

Analytical modelling and prediction formulas for domestic hot water consumption in residential Finnish apartments

Ferrantelli, Andrea; Ahmed, Kaiser; Pylsy, Petri; **Kurnitski, Jarek** Energy and buildings 2017 / p. 53-60 : ill

<https://doi.org/10.1016/j.enbuild.2017.03.021> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Annual performance analysis of heat emission in radiator and underfloor heating systems in the European reference room

Vösa, Karl-Villem; **Ferrantelli, Andrea**; **Kurnitski, Jarek** E3S Web of Conferences : CLIMA 2019 Congress, Bucharest, Romania, May 26-29, 2019 2019 / art. 04009, 8 p <https://doi.org/10.1051/e3sconf/201911104009> [Conference proceedings at Scopus](#) [Article at Scopus](#)

[Article at WOS](#)

Assessment of downward draught in high-glazing facades in cold climates – experimental and CFD study into draught control with a 21-type radiator

Vösa, Karl-Villem; **Ferrantelli, Andrea**; **Kurnitski, Jarek** E3S Web Conference: Cold Climate HVAC and Energy 2021 2021 / art. 02002, 8 p. : ill <https://doi.org/10.1051/e3sconf/202124602002> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Benchmarking the measured energy use of Nordic residential buildings and their Zero Energy-readiness

Ferrantelli, Andrea; **Thalfeldt, Martin**; **Kurnitski, Jarek** CLIMA 2022: the 14th REHVA HVAC World Congress, 22nd – 25th May in Rotterdam, The Netherlands 2022 / p. 1-8 <https://doi.org/10.34641/clima.2022.171>

Building performance indicators and IEQ assessment procedure for the next generation of EPC-s

Vösa, Karl-Villem; **Ferrantelli, Andrea**; Tzanev, Dragomir; Simeonov, Kamen; Camero, Pablo; Espigares, Carlos; Navarro Escudero, Miriam; Quiles, Pedro Vicente; Andrieu, Thibault; Battezzati, Florian; **Kurnitski, Jarek** E3S Web Conference: Cold Climate HVAC and Energy 2021 2021 / art. 13003, 9 p <https://doi.org/10.1051/e3sconf/202124613003> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Clustering energy performance certificates : A methodology for selecting representative buildings in scalable energy simulations

Hajian, Hatef; **Leiber, Collin**; **Härkönen, Kalevi**; **Mannila, Heikki**; **Ferrantelli, Andrea** Energy and buildings 2025 / art. 116592 <https://doi.org/10.1016/j.enbuild.2025.116592>

A combined analytical model for increasing the accuracy of heat emission predictions in rooms heated by radiators

Vösa, Karl-Villem; **Ferrantelli, Andrea**; **Kurnitski, Jarek** Journal of building engineering 2019 / p. 291-300

<https://doi.org/10.1016/j.jobbe.2019.02.009> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Computer vision framework for crack detection and estimation of air leakage through the straight-through cracks in buildings envelopes

Jahanbakhsh, Maliheh; **Ferrantelli, Andrea** Rakenteiden mekaniikka = Journal of structural mechanics 2025 / p. 71-85

<https://doi.org/10.23998/rm.152481>

Cooling thermal comfort and efficiency parameters of ceiling panels, underfloor cooling, fan-assisted radiators, and fan coil

Vösa, Karl-Villem; **Ferrantelli, Andrea**; **Kurnitski, Jarek** Energies 2022 / art. 4156 <https://doi.org/10.3390/en15114156> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Data-driven occupancy profile identification and application to the ventilation schedule in a school building

Vassiljeva, Kristina; **Matson, Margarita**; **Ferrantelli, Andrea**; **Petlenkov, Eduard**; **Thalfeldt, Martin**; **Belikov, Juri** Energies 2024 / art. 3080 <https://doi.org/10.3390/en17133080> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Energy analysis in ice hockey arenas and analytical formula for the temperature profile in the ice pad with transient boundary conditions

Ferrantelli, Andrea; Viljanen, Klaus; **Kurnitski, Jarek** Advances in building energy research 2021 / p. 499-522 : ill

<https://doi.org/10.1080/17512549.2019.1615549> [Journal metrics at Scopus](#) [Article at Scopus](#)

Energy and technical building systems - scientific and technological advances

2020 <https://doi.org/10.3390/books978-3-03928-179-4>

Energy performance and indoor climate analysis in buildings

2019 <https://www.mdpi.com/books/pdfview/book/1828> <https://doi.org/10.3390/books978-3-03921-380-1>

Energy performance certificate classes rating methods tested with data : how does the application of minimum energy performance standards to worst-performing buildings affect renovation rates, costs, emissions, energy consumption?

Ferrantelli, Andrea; **Kurnitski, Jarek** Energies 2022 / art. 7552 <https://doi.org/10.3390/en15207552> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metric at WOS](#) [Article at WOS](#)

Energy pile field simulation in large buildings: validation of surface boundary assumptions

Ferrantelli, Andrea; Fadejev, Jevgeni; Kurnitski, Jarek Energy and technical building systems - scientific and technological advances 2020 / p. 12-31 : ill <https://doi.org/10.3390/books978-3-03928-179-4>

Energy pile field simulation in large buildings: validation of surface boundary assumptions

Ferrantelli, Andrea; Fadejev, Jevgeni; Kurnitski, Jarek Energies 2019 / art. 770, 20 p. : ill <https://doi.org/10.3390/en12050770>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Evaluating the energy readiness of national building stocks through benchmarking

Ferrantelli, Andrea; Belikov, Juri; Petlenkov, Eduard; Thalfeldt, Martin; Kurnitski, Jarek IEEE Access 2022 / p. 45430-45443 : ill <https://doi.org/10.1109/ACCESS.2022.3170716> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Evaluating the impact of district-level microclimate, urban microenvironment and occupant behaviour upon overheating of Nordic apartment buildings

Kravchenko, Iliia; Farahani, Azin Velashjerdi; Saranko, Olli; **Ferrantelli, Andrea** Energy and buildings 2025 / art. 116635
<https://doi.org/10.1016/j.enbuild.2025.116635>

Experimental analysis of emission efficiency of parallel and serial connected radiators in EN442 test chamber

Võsa, Karl-Villem; Ferrantelli, Andrea; Kull, Tuule Mall; Kurnitski, Jarek Applied thermal engineering 2018 / p. 531-544 : ill <https://doi.org/10.1016/j.applthermaleng.2017.12.109> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Experimental determination of radiator, underfloor and air heating emission losses due to stratification and operative temperature variations

Maivel, Mikk; Ferrantelli, Andrea; Kurnitski, Jarek Energy and buildings 2018 / p. 220-228 : ill <https://doi.org/10.1016/j.enbuild.2018.01.061> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Experimental observation of crack formation on surface of charring timber

Rinta-Paavola, Aleksii; **Ferrantelli, Andrea**; Hostikka, Simo Fire safety journal 2024 / art. 104231
<https://doi.org/10.1016/j.firesaf.2024.104231> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Experimental study of radiator, underfloor, ceiling and air heater systems heat emission performance in TUT nZEB test facility

Võsa, Karl-Villem; Ferrantelli, Andrea; Kurnitski, Jarek E3S Web of Conferences : CLIMA 2019 Congress, Bucharest, Romania, May 26-29, 2019 2019 / art. 04005, 7 p <https://doi.org/10.1051/e3sconf/201911104005> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Impact of internal heat gain profiles on the design cooling capacity of landscaped offices

Seyed Salehi, Seyed Shahabaldin; Ferrantelli, Andrea; Aljas, Hans Kristjan; Kurnitski, Jarek; Thalfeldt, Martin E3S Web Conference: Cold Climate HVAC and Energy 2021 2021 / art. 07003, 7 p. : ill <https://doi.org/10.1051/e3sconf/202124607003> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Impact of office tenants' electricity use on the cost-optimal solutions in a cold climate

Kuivjõgi, Helena; Laas, Liina; Ferrantelli, Andrea; Thalfeldt, Martin E3S Web Conference: Cold Climate HVAC and Energy 2021 2021 / art. 05001, 8 p. : ill <https://doi.org/10.1051/e3sconf/202124605001> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Improved thermal and power management of modified solar PV system integrated with phase change material through transient charging and discharging cycles

Ali, Mohsin; Ali, Muzaffar; Shah, Najam Ul Hassan; Li, Guiqiang; **Ferrantelli, Andrea** Engineering Proceedings 2025 / art. 31
<https://doi.org/10.3390/engproc2025111031>

Multi-objective optimization of a plate heat exchanger thermal energy storage with phase change material

Taghavi, Mehrdad; **Ferrantelli, Andrea**; Joronen, Tero Journal of energy storage 2024 / art. 111645
<https://doi.org/10.1016/j.est.2024.111645> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A novel method for calculating heat emitter and controller configuration setpoint variations with EN15316-2

Võsa, Karl-Villem; Ferrantelli, Andrea; Kurnitski, Jarek Journal of building engineering 2020 / art. 101387
<https://doi.org/10.1016/j.jobe.2020.101387> <https://aaltodoc.aalto.fi/handle/123456789/43872> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Office building tenants' electricity use model for building performance simulations

Ferrantelli, Andrea; Kuivjõgi, Helena; Kurnitski, Jarek; Thalfeldt, Martin Energies 2020 / art. 5541
<https://doi.org/10.3390/en13215541> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimization of radiators, underfloor and ceiling heater towards the definition of a reference ideal heater for energy efficient buildings

Ferrantelli, Andrea; Võsa, Karl-Villem; Kurnitski, Jarek Applied sciences 2018 / art. 2477, 22 p. : ill

Outdoor assessment and modeling of dust deposition impact on optimal tilt angle and operating temperature of photovoltaics

Khodakaram-Tafti, Amin; Yaghoubi, Milad; **Ferrantelli, Andrea** International Journal of Environmental Science and Technology 2025
<https://doi.org/10.1007/s13762-025-06723-8>

Parametric study for the long term energetic performance of geothermal energy piles

Ferrantelli, Andrea; Fadejev, Jevgeni; Kurnitski, Jarek IOP conference series : earth and environmental science 2019 / art. 012047, 9 p. : ill <https://doi.org/10.1088/1755-1315/352/1/012011> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Peptide receptor radionuclide therapy plus somatostatin analogues for a neuroendocrine tumour combined and maintenance treatment

Pignata, Salvatore Antonio; **Ferrantelli, Andrea**; Baldar, Sergio Clinical and translational imaging 2019 / p. 373-376
<https://doi.org/10.1007/s40336-019-00342-3> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Positive pressure effect on moisture performance in a school building

Ferrantelli, Andrea; Vornanen-Winqvist, Camilla; Mattila, Milla; Salonen, Heidi; **Kurnitski, Jarek** Journal of building physics 2019 / p. 121-142 : ill <https://doi.org/10.1177/1744259119837144> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Preface to "Energy and technical building systems - scientific and technological advances"

Ferrantelli, Andrea; **Kurnitski, Jarek** Energy and technical building systems - scientific and technological advances 2020 / p. IX
<https://doi.org/10.3390/books978-3-03928-179-4>

Reheating, thermalization and non-thermal gravitino production in MSSM inflation

Ferrantelli, Andrea European Physical Journal C 2017 / art. 716, 14 p. : ill <https://doi.org/10.1140/epjc/s10052-017-5269-8> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A tabulated sizing method for the early stage design of geothermal energy piles including thermal storage

Ferrantelli, Andrea; Fadejev, Jevgeni; Kurnitski, Jarek Energy and buildings 2020 / art. 110178
<https://doi.org/10.1016/j.enbuild.2020.110178> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Tenant-based measured electricity use in 4 large office buildings in Tallinn, Estonia

Ferrantelli, Andrea; Aljas, Hans Kristjan; Maask, Vahur; Thalfeldt, Martin E3S Web Conference: Cold Climate HVAC and Energy 2021 2021 / art. 04001, 8 p. : ill <https://doi.org/10.1051/e3sconf/202124604001> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

A thermomechanical explanation for the topology of crack patterns observed on the surface of charred wood and particle fibreboard

Baroudi, Djebbar; **Ferrantelli, Andrea**; Li, Kai Yuan; Hostikka, Simo Combustion and flame 2017 / p. 206-215 : ill
<https://doi.org/10.1016/j.combustflame.2017.04.017> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Thermomechanical surface instability at the origin of surface fissure patterns on heated circular MDF samples

Ferrantelli, Andrea; Baroudi, Djebbar; Yuan Li, Kai; Khakalo, Sergei Fire and materials 2019 / p. 707-716
<https://doi.org/10.1002/fam.2722> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Towards the definition of a reference ideal radiator for the assessment of heat emission efficiency in buildings

Ferrantelli, Andrea; Vösa, Karl-Villem; Kurnitski, Jarek IOP conference series : materials science and engineering 2018 / art. 012034, 8 p. : ill <https://doi.org/10.1088/1757-899X/415/1/012034> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Wax actuator's empirical model development and application to underfloor heating control with varying complexity of controller modelling detail

Parts, Tuule Mall; **Ferrantelli, Andrea**; Naar, Hendrik; Thalfeldt, Martin; **Kurnitski, Jarek** Journal of building performance simulation 2023 / p. 772-796 <https://doi.org/10.1080/19401493.2023.2201818> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)