

CURRICULUM VITAE



Anatolijs Borodinecs

Place of birth: 1980. 26. July, Riga, Latvia
Home address and phone number: Jūrmalas gatve 100 k2. dz.126, Riga, Latvia, LV - 1029
Tel: +371 26079655 ; Fax: +371 67615191
E-mail address: anatolijs.borodinecs@rtu.lv

EDUCATION AND ACADEMIC DEGREE:

2005 – 2007 - Riga Technical University, Faculty of Building and Civil Engineering - Heat, Gas and Water Technology institute – Doctor of Technical Science.
2004 – 2005. Riga Technical University, Faculty of Building and Civil Engineering - Heat, Gas and Water Technology institute – Master of Science in Heat, Gas and Water systems.
2001 – 2004 Riga Technical University, Faculty of Building and Civil Engineering - Heat, Gas and Water Technology institute – engineer in Heat, Gas and Water systems.
1995 - 2000 Riga Building College – supervising engineer for heat, gas and water technology.
1987 – 1995 Riga secondary school Nr88.

EXPERIENCE:

October 2015 – March 2016 **Peter the Great St.Petersburg Polytechnic University**, Civil Engineering Institute - visiting professor;
June 2015 – August 2015 Proposals review for **Euro-Mediterranean Cooperation Through ERANET Joint Activities and Beyond and COST** (european cooperation in science and technology) - Independent External Expert for proposal review;
October 27, 2014 – November 8, 2014 **Karaganda State Technical University, Architecture and Construction faculty, department “Building and housing municipal services”** – invited lecturer;
Since 2013 January **Riga International School of Economics and Business Administration, Faculty of Architecture and Design**, Lecturer - “Building science and application I (building physics) and III (Introduction to gas and water supply)” (*English language*);
June 2013, February 2015 and October 2015 **EU Commission EU Seventh Framework Programme (FP7)** , external expert, project progress reviewer;
April 2012 – April 2013 **LTD Breaking Research**, project technical assistance for FP7 projects;
December 2012 – March 2013 **Tallinn University of Technology**, evaluation of doctoral theses and visiting lecture “*Solar energy systems*”;

January 2012	EU Seventh Framework Programme (FP7) expert, evaluation of project proposals;
Since 2012	Riga Technical University , professor at Faculty of Civil Engineering. Responsible instructor for courses “ Building Physics ” and “ Modern zero energy building ” ;
January 2011 – June 2011	The Pennsylvania State University, USA visiting scholar at Department of Architectural Engineering;
May 10 – May 14 2011	University of Washington College of Built Environments, USA , visiting lecturer;
June 2010 – June 2014	Institute of Physical Energetics external expert
December 2009 – December 2011	Riga Technical University , associated professor Department of heat and gas technology;
December 2008 – December 2009	Riga Technical University , docent (assistant professor) Department of heat and gas technology - Lectures “Building Physics”. Researcher on buildings and HVAC systems energy efficiency.
September 2004 – December 2008	Riga Technical University , assistant Department of heat and gas technology - Assistant in lectures “Building Physics”. Researcher assistant in field of buildings energy efficiency.
Since October 2006	LTD “RIX Dimensija” member of the board: project manager – building energy audit, design strategy for ventilation, air-conditioning and heating systems.
July 2004 – September 2006	LTD “Gaze – komunalserviss” , project manager - Developing gas supply strategy for private and governmental objects. Gas supply technical project developing.
September 2003 – September 2006	LTD “Termoaudits” , engineer, energy consultant - Evaluation of existing buildings energy performance, technical consultation and recommendation for buildings renovation. Energy audit of existing buildings and expertise of technical projects.
January 2001 – April 2002	LTD “LM buve” , heat, ventilation and air-conditioning systems assembler, plumber.

PUBLIC WORK AND OTHER ACTIVITIES (since 2015)

Since 2013	Reviewer for the SCOPUS journals “Energy and Buildings”; ASHRAE Manuscript central: Science and Technology for the Built Environment; Magazine of Civil Engineering;
2017	Scientific committee member and reviewer for scientific conference 10th International Symposium on Heating, Ventilating and Air Conditioning – ISHVAC 2017 (http://www.ishvac2017.org)
2016	Scientific committee member and reviewer for scientific SBE16 Tallinn and Helsinki Conference “Build Green and Renovate Deep” (http://www.sbe2016.org/)
2016	Scientific committee member and reviewer for scientific conference “Central Europe towards Sustainable Building 2016”, Prague, Czech Republic (www.http://cesb.cz);

- 2016** Scientific committee member and editorial board for scientific conference “Topical Problems of Architecture, Civil engineering, Energy efficiency and Ecology - 2016” (TPACEE 2016 <http://www.tpancee2016.org/en/science-committee>)
- 2015** Organizing and scientific committee member for REHVA conference “Advanced HVAC and natural gas technologies” organized by Latvian Association of Heating, Ventilation and Air-conditioning Engineers;
- 2015 March** Scientific committee member for International Scientific Conference – Urban Civil Engineering and Municipal Facilities (Available online at www.sciencedirect.com)
- 2015 June, July** The member of examination committee in the defence procedure of the doctoral dissertation in Tallinn University of Technology for dissertation of Mikk Maivel entitled ”Heating System Efficiency Aspects in a Low-energy Residential Buildings” and dissertation of Kalle Kuusk entitled ”Integrated Cost Optimal Renovation of Apartment Buildings Toward NZEB
- 2015 March** The member of examination committee in the defence procedure of the doctoral dissertation in Tallinn University of Technology
- 2015 July** Review for The 9th International Symposium on Heating, Ventilation and Air Conditioning and The 3rd International Conference on Building Energy and Environment, Tianjin, China;
- 2015** Reviewer for Thomas Reuters journal “Management of Environmental Quality” ;
- 2015** Scientific committee member for scientific conference "Civil Engineering `15", Saint-Petersburg, Russia;
- 2015** Chairman for conference “Advanced HVAC and natural gas technologies”, ASHRAE endorsed event, REHVA supported;

ADVANCED TRAINING COURSES:

- Retrotec Certification for Single Blower Door Operation (DM32);
- RETROTEC Certification of Completion Level 1 – The Science of Air Leakage in Buildings;
- RETROTEC Certification of Completion Level 2 – RETROTEC Certification of Completion Level 1 – The Science of Air Leakage in Buildings;
- EQUA Simulation AB “Introduction to IDA Indoor Climate and Energy 4” , October 8-9, 2015;
- ASHRAE training course “Building in Balance: IEQ and Energy Efficiency”. Presented by: James W. Bochat, LEED-AP, NEBB Cx, NEBB TAB; Tim McGinn, P.Eng., LEED-AP, HBDP; and Jerry M. Sipes, PH.D., P.E. April 17, 2014. Three professional development hours (PDHs) or three learning units (LUs) completed
- “Computational Environmental Design” August 28 – 30, 2013, Tallinn, Estonia by Visiting Associate Professor **Francesco De Luca**, Tartu College of TUT (32 hours, 2 ECTS).

MEMBERSHIP AND ACTIVITIES IN PROFESSIONAL ASSOCIATIONS

- Since November 2013 member of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE);
- Since September 2013 member of the board of Latvian Association of Heating, Ventilation and Air-conditioning Engineers;
- Since August 2010 member of the board of „Latvian National Geothermal Association“;
- Since August 2009 expert of Heat, Gas and Water technology engineers’ certification centre;
- Since 207 Expert of Latvian magazine “LATVIAN construction”;
- Since April 2006 member of Latvian Association of Heating, Ventilation and Air-conditioning Engineers.

MAJOR AWARDS

- Award for scientific work on optimization of building energy consumption. Issued by Latvian Scientific Academia in 2016. Gold medal, diploma and fellowship;
- Since 2015 member of ASHRAE American Society of Heating, Refrigerating and Air-Conditioning Engineers.
- Certificate of Outstanding Contribution in Reviewing. Issued by the Editors of Energy & Buildings, Elsevier, Amsterdam, The Netherlands
- REHVA FELLOW since 2015.
- Award for scientific work on energy efficiency. Issued by **Latvian Scientific Academia** in 2006. Silver medal, diploma and fellowship;
- **Fulbright Scholar Program** accepted for time period 01.2010 – 06.2010 for research work in The Pennsylvania State University, Architectural Engineering Department.
- Riga Technical University **Young Scientist** of the Year 2012.

PARTICIPATION IN THE RESEARCH PROJECTS:

Since March 2017 Member of TUD COST Action CA16114 “REthinking Sustainability Towards a Regenerative Economy”;

Since April 2017 EU ERDF (Nr.1.1.1.1/16/A/048) Nearly Zero Energy Solutions for Unclassified Buildings

Since January 2015 EU HORIZON2020 (H2020-EE-2014-1-PPP) - *Development and advanced prefabrication of innovative, multifunctional building envelope elements for MODular RETrofitting and CONNECTions*;

Since September

2014 Member of TUD COST Action TU1403 “Adaptive Facades Network”;

2012 – 2015 EU Seventh Framework Programme (FP7) - Strategies Towards Energy Performance and Urban Planning (STEP-UP);

2013 – 2015 ESF European Social Fund co-financed project “Development of innovative technologies for the accumulation and production of heating and cooling”;

2012 - 2013 *Riga Technical University – ZP-2012/5 – Influence of building envelope thermal properties on indoor air thermodynamic parameters stability*;

2011 - 2013 *EU INTERREG IVA - Central Baltic Cooperation in energy efficiency & feasibility in urban planning (ENEF)*;

2011 – 2012	<i>Riga Technical University – FLPP/2011/38 – The methodology of calculating of air exchange in passive buildings;</i>
2010 – 2011	<i>Riga Technical University – FLPP/2011 - Low temperature gas heating;</i>
2010	<i>Riga Technical University – FLPP/2010/33 – Methodology for public buildings energy efficient planning;</i>
2009/2010	<i>Riga Technical University – ZP/2009/7 – Development and implementation of communal gas supply systems standards corresponding to Latvian conditions</i>
2008	<i>Ministry of Education/Riga Technical University – ZP-007/02 " Building envelopes with controlled thermal resistance";</i>
2008	<i>Ministry of Education/Riga Technical University - Nr. R7398 “Improvement of indoor air quality in educational institutions”;</i>
2006 – 2008	<i>Intelligent Energy Europe - “Energy, Exploitation and Performance Contracting for Low Income and Social Housing”;</i>
2004 – 2006	<i>EU LIFE project Nr.04 ENV/LV/000634 - „Energy certification in the light of the Directive 2002/91/EC”.</i> ;
2000 – 2004	<i>EU LIFE project Nr.LIFE02ENV/LV/000478 - „Energy Labeling of Apartment Buildings ”.</i>

SCIENTIFIC PUBLICATIONS (last 5 year)

1. Zemītis, J., Borodņecs, A. Solutions of Zero Energy Houses for Climatic Conditions of Latvia. In: Proceedings of CLIMA 2013: 11TH REHVA World Congress and the 8th International Conference on IAQVEC: - ISBN 9788026040019, Czech Republic, Prague, 16-19 June, 2013. Prague: Society of Environmental Engineering, 2013, pp.5073-5081.
2. Borodņecs, A., Zemītis, J. Influence of Materials' Moisture Absorption Properties on Prediction of Indoor Relative Humidity Level. No: 2nd Central European Symposium on Building Physics, Austrija, Vienna, 9.-11. septembris, 2013. Vienna: RSA, 2013, 883.-887.lpp. ISBN 978-3-85437-321-6
3. Abdellah, Z., Dzelzītis, E., Borodņecs, A., Zehar, K., Refoufi, L. Household Energy Consumption, and Building Regulation in Algeria. No: Building Tomorrow Today: XI International HVAC+R Technology Symposium: Proceedings Book, Turcija, Istanbul, 8.-10. maijs, 2014. Ankara: Turkish Society of HVAC & Sanitary Engineers, 2014, 536.-542.lpp. ISBN 9789756907184
4. Zajacs, A., Zemītis, J., Tihomirova, K., Borodņecs, A. Concept of Smart City: First Experience from City of Riga. Journal of Sustainable Architecture and Civil Engineering, 2014, Vol 7, No 2, pp.54-59. ISSN 2029-9990. e-ISSN 2335-2000. Available from: doi:10.5755/j01.sace.7.2.6932
5. Nazarova, J., Borodņecs, A. Evaluation of Temperature and Humidity Regime in an Orthodox Church. Construction Science. Vol.15, 2014, pp.19-23. ISSN 1407-7329. e-ISSN 2255-8551. Available from: doi:10.2478/cons-2014-0003
6. Borodņecs, A., Zemītis, J., Zajacs, A., Nazarova, J. Renovation of Multi-apartment Building in Latvia. Applied Mechanics and Materials, 2015, Vol.725-726, pp.1177-1181. ISSN 1662-7482. Available from: doi:10.4028/www.scientific.net/AMM.725-726.1177
7. Zajacs, A., Zemītis, J., Prozuments, A., Tihomirova, K., Borodņecs, A. Sustainable City Development: Implementation Practices in Riga. Applied Mechanics and Materials, 2015, Vol.725-726, pp.1470-1476. ISSN 1662-7482. Available from: doi:10.4028/www.scientific.net/AMM.725-726.1470
8. Nefedova, A., Bykova, J., Kosov, S., Vatin, N., Zajacs, A., Borodņecs, A. Predesign Evaluation of St. Petersburg State Polytechnical University Campus Energy Efficiency Measures. In: Proceedings of REHVA Annual Conference 2015, Latvia, Rīga, 6-9 May, 2015. Rīga: RTU PRESS, 2015, pp.204-209. ISBN 978-9934-10-685-9.

9. Zajacs, A., Nazarova, J., Borodiņecs, A. Review of Geothermal Energy Potential in Europe. In: Civil Engineering `15: 5th International Scientific Conference: Proceedings, Latvia, Jelgava, 14-15 May, 2015. Jelgava: Latvia University of Agriculture, 2015, pp.108-115. ISSN 2255-7776. e-ISSN 2255-8861.
10. Kirilovs, E., Kukle, S., Beļakova, D., Borodiņecs, A., Ruciņš, Ā., Stramkale, V. Thermal Conductivity of Hemp Based Boards. In: Environment. Technology. Resources: Proceedings of the 10th International Scientific and Practical Conference, Latvia, Rēzekne, 18-20 June, 2015. Rēzekne: Rēzekne Higher Education Institution, 2015, pp.61-66. ISBN 978-9984-44-171-9. ISSN 1691-5402. e-ISSN 2256-070X. Available from: doi:10.17770/etr2015vol1.2064-89. ISSN 2255-7776
11. Prozuments, A., Zemītis, J., Borodiņecs, A. Prevention of the Indoor Air Stratification in Warm Air Supply Systems. In: Proceedings of the 9th International Symposium on Heating, Ventilation and Air Conditioning and the 3rd International Conference on Building Energy and Environment, China, Tianjin, 12-15 July, 2015. Tianjin: 2015, pp.1-8. ISBN 978-194327809-1.
12. Gaujēna, B., Borodiņecs, A., Zemītis, J. Influence of Building Envelope Thermal Mass on Heating Design Temperature. IOP Conference Series: Materials Science and Engineering, 2015, Vol.96, Iss.1, pp.1-8. ISSN 1757-8981. Available from: doi:10.1088/1757-899X/96/1/012031
13. Nefedova, A., Bykova, J., Kukolev, M., Kosov, S., Zajacs, A., Borodiņecs, A. Possibility of Thermal Storage Systems Usage During Buildings Renovation in Saint-Petersburg. In: CLIMA 2016 - proceedings of the 12th REHVA World Congress, Denmark, Aalborg, 22-25 May, 2016. Aalborg: Aalborg University, Department of Civil Engineering, 2016, pp.1-12. ISBN 87-91606-29-2.
14. Stankeviča, G., Krēsliņš, A., Borodiņecs, A., Millers, R. Achieving Deep Energy Retrofit in Latvian Public Building - Simulation Study. In: CLIMA 2016 - proceedings of the 12th REHVA World Congress, Denmark, Aalborg, 22-25 May, 2016. Aalborg: Aalborg University, Department of Civil Engineering, 2016, pp.1-9. e-ISSN 87-91606-35-7.
15. Prozuments, A., Borodiņecs, A., Strutinska, D., Nefedova, A., Bykova, J. Survey-based study on sportsmen performance under different air parameters in sport halls. In: CLIMA 2016 - proceedings of the 12th REHVA World Congress, Denmark, Aalborg, 22-25 May, 2016. Aalborg: Aalborg University, Department of Civil Engineering, 2016, pp.1-8. e-ISSN 87-91606-32-2.
16. Kalamees, T.; Lupišek, A.; Sojkova, K.; Mørck, O. C.; Borodiņecs, A.; Almeida, M.; Rovers, R.; Kuusk, K.; Silva, S.; Op't Veld, P. What kind of heat loss requirements nZEB and deep renovation sets for building envelope? In: Central Europe towards Sustainable Building: 22–24 June 2016 Prague. Ed. Hajek, P.; Tywonjak, J.; Lupišek, A.; Sojkova, K. Prague: Grada Publishing, a.s. for Czech Technical University in Prague, 2016, pp. 137–144. ISBN 978-80-271-0248-8
17. Zemītis, J., Borodiņecs, A., Frolova, M. Measurements of Moisture Production caused by Various Sources. Energy and Buildings, 2016, Volume 127, pp.884-891. Available from: doi:10.1016/j.enbuild.2016.06.045
18. Nefedova, A., Bykova, J., Kukolev, M., Zajacs, A., Borodiņecs, A. Possibility of Thermal Storage System Use with Different Accumulating Material in SPbSTU. In: 5th International Conference on Topical Problems of Architecture, Civil Engineering, Energy Efficiency and Ecology, TPACEE 2016; Tyumen State University of Architecture and Civil Engineeringul., Russia, Proceeding, 27-29 April, 2016. Tyumen: 2016, pp.1-6. ISSN 2261-236X. Available from: doi:10.1051/mateconf/20167302010
19. Borodiņecs, A., Nazarova, J., Zajacs, A., Malyshev, A., Pronin, V. Specifics of Building Envelope Air Leakage Problems and Airtightness Measurements. In: Proceedings of 15th International Conference on Topical Problems of Architecture, Civil Engineering, Energy Efficiency and Ecology, TPACEE 2016, Russia, Tyumen, 27-29 April, 2016. Tyumen: 2016, pp.1-6. ISSN 2261-236X. Available from: doi:10.1051/mateconf/2016730202
20. Tumanova, K., Borodiņecs, A. Heat consumption for hot water supply in residential buildings. In: CESB 2016 - Central Europe Towards Sustainable Building 2016: Innovations for Sustainable Future, Czech Republic, Prague, 22-24 June, 2016. Prague: Grada Publishing, 2016, pp.331-337. ISBN 978-802710248-8.
21. Kalamees, T., Lupišek, A., Sojková, K., Mørck, O., Borodiņecs, A., Almeida, M., Rovers, R. What kind of heat loss requirements NZEB and deep renovation sets for building envelope?. In: CESB 2016 - Central Europe Towards Sustainable Building 2016: Innovations for Sustainable Future, Czech Republic, Prague, 22-24 June, 2016. Prague: Grada Publishing, 2016, pp.137-144. ISBN 978-802710248-8.
22. Borodiņecs, A., Zemītis, J., Millers, R., Tumanova, K., Geikins, A., Nefedova, A. Specifics of Multi-Apartment Building Deep Complex Retrofitting. In: CESB 2016 - Central Europe towards Sustainable

Building 2016: Innovations for Sustainable Future, Czech Republic, Prague, 22-24 June, 2016. Prague: Grada Publishing, 2016, pp.49-55. ISBN 978-802710248-8.

23. Tumanova, K., Borodīņecs, A. The Extensive Analysis of Circumstances between Heat Consumption of Multi-Apartment Buildings and Information Campaigns. *Energy Procedia*, 2016, Vol.96, pp.945-952. ISSN 1876-6102. Available from: doi:10.1016/j.egypro.2016.09.171
24. Zemītis, J., Borodīņecs, A., Geikins, A., Kalames, T., Kuusk, K. Ventilation System Design in Three European Geo Cluster. *Energy Procedia*, 2016, Vol.96, pp.285-293. ISSN 1876-6102. Available from: doi:10.1016/j.egypro.2016.09.15
25. Križmane, M., Šlihte, S., Borodīņecs, A. Key Criteria across Existing Sustainable Building Rating Tools. *Energy Procedia*, 2016, Vol.96, pp.94-99. ISSN 1876-6102. Available from: doi:10.1016/j.egypro.2016.09.107
26. Križmane, M., Borodīņecs, A., Dzelzītis, E. Enabling the Landscape for Deep Green Renovation. *Energy Procedia*, 2016, Vol.96, pp.404-412. ISSN 1876-6102. Available from: doi:10.1016/j.egypro.2016.09.168
27. Ovchinnikov, P., Borodīņecs, A., Strelets, K. Utilization Potential of Low Temperature Hydronic Space Heating Systems: A Comparative Review. *Building and Environment*, 2017, Vol.112, pp.88-98. ISSN 0360-1323. Available from: doi:10.1016/j.buildenv.2016.11.02
28. Ovchinnikov, P., Borodīņecs, A., Millers, R. Utilization Potential of Low Temperature Hydronic Space Heating Systems in Russia. *Journal of Building Engineering*, 2017, Vol.13, pp.1-10. ISSN 2352-7102. Available from: doi:10.1016/j.job.2017.07.003
29. Prozuments, A., Borodīņecs, A. Indoor Air Stratification in Warm Air Supply Systems. *ASHRAE Journal*, 2017, Vol.59, pp.54-65. ISSN 0364-9962
30. Borodīņecs, A., Zemītis, J., Dobelis, M., Kaļinka, M., Geikins, A. Development of Prefabricated Modular Retrofitting Solution for Post-World War II Buildings. In: *Proceedings of the 10th International Conference "Environmental Engineering"*, Lithuania, Vilnius, 27-28 April, 2017. Vilnius: VGTU Press, 2017, pp.1-8. e-ISBN 978-609-476-044-0. e-ISSN 2029-7092. Available from: doi:10.3846/enviro.2017.252
31. Baranova, D., Sovetnikov, D., Semashkina, D., Borodīņecs, A. Correlation of Energy Efficiency and Thermal Comfort Depending on the Ventilation Strategy. *Procedia Engineering*, 2017, Vol.205, pp.503-510. ISSN 1877-7058. Available from: doi:10.1016/j.proeng.2017.10.403
32. Borodīņecs, A., Zemītis, J., Dobelis, M., Kaļinka, M., Prozuments, A., Šteinerte, K. Modular Retrofitting Solution of Buildings based on 3D Scanning. *Procedia Engineering*, 2017, Vol.205, pp.160-166. ISSN 1877-7058. Available from: doi:10.1016/j.proeng.2017.09.948

BOOKS

1. Borodīņecs A., Kreslins A. *Building physics for designer*. – Riga: RTU publisher, 2007. – pp. 131 (In Latvian).
2. Borodīņecs A., Rodriguez-Gabriel A., Tatarchenko O., and etc. *Handbook on Buildings Renovation in Central Baltic Region* – ISBN - 978-9934-507-39-7 – Riga: Riga Technical University
3. Zemītis, J., Borodīņecs, A. *Analysis of Ventilation Systems in Low Energy Houses*. Saarbrücken: GlobeEdit, 2014. 65 p. ISBN 9783639688900, 2013 – pp. 91.
4. Šipkovs, P., Ivanovs, S., Kukle, S., Kaškārova, G., Ruciņš, Ā., Ļebedeva, K., Migla, L., Beļakova, D., Vidzickis, R., Kirilovs, E., Borodīņecs, A., Lekavičius, V., Pelēce, I., Valainis, O., Šipkovs, J., Šahta, I., Kašurina, I., Snegirjovs, A. *Inovātīvas tehnoloģijas siltuma un aukstuma ieguvei un jaunu produktu ražošanai, izmantojot vietējos atjaunojamos energoresursus*. Rīga: 2015. 108 p. ISBN 978-9934-14-646-6

March 2018