

Advancing AECO education : A project-based lean IPD design process and design management course

Pikas, Ergo; Tetik, Müge; Seppänen, Olli; **Vendel, Kādi-Riin** International journal of construction education and research 2025 / 33 p
<https://doi.org/10.1080/15578771.2025.2534334>

An Agent-Based Approach to Simultaneously Reduce Speed Limits, Lower Travel Times, and Increase Pedestrian Safety in Tallinn, Estonia

Rasoulnezhad, Mahdi; Partanen, Jenni Vilhelmiina; Mozaffaree Pour, Najmeh International Journal of E-Planning Research 2025 / p. 1-25 <https://doi.org/10.4018/IJEPR.383732> <https://www.igi-global.com/gateway/article/full-text-pdf/383732>

Analyzing the emptying process of a large-scale pipeline with three-dimensional CFD simulations

Chen, Xifeng; Hou, Qingzhi; **Tijsseling, Arris S.; Laanearu, Janek;** Khu, Soon Thiam Journal of hydraulic engineering 2025 / art. 04025036 <https://doi.org/10.1061/JHEND8.HYENG-14153>

Assessing the biodegradation characteristics of poly(butylene succinate) and poly(lactic acid) formulations under controlled composting conditions

Lyshtva, Pavlo; Voronova, Viktoria; Kuusik, Argo; Kobets, Yaroslav AppliedChem 2025 / art. 17
<https://doi.org/10.3390/appliedchem5030017> <https://www.mdpi.com/2673-9623/5/3/17>

An assessment framework for evaluating the digitalisation potential of stormwater management and monitoring in small- and medium-sized water utilities

Suits, Kristjan; Annus, Ivar; Kändler, Nils; Kaur, Katrin; Kõiv, Kerta; Arm, Liisi; Barndöck, Helen Urban Water Journal 2025
<https://doi.org/10.1080/1573062X.2025.2511810>

Assessment of fire-retardant treatments and their impact on the fire performance and bonding properties of aspen and silver birch veneers

Alao, Percy Festus; Olusoji, Adekunle; **Kallakas, Heikko; Just, Alar; Kers, Jaan** European journal of wood and wood products 2025 / art. 66 <https://doi.org/10.1007/s00107-025-02223-1>

Benchmarking Danish, Estonian and Finnish NZEB requirements with European Commission recommendations in residential and office buildings

Simson, Raimo; Thomsen, Kirsten Engelund; Wittchen, Kim Bjarne; **Kurnitski, Jarek** Energy and Buildings 2025 / art. 116086
<https://doi.org/10.1016/j.enbuild.2025.116086>

Breakdown of classical models in highly damped ultrasonic propagation

Lafarge, D.; Bouchendouka, A.; Fellah, Z. E. A.; Scotti, T.; Ogam, E.; Perrot, C.; Depollier, C.; **Ratassepp, Madis;** Chrysochoidis, N. The Journal of the Acoustical Society of America 2025 / p. 2389-2403 <https://doi.org/10.1121/10.0039247>

ChangeMakers – promoting engineering through developing the soft skills of youngsters

Annus, Ivar; Kaur, Katrin Futureproofing Engineering Education for Global Responsibility : Proceedings of the 27th International Conference on Interactive Collaborative Learning (ICL 2024) ; vol. 3 2025 / p. 184-194 https://doi.org/10.1007/978-3-031-83523-0_17

Climate conscious design of light structures for improving liveability of urban environments

Siani, Rossella; De Luca, Francesco TECHNE - Journal of Technology for Architecture and Environment 2025 / p. 309-316
<https://doi.org/10.36253/techne-16583> <https://oaj.fupress.net/index.php/techne/article/view/16583>

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>

Comparing domain expert and machine learning data enrichment of building registry

Torim, Ants; Iliste, Elisa; Pikas, Ergo; Liiv, Innar; Robal, Tarmo; Kalamees, Targo Buildings 2025 / art. 1798
<https://doi.org/10.3390/buildings15111798>

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>

Connecting meteorological and hydrological drought in the Baltic Region

Meilutyte-Lukauskiene, Diana; Sharifi, Alireza; Nazarenko, Serhii; Akstinas, Vytautas; Haghighi, Ali Torabi; **Kobets, Yaroslav;** Kokorite, Ilga; Jurgelenaite, Aldona; Hashemi, Hossein; Shahnazi, Saman Atmospheric Research 2025 / art. 108138
<https://doi.org/10.1016/j.atmosres.2025.108138>

Construction site emissions : Exploring sustainable practices

Tetik, Müge; **Pikas, Ergo; Koskela, Lauri Jaakko; Vendel, Kādi-Riin** Proceedings of the 33rd Annual Conference of the

Continuous improvement of the digital Last Planner System whiteboard

Pikas, Ergo; Jaagant, Rasmus; **Koskela, Lauri Jaakko** Proceedings of the 33rd Annual Conference of the International Group for Lean Construction (IGLC 33) 2025 / p. 846-856 <https://doi.org/10.24928/2025/0209>

Convolution of Barker and Mutually Orthogonal Golay Complementary Codes for Ultrasonic Testing

Peng, Chengxiang; Annus, Paul; Rist, Marek; Land, Raul; Ratassepp, Madis Sensors 2025 / art. 5007
<https://doi.org/10.3390/s25165007>

Critical discussion on the challenges of integrating heat pumps in hydronic systems in existing buildings

Cholewa, Tomasz; Bejan, Andrei-Stelian; Miara, Marek; Schauer, Christian; Kosonen, Risto; Borodinecs, Anatolijs; **Bogdanovičs, Raimonds**; Amanowicz, Łukasz; Vering, Christian; Siuta-Olcha, Alicja; **Kurnitski, Jarek** Energy 2025 / art. 136158
<https://doi.org/10.1016/j.energy.2025.136158>

A cross-platform optimization system for comparative design exploration of competing concepts and strategies

Wang, Likai; **De Luca, Francesco**; Janssen, Patrick; Bui, Do Phuong Tung; Chen, Kian Wee; Yuan, Chao Journal of building engineering 2025 / art. 114413 <https://doi.org/10.1016/j.jobe.2025.114413>
<https://www.sciencedirect.com/science/article/pii/S2352710225026506?via%3Dihub> [Article at Scopus](#)

Decarbonisation of Estonia's residential building stock

Lylykangas, Kimmo; **Kertsmik, Kadri-Ann**; Cerrone, Damiano; **Walke, Peter**; **Kuusk, Kalle**; **Kalamees, Targo** Energy and buildings 2025 / art. 116193 <https://doi.org/10.1016/j.enbuild.2025.116193>

Degradation and disintegration behavior of PHBV- and PLA-based films under composting conditions

Lyshtva, Pavlo; **Kuusik, Argo**; **Voronova, Viktoria** Sustainability 2025 / art. 8657 <https://doi.org/10.3390/su17198657>

Design and development of solid state circuit breaker with residual current protection for residential prosumer DC microgrids

Jalakas, Tanel; **Chub, Andrii**; **Roasto, Indrek**; **Vinnikov, Dmitri**; **Kurnitski, Jarek** Proceedings of the Estonian Academy of Sciences 2025 / p. 281-290 <https://doi.org/10.3176/proc.2025.2S.02>

Developing a localized resilience assessment framework for historical districts: A case study of Yazd, Iran

Moayedfar, Saeedeh; Mohebbi, Hossein; **Mozaffaree Pour, Najmeh**; Sharifi, Ayyoob PLoS ONE 2025 / art. e0317088
<http://doi.org/10.1371/journal.pone.0317088> <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0317088>

Developing mineral foam blocks from oil shale byproducts through accelerated carbonation

Thomas, Adheena; **Yörük, Can Rüstü**; **Usta, Mustafa Cem**; **Pantšenko, Nata-Ly**; **Hain, Tiina**; **Uibu, Mai**; **Trikkell, Andres** ACS omega 2025 / p. 47051-47064 <https://doi.org/10.1021/acsomega.5c05438>

Development of a built environment ontology lookup service (BE-OLS) with a new ontology evaluation

Akbarieh, Arghavan; **Osadcha, Iryna**; Farghaly, Karim; Bosche, Frederic; **Puust, Raido** Proceedings of the 2025 European Conference on Computing in Construction 2025 / p. 630-637 <http://doi.org/10.35490/EC3.2025.353>

Development of continuous dynamic vertical reference for maritime and offshore engineering by applying geodetic and machine learning strategies

Ellmann, Artu; **Delpeche-Ellmann, Nicole Camille**; **Varbla, Sander**; **Rajabi Kiasari, Saeed**; **Jahanmard, Vahidreza**; **Kupavõh, Aleksei** EGU General Assembly 2025 2025 / art. EGU25-20596 <https://doi.org/10.5194/egusphere-egu25-20596>

Documentation of the BSCD2000 height reference grid

Schwabe, J.; Ågren, J.; Liebsch, G.; **Varbla, Sander**; Teitsson, H.; Strykowski, G.; **Ellmann, Artu**; Forsberg, R.; Bilker-Koivula, M.; Liepiņš, I. 2023

Energy management implementation approach for droop-controlled residential DC nanogrids

Hasan, Sayeed; **Chub, Andrii**; **Yadav, Neelesh**; **Blinov, Andrei**; **Kurnitski, Jarek**; **Vinnikov, Dmitri** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144665>

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>

Exploring lean principles in large-scale renovation: A review of socio-economic impacts

Vendel, Kādi-Riin; **Pikas, Ergo**; **Koskela, Lauri Jaakko**; Tetik, Müge Annual Conference of the International Group for Lean Construction, IGLC 2025 / p. 1161-1172 <https://doi.org/10.24928/2025/0151>

Forecasting of Sea Level Extremes using Deep Learning and Extreme Value Analysis

Delpeche-Ellmann, Nicole Camille; Rajabi-Kiasari, Saeed; Soomere, Tarmo; Ellmann, Artu EGU General Assembly 2025 2025 / art. EGU25-13350 <https://meetingorganizer.copernicus.org/EGU25/EGU25-13350.html> <https://doi.org/10.5194/egusphere-egu25-13350>

Fourier neural operators for emulating ocean models : Towards a knowledge-driven machine learning

Jahanmard, Vahidreza; Ellmann, Artu; Delpeche-Ellmann, Nicole Camille EGU General Assembly 2025 2025 / art. EGU25-4354 <https://doi.org/10.5194/egusphere-egu25-4354>

Global review of Smart City governance practices

Beckers, Dominik; Gerli, Paolo; Mora, Luca; Thabit Gonzalez, Sara; Tonnarelli, Francesco 2022 <http://unhabitat.org/global-review-of-smart-city-governance-practices>

Higher-order shear deformation formulation for the structural response of a multideck ship

Imala, Mikk-Markus; Naar, Hendrik; Tabri, Kristjan Ships and offshore structures 2025 / 26 p <https://doi.org/10.1080/17445302.2025.2507714>

The Impact of Climate Change to Pavement Temperatures and Asphalt Binder Grade Selection in Estonia Based on Different Climate Change Scenarios

Kontson, Karli; Lill, Kristjan; Ellmann, Artu; Aavik, Andrus The Baltic Journal of Road and Bridge Engineering 2025 / p. 94-113 <https://doi.org/10.7250/bjrbe.2025-20.655>

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>

Improving ground heat transfer simulations in cold climates through field-validated boundary conditions

Lomp, Siim; Hallik, Jaanus; Kalamees, Targo International journal of heat and mass transfer 2026 / art. 127864 <https://doi.org/10.1016/j.ijheatmasstransfer.2025.127864> [https://authors.elsevier.com/sd/article/S0017-9310\(25\)01199-8](https://authors.elsevier.com/sd/article/S0017-9310(25)01199-8)

Indoor Overheating Risks of Pv-Etics and Dark-Coloured Facades : Experimental and Simulation-Based Assessment

Talvik, Martin; Ilomets, Simo; Kalamees, Targo SSRN 2025 / 16 p <https://doi.org/10.2139/ssrn.5264960> https://papers.ssrn.com/sol3/papers.cfm?abstract_id=5264960

Instantaneous sea surface height prediction using satellite altimetry and deep learning

Rajabi-Kiasari, Saeed; Delpeche-Ellmann, Nicole Camille; Ellmann, Artu Living Planet Symposium (LPS25) 2025 <https://lps25.esa.int/>

Integrating satellite altimetry and deep learning for enhanced sea level forecasting

Rajabi-Kiasari, Saeed; Delpeche-Ellmann, Nicole Camille; Ellmann, Artu EGU General Assembly 2025 2025 / art. EGU25-9951 <https://meetingorganizer.copernicus.org/EGU25/EGU25-9951.html> <https://doi.org/10.5194/egusphere-egu25-9951>

Interdisciplinary digital construction : Framing the development of a new university study program

Pikas, Ergo; Bloch, Tanya; Iliste, Elisa; Gurevich, Uri Proceedings of the 2025 European Conference on Computing in Construction 2025 / 9 p <http://doi.org/10.35490/EC3.2025.251>

Knowledge-based configuration expert system for deep renovation planning of buildings

Viik, Joosep; Pikas, Ergo; Kalamees, Targo Building Digital Twins : Proceedings of BDTIC 2025 2025 / p. 142-154 https://link.springer.com/chapter/10.1007/978-3-032-09040-9_13 https://doi.org/10.1007/978-3-032-09040-9_13

Lost in regulations : Digitalization as the key to transparent and efficient building permit evaluation in Estonia

Peet, Pille-Riin; Pikas, Ergo; Ruus, Aime Proceedings of the 2025 European Conference on Computing in Construction 2025 / 8 p <https://doi.org/10.35490/EC3.2025.432>

Managing Smart City governance : A playbook for local and regional governments

Beckers, Dominik; Gerli, Paolo; Mora, Luca; Thabit, Sara; Tonnarelli, Francesco 2023 <http://unhabitat.org/managing-smart-city-governance-a-playbook-for-local-and-regional-governments>

A method for simplifying annual wind simulation for pedestrian comfort analysis in consideration of local climate

Kazak, Jelena; De Luca, Francesco Journal of Physics : Conference Series 2025

MV Estonia : Numerical modelling of bow arrangement collapse sequence

Tabri, Kristjan; Naar, Hendrik; Heinvee, Martin; Soo, A.; Hosseinzadeh, Saeed; Roosipuu, Tauri Trends in Collision and Grounding of Ships and Offshore Structures 2025 / p. 299-308 <http://doi.org/10.1201/9781003684404-38>

Overcoming the smart city governance challenge: an innovation management perspective

Beckers, Dominik; Mora, Luca Journal of urban technology 2025 / 22 p <https://doi.org/10.1080/10630732.2025.2461983>

Passenger ship global static response analysis implementing a modified higher-order shear element description
Imala, Mikk-Markus; Naar, Hendrik; Tabri, Kristjan Innovations in the Analysis and Design of Marine Structures 2025 / p. 49-57
<https://doi.org/10.1201/9781003642411-6>

Preliminary field study on hygrothermal performance of ETICS using thick lime plasters on various insulation materials for historic buildings in wet and cold climate
Talvik, Martin; Klõšeiko, Paul; Vilba, Kristina; Põldaru, Mattias; Olak, Henri; Kalamees, Targo 2025

Renovation passport : Developing a renovation feasibility assessment tool
Iliste, Elisa; Pikas, Ergo; Kalamees, Targo Proceedings of the 2025 European Conference on Computing in Construction 2025 / 8 p <https://doi.org/10.35490/EC3.2025.436>

River-basin restoration hydraulic complexities in some Estonian rivers : Quadratic-type channel flow characteristics at weirs and rapids
Laanearu, Janek 8th IAHR Europe Congress "Water - across boundaries" : full papers 2025 / p. 35-44
<https://www.iahr2024.lnec.pt/proceedings> <http://doi.org/10.34638/3zcb-9082>

Sea level forecasting using deep recurrent neural networks with high-resolution hydrodynamic model
Rajabi-Kiasari, Saeed; Ellmann, Artu; Delpeche-Ellmann, Nicole Camille Applied ocean research 2025 / art. 104496
<https://doi.org/10.1016/j.apor.2025.104496>

Sensing diversity in Tallinn using mobile phone data
Osunkoya, Kofoworola Modupe; Partanen, Jenni Vilhelmiina ECTQG 2023 : Proceedings, Abstracts 2023 / p. 146 - 147
https://ucpages.uc.pt/site/assets/files/1249198/ectqg_2023_proceedings_final.pdf

Situational awareness in autonomous shuttle buses
Kalda, Krister; Koskinen, Kari M.; Sarv, Lill; Sell, Raivo Proceedings of the Estonian Academy of Sciences 2025 / p. 212-216
<https://doi.org/10.3176/proc.2025.2.23> https://kirj.ee/wp-content/plugins/kirj/pub/proc-2-2025-212-216_20250519131011.pdf?v=a57b8491d1d8

Smart city code : Governance handbook for digital transformation managers in the public sector
Mora, Luca; Gerli, Paolo; Beckers, Dominik; Thabit, Sara Gonzalez; Tonnarelli, Francesco 2025
<http://shop.elsevier.com/books/smart-city-code/mora/978-0-443-13402-9>

Smart nature-based solutions for stormwater management in urban areas—an analysis of pilot cases
Kõiv, Kerta; Annus, Ivar; Kändler, Nils; Truu, Murel; Kaur, Katrin; Suits, Kristjan Engineering Proceedings 2024 / art. 18
<https://doi.org/10.3390/engproc2024069018> [Journal metrics at Scopus](#) [Article at Scopus](#)

Spatial plan registration and compliance checks in Estonia, based on LADM part 5: spatial plan information
Batum, Simay; Kalogianni, Eftychia; Broekhuizen, Marjan; Raitviir, Christopher; Magi, Kermo; Van Oosterom, Peter Survey review 2025 / 31 p <https://doi.org/10.1080/00396265.2025.2547462>

A state-of-the-art empirical round robin validation of heat, air and moisture (HAM) models
Dang, Xinyuan; Guimarães, Ana Sofia; Sarkany, Andreas; Laukkanen, Anssi; Xu, Bingyu; Vanderschelden, Bruno; Rode, Carsten; Xia, Changchang; Feng, Chi; Whitman, Chris; Klõšeiko, Paul; Kalamees, Targo; Kukk, Villu Building and Environment 2025 / art. 112867 <https://doi.org/10.1016/j.buildenv.2025.112867>

Status report for the EUREF Working Group “European Unified Height Reference”
Schwabe, Joachim; Sacher, Martina; Liebsch, Gunter; Lidberg, Martin; Denker, Heiner; Ågren, Jonas; Alfredsson, Anders; Barzaghi, Riccardo; Bilker-Koivula, Mirjam; Ellmann, Artu; Varbla, Sander EUREF Symposium 2025 : Abstracts Book 2025 / p. 14 [Abstracts Book \(PDF\)](#)

SWOT-derived geometric marine geoid surface complements gravimetric geoid modelling approaches
Kupavõh, Aleksei; Ellmann, Artu; Delpeche-Ellmann, Nicole Camille; Varbla, Sander EGU General Assembly 2025 2025 / art. EGU25-10957 <https://doi.org/10.5194/egusphere-egu25-10957>

A systematic review of research on just, equitable, responsible, and inclusive smart cities
Haque, Md. Nazmul; Beckers, Dominik Patrik; Costales, Emilio; Aad, Samar; Sharifi, Ayyoob; Mora, Luca Technology in society 2025 / art. 103050 <https://doi.org/10.1016/j.techsoc.2025.103050> <http://www.sciencedirect.com/science/article/pii/S0160791X25002404?via%3Dihub>

The feasibility of zero-emission neighbourhood renovation of apartment buildings in a cold climate
Kertsmit Kadri-Ann; Kalamees, Targo; Arumägi, Endrik; Hallik, Jaanus Building and Environment 2025 / art. 113004
<https://doi.org/10.1016/j.buildenv.2025.113004>

The Performance of Bond Lines of Engineered Wood in Cone Heater Testing

Vihmann, Jane Liise; Just, Alar; Sterley, Magdalena; **Mäger, Katrin Nele; Kers, Jaan** Fire and Materials 2025
<https://doi.org/10.1002/fam.3295>

Thermal activation and pozzolanic reactivity of Estonian clays for cementitious applications

Yörük, Can Rüstü; Adegbile, Ademola Michael; Tuisk, Tanel; Hain, Tiina; Uibu, Mai; Usta, Mustafa Cem; Trikkel, Andres
JTACC+V4 2025 : 4th Journal of Thermal Analysis and Calorimetry Conference & 10th V4 (Joint Czech-Hungarian-Polish-Slovak)
Thermoanalytical Conference : Book of Abstracts 2025 / p. 70 <https://static.akcongress.com/downloads/jtacc/jtacc2025/jtacc2025-boa.pdf>

UWB and GNSS Sensor Fusion Using ML-Based Positioning Uncertainty Estimation

Tommingas, Mihkel; Laadung, Taavi; **Varbla, Sander; Müürsepp, Ivo; Alam, Muhammad Mahtab** IEEE Open Journal of the
Communications Society 2025 / p. 2177-2189 : ill <https://doi.org/10.1109/OJCOMS.2025.3554352>

Ventilation Strategies for Deep Energy Renovations of High-Rise Apartment Buildings : Energy Efficiency and Implementation Challenges

Hamburg, Anti; Palmiste, Ülar; Mikola, Alo; Kalamees, Targo Energies 2025 / art. 2785 <https://doi.org/10.3390/en18112785>
<https://www.mdpi.com/1996-1073/18/11/2785>

What grows, adapts and lives in the digital sphere? Systematic literature review on the dynamic modelling of flora and fauna in digital twins

Mrosła, Laura; Fabritius, Eeva Henna Helena; Kupper, Kristiina; Dembski, Fabian; Fricker, Pia Ecological modelling 2025 / art. 111091 <https://doi.org/10.1016/j.ecolmodel.2025.111091>

What Types of Problem-Solving are Used in the Last Planner System?

Bölviken, Trond; Skaar, John; Kalsaas, Bo-Terje; **Koskela, Lauri Jaakko** Proceedings of the 33rd Annual Conference of the
International Group for Lean Construction (IGLC33) 2025 / p. 448-458 <https://doi.org/10.24928/2025/0217>

Who are you? Examining the multifaceted innovation roles of municipal governments in AI governance

Elbehairy, Farah; Mora, Luca; Soe, Ralf-Martin Technovation 2025 / art. 103303 <https://doi.org/10.1016/j.technovation.2025.103303>

Wind Analysis Methods to Improve Pedestrian Comfort in Urban Design. A case study in Tallinn, Estonia

Kazak, Jelena; De Luca, Francesco; Madelat, Payam eCAADe 2025 Confluence : Proceedings of the 43rd Conference on
Education and Research in Computer Aided Architectural Design in Europe 2025