Society of Heating, Refrigerating and Air-Conditioning Engineers - ASHRAE Fellow (2005)
- KGH Plaque of Appreciation for contribution to development of the HVAC science and practice, KGH - Serbian Journal for Heating, Refrigeration and Air-Conditioning (2005).
- Faculty of Mechanical Engineering, University of Belgrade, The 135 anniversary of the Faculty: Plaque of Appreciation for contribution to development of the Faculty (2003).
- Scandinavian Federation of HVAC Associations: Certificate of Appreciation for leadership in organizing Cold Climate HVAC 2003.

INTERNATIONAL PUBLICATIONS:

Peer-reviewed journals (last three years)

Dar, U. I., Sartori, I., Georges, L., Novakovic, V.: Advanced control of heat pumps for improved flexibility of Net-ZEB towards the grid. *Energy and Buildings* 2014, Volum 69., Pages 74-84

Georges, L., Skreiberg, Ø., Novakovic, V.: On the proper integration of wood stoves in passive houses under cold climates. *Energy and Buildings* 2014; Volume 72., Pages 87-95

Georges, L., Skreiberg, Ø., Novakovic, V.: On the proper integration of wood stoves in passive houses: Investigation using detailed dynamic simulations, *Energy and Buildings* 2013, Volume 59., Pages 203-213

Djuric, N., Novakovic, V., Frydenlund, F.: Improved measurements for better decision on heat recovery solutions with heat pumps, *International journal of refrigeration*. 2012; Volume 35 (6)., Pages 1558-1569.

Djuric, N., Novakovic, V., Huang, G.: Lifetime commissioning as a tool to achieve energy-efficient solutions. *International Journal of Energy Research* 2012, Volum 36 (9) , pp. 987-999

International conference proceedings (last three years)

Tønnesen, J., Novakovic, V.: Towards LCA of building automation and control systems in Zero Emission Buildings – measurements of auxiliary energy to operate a KNX bus-system, 12th International Conference on Clean Technology for Smart Cities and Buildings (CISBAT13), Lausanne, Switzerland, 4-6 September 2013.

Dar, U. I., Sartori, I., Georges, L., Novakovic, V.: Improving interaction between Net-ZEB and the grid using control of heat pumps, 13th International Conference of the International Building Performance Simulation Association (BSIM13), Chambéry, France, 25-28 August 2013.

Novakovic, V.: Norwegian Cooperation with Universities in the Western Balkans on Education in the Field of Sustainable Energy and Environment, IV Regional Conference: Industrial Energy and Environmental Protection in Southeast Europe (IEEP 2013), Divcibare, Serbia, 26-29 June, 2013

Georges, L., Skreiberg, Ø., Novakovic, V., On the Integration of Wood Stoves in Norwegian Passive Houses: Investigations using Dynamic Simulations, 11th REHVA World Congress CLIMA 2013, Prague, Czech Republic, 16-19 June, 2013.

Justo Alonso, M., Mathisen, H. M., Novakovic, V., Simonson, C. J., Heat and Mass Transfer

in Quasi-Counter Flow Membrane-Based Total Heat Exchanger, Membrane Study, 7th International Cold Climate HVAC Conference, 12-14 November, 2012, Calgary, Canada.

Dar, U. I., Georges, L., Sartori, I., Novakovic, V.: Performance evaluation of a combined solar-thermal and heat pump technology in a Net-ZEB under stochastic user-loads, 5th Nordic Passive House Conference, Trondheim, Norway, 21-23 October 2012.

Georges, L., Novakovic, V.: On the integration of wood stoves for the space-heating of passive houses: assessment using dynamic simulation, 1st IBPSA-England Conference: Building Simulation and Optimization (BSO12), Loughborough, UK, 10-11 September 2012.

Justo Alonso, M., Mathisen, H. M., Novakovic, V., Simonson, C. J., Georges, L., Review of air-to-air heat/energy exchanger for use in NZEBs in the Nordic countries, 2nd International Conference on Building Energy and Environment (COBEE2012), 1-4 August, 2012, Boulder, USA.

Dar, U. I., Georges, L., Sartori, I., Novakovic, V.: Influence of stochastic loads on the performance of energy systems in Net-ZEB, Renewable Energy Research Conference 2012, Trondheim, Norway 16-18 April 2012.

Georges, L., Novakovic, V.: On the proper integration of wood stoves in passive houses: investigations using dynamic simulations, Renewable Energy Research Conference 2012, Trondheim, Norway 16-18 April 2012.

Djuric, N., Novakovic, V., Frydenlund, F.: Performance estimation and documentation of an integrated energy supply solution, Renewable Energy Research Conference 2012, Trondheim, Norway 16-18 April 2012.

Other professional publications and presentations (last three years)

Novakovic, V.: Using Commissioning of Building Services as a Tool to Pinpoint Research Topics Significant for Improving Energy Efficiency, Peder Sather Workshop of Building Efficiency, University of California, Berkeley, USA, 15 September 2014

Novakovic, V.: The Norwegian Research Centre on Zero Emission Buildings – ZEB, Environmental Energy Technologies Division Seminar at LBNL, Berkeley, USA, 11 September, 2014

Novakovic, V.: Zero Energy or Zero Emission Buildings (ZEBs) - What is the difference and how far are we to achieve them?, Visiting Lecture, Faculty of Mechanical Engineering, University of Belgrade, Serbia, 23 September 2013.

Novakovic, V.: Research programmes on Zero Energy and Emission Buildings in Norway and North Europe, The Research Institute for Sustainable Urban Development - RIUSD, International Workshop on Building Energy Efficiency, Hong Kong, China, 15. June 2013.

Novakovic, V.: KIFEE collaboration in Education on Environment and Energy, 5th International Symposium on Environment, Energy, and Materials, Kyoto International Forum for Environment and Energy (KIFEE), Trondheim, Norway, 9-12 September 2012.

Djuric, N., Novakovic, V., Frydenlund, F.: Electricity use in two low energy office buildings in Norway. REHVA European HVAC Journal 2012, Volum 49.(1) Pages 30-34.

Shanghai, March, 2015