

Advanced solar envelope generation

De Luca, Francesco Regenerative design in digital practice : a handbook for the built environment 2019 / p. 123-128 : ill
[Regenerative...](#)

Advances in climatic form finding in architecture and urban design

De Luca, Francesco Energies 2023 / art. 3935 <https://doi.org/10.3390/en16093935> [Journal metrics at Scopus](#) [Article at Scopus](#)
[Journal metrics at WOS](#) [Article at WOS](#)

Analysis of the insolation criteria for nearly-zero energy buildings in Estonia

Voll, Hendrik; De Luca, Francesco; Pavlovas, Vitalis Science and technology for the built environment 2016 / p. 939-950 : ill
<https://doi.org/10.1080/23744731.2016.1195657> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Analyzing the fulfillment of daylight and overheating requirements in residential and office buildings in Estonia

Sepulveda Luque, Abel; De Luca, Francesco; Thalfeldt, Martin; Kurnitski, Jarek Building and environment 2020 / art. 107036, 12 p <https://doi.org/10.1016/j.buildenv.2020.107036> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Assessing the applicability of the European standard EN 17037:2018 for office spaces in a cold climate

Sepulveda Luque, Abel; De Luca, Francesco; Varjas, Toivo; Kurnitski, Jarek Building and environment 2022 / art. 109602
<https://doi.org/10.1016/j.buildenv.2022.109602> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Building cluster optimization to integrate energy performance and outdoor thermal comfort

De Luca, Francesco; Naboni, Emanuele; Lobaccaro, Gabriele; Sepulveda Luque, Abel 2020 Proceedings of the Symposium on Simulation for Architecture and Urban Design 2020 / p. 345-348 : ill https://www.simaud.org/proceedings/download.php?f=SimAUD2020_Proceedings_HiRes.pdf

Building morphology influence on outdoor comfort in urban environments. An analysis through machine learning

Eslamirad, Nasim; De Luca, Francesco; Lylykangas, Kimmo Sakari Proceedings of the 12th Annual Symposium on Simulation for Architecture and Urban Design 2021 <http://www.simaud.org/2021/program.php>

Challenges and ways forward for performance-driven and simulation-based computational design for sustainable cities and communities

De Luca, Francesco Regenerating the City Performance-driven and Simulation-based Computational Design for Sustainable Cities and Communities : proceedings of the 9th Regional International Symposium on Education and Research in Computer Aided Architectural Design in Europe, Tallinn University of Technology, 15-16 June 2023 2023 / p. 189-192
<https://digikogu.taltech.ee/et/Item/c29fc911-ec34-45da-afe6-bc1e8515e15d>

Classification of the energy production potential of water lens solar concentrators using machine learning

Zarrinkafsh, Hamidreza; Eslamirad, Nasim; De Luca, Francesco Journal of Physics: Conference Series 2021 / art. 012022, 6 p. : ill
<https://doi.org/10.1088/1742-6596/2042/1/012022> [Conference proceeding at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

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>

Comparison of static and dynamic shading systems for office buildings energy consumption and cooling load assessment

De Luca, Francesco; Voll, Hendrik; Thalfeldt, Martin Management of environmental quality : an international journal 2018 / p. 978-998 : ill <https://doi.org/10.1108/MEQ-01-2018-0008> [Journal metrics at Scopus](#) [Article at Scopus](#)

Computational method for variable objectives and context aware solar envelopes generation

De Luca, Francesco; Voll, Hendrik 2017 Proceedings of the Symposium on Simulation for Architecture and Urban Design 2017 / p. 335-342 : ill <http://resolver.tudelft.nl/uuid:4857e388-c354-47a3-9671-0bd8038f76bc>

A computational workflow for generating a voxel-based design approach based on subtractive shading envelopes and attribute information of point cloud data

Alkadri, Miktha Farid; De Luca, Francesco; Turrin, Michel; Sariyildiz, Sevil Remote sensing 2020 / art. 2561 ; 28 p. : ill
<https://doi.org/10.3390/rs12162561> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Concentrated solar power (CSP) for sustainable architecture to supply domestic hot water and heating loads of buildings

Zarrinkafsh, Hamidreza; Eslamirad, Nasim; De Luca, Francesco Journal of physics : conference series 2021 / art. 012110, p. 1-6 : ill
<https://doi.org/10.1088/1742-6596/2042/1/012110> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Data generative machine learning model for the assessment of outdoor thermal and wind comfort in a northern urban environment

Eslamirad, Nasim; De Luca, Francesco; Lylykangas, Kimmo Sakari; Ben Yahia, Sadok Frontiers of architectural research 2023 / p. 541-555 : ill <https://doi.org/10.1016/j.foar.2022.12.001> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#)

Data-driven urban modelling : the case of explainable detection of urban heat island = Andmepõhine linnamodelleerimine : soojusaarte seletatav tuvastamine

Eslamirad, Nasim 2023 https://www.ester.ee/record=b5645371*est <https://doi.org/10.23658/taltech.68/2023>
<https://digikogu.taltech.ee/et/Item/ff9725f6-fc34-474c-ad5b-0ed6128127ee> https://www.ester.ee/record=b5645371*est

Daylight and overheating prediction formulas for building design in a cold climate

Sepulveda Luque, Abel; De Luca, Francesco; Kurnitski, Jarek Journal of building engineering 2022 / art. 103532, 15 p. : ill
<https://doi.org/10.1016/j.jobte.2021.103532> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Daylighting and energy performance design for single floor commercial hall buildings

De Luca, Francesco; Simson, Raimo; Voll, Hendrik; Kurnitski, Jarek Management of environmental quality : an international journal 2018 / p. 722-739 : ill <https://doi.org/10.1108/MEQ-10-2017-0110> [Journal metrics at Scopus](#) [Article at Scopus](#)

Delightful daylighting : a framework for describing the experience of daylighting in Nordic homes and 'coupling it with quantitative assessments

Viikberg, Hanna; Sepulveda Luque, Abel; De Luca, Francesco Energies 2022 / art. 1815 <https://doi.org/10.3390/en15051815>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Digital tools to support district regenerative design and scale jumping

Naboni, Emanuele; De Luca, Francesco Scale Jumping: Regenerative Systems Thinking within the Built Environment. A guidebook for regenerative implementation: Interactions, tools, platforms, metrics, practice 2021 / p. 179–196 <https://www.eurestore.eu/wp-content/uploads/2021/10/Restore-WG5.pdf>

Dynamic calculations of thermal bridges in curtain wall and its effects on cooling loads and thermal delay

Cahyadi, Muhammad Rafif; Alkadri, Miktha Farid; De Luca, Francesco Proceedings of the 28th International Conference on Computer-Aided Architectural Design Research in Asia (CAADRIA 2023), 21-23 March 2023 ; vol. 2 2023 / p. 441–450 : ill
<https://doi.org/10.52842/conf.caadria.2023.2.441>

Early design clustering method considering equitable daylight distribution in the adaptive re-use of heritage buildings

Szentesi-Nejur, Szende; Nejur, Andrei; De Luca, Francesco; Madelat, Payam eCAADe 2023 : Digital Design Reconsidered : Proceedings of the 41st Conference on Education and Research in Computer Aided Architectural Design in Europe ; vol. 2 Proceedings of the International Conference on Education and Research in Computer Aided Architectural Design in Europe 2023 / p. 105-114 <https://doi.org/10.52842/conf.ecaade.2023.2.105> [Conference proceedings at Scopus](#) [Article at Scopus](#)

eCAADe RIS 2023 : Regenerating the City Performance-driven and Simulationbased Computational Design for Sustainable Cities and Communities : proceedings of the 9th Regional International Symposium on Education and Research in Computer Aided Architectural Design in Europe, 15-16 June 2023, Tallinn University of Technology

2023 <https://digikogu.taltech.ee/et/Item/c29fc911-ec34-45da-afe6-bc1e8515e15d>

Electric lighting predictions in the energy calculation methods

De Luca, Francesco; Simson, Raimo; Voll, Hendrik; Kurnitski, Jarek Improving energy efficiency in commercial buildings and smart communities 2020 / p. 123-141 https://doi.org/10.1007/978-3-030-31459-0_9

Emergent, adaptive and responsive urban landscape design strategies

De Luca, Francesco Acta architecturae naturalis = Maastikuarhitektuurseid uurimusi 2018 / p. 20–32 : ill
<https://www.maastikuarhitektuur.ee/acta/article/view/64/54> https://www.ester.ee/record=b2731314*est

Energy and daylighting performance design of skylights and clerestories in a large hall retail building

De Luca, Francesco; Simson, Raimo; Kurnitski, Jarek CLIMA 2016 - proceedings of the 12th REHVA World Congress. Vol. 2 2016 / [10] p. : ill http://vbn.aau.dk/files/233715392/paper_655.pdf

Environmental performance-driven urban design: parametric design method for the integration of daylight and urban comfort analysis in cold climates

De Luca, Francesco Computer-aided architectural design. "Hello, Culture" : 18th International Conference, CAAD Futures 2019, Daejeon, Republic of Korea, June 26–28, 2019 : selected papers 2019 / p. 15-31 https://doi.org/10.1007/978-981-13-8410-3_2
[Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Evaluating daylight factor standard through climate based daylight simulations and overheating regulations in Estonia

De Luca, Francesco; Kiil, Martin; Simson, Raimo; Kurnitski, Jarek; Murula, Rein Proceedings of Building Simulation 2019 : 16th IBPSA International Conference and Exhibition, 2-4 Sept., Rome 2020 / p. 3968-3975 : ill
<https://doi.org/10.26868/25222708.2019.210915>

Evaluating outdoor thermal comfort using a mixed-method to improve the environmental quality of a university campus

Eslamirad, Nasim; Sepulveda Luque, Abel; De Luca, Francesco; Lylykangas, Kimmo Sakari Energies 2022 / art. 1577, 26 p. :

ill <https://doi.org/10.3390/en15041577> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Experiments on Microclimatically adapt a courtyard to climate change

Naboni, Emanuele; Siani, Rossella; Turrini, Marcello; Touloupaki, Eleftheria; Gherri, Barbara; **De Luca, Francesco** *lop Conference Series: Earth and Environmental Science* 2023 / art. 012032 <https://doi.org/10.1088/1755-1315/1196/1/012032> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Facade-floor-cluster methodology for determining optimal building clusters for solar access and floor plan layout in urban environments

De Luca, Francesco; Nejur, Andrei; Dogan, Timur *eCAADe* 2018 : Computing for a better tomorrow : proceedings of the 36th International Conference on Education and Research in Computer Aided Architectural Design in Europe : 19th-21st September 2018, Łódź, Poland, Faculty of Civil Engineering, Architecture and Environmental Engineering, Lodz University of Technology ; Vol. 2 2018 / p. 585-594 <https://doi.org/10.52842/conf.ecaade.2018.2.585> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

From envelope to layout : buildings massing and layout generation for solar access in urban environments

De Luca, Francesco *eCAADe* 2017 : ShoCK! : Sharing of Computable Knowledge : proceedings of the 35th International Conference on Education and Research in Computer Aided Architectural Design in Europe : 20th-22nd September 2017, Rome, Italy. Volume 2 2017 / p. 431-440 : ill <https://doi.org/10.52842/conf.ecaade.2017.2.431> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

From near real-time urban data to an explainable city-scale model to help reduce the Urban Heat Island (UHI) effect

Eslamirad, Nasim; **De Luca, Francesco**; **Ben Yahia, Sadok**; **Lylykangas, Kimmo Sakari** *Journal of Physics: Conference Series* 2023 / art. 092012, p. 1-6 : ill <https://doi.org/10.1088/1742-6596/2600/9/092012> [Conference proceedings at Scopus](#) [Article at Scopus](#)

From repetition to diversity: A workflow for energy-driven optimization of heterogeneous urban blocks in hot climates

Natanian, Jonathan; **De Luca, Francesco**; Naboni, Emanuele *Will Cities Survive? PLEA STGO 2022 : Book of proceedings : online sessions 2022* / p. 842-847 : ill <https://plea2022.org/wp-content/uploads/2023/03/PROCEEDING-ONLINE-FINAL-MARZO.pdf>

Geoprocess of geospatial urban data in Tallinn, Estonia

Eslamirad, Nasim; **De Luca, Francesco**; **Lylykangas, Kimmo Sakari**; **Ben Yahia, Sadok** *Data in brief* 2023 / art. 109172, 13 p. : ill <https://doi.org/10.1016/j.dib.2023.109172> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Horizontal or vertical? Windows' layout selection for shading devices optimization

De Luca, Francesco; Voll, Hendrik; Thalfeldt, Martin *Management of environmental quality : an international journal* 2016 / p. 623-633 : ill <https://doi.org/10.1108/MEQ-05-2015-0102> [Journal metrics at Scopus](#) [Article at Scopus](#)

An integrated approach to subtractive solar envelopes based on attribute information from point cloud data

Alkadri, Miktha Farid; **De Luca, Francesco**; Turrin, Michel; Sariyildiz, Sevil *Renewable and sustainable energy reviews* 2020 / art. 109742, 19 p. : ill <https://doi.org/10.1016/j.rser.2020.109742> <http://resolver.tudelft.nl/uuid:be100809-acfd-4489-8e26-7a35731d514b> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Integrated architectural and environmental performance - driven form-finding. A teaching case study in Montreal

Szentesi-Nejur, Szende; **De Luca, Francesco**; Nejur, Andrei *Proceedings of the 39th eCAADe Conference - Towards a new, configurable architecture : University of Novi Sad, Novi Sad, Serbia, 8-10 September 2021. Vol. 2* 2021 / p. 105-114 : ill <https://doi.org/10.52842/conf.ecaade.2021.2.105> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

An integrated computational method for calculating dynamic thermal bridges of building facades in tropical countries

Cahyadi Agung, Muhammad Rafif; Alkadri, Miktha Farid; **De Luca, Francesco** *Frontiers of architectural research* 2024 / p. 201-218 : ill <https://doi.org/10.1016/j.foar.2023.11.003> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Learning performance-driven design. Students approach integrating urban form studies and building performance analysis

De Luca, Francesco *Proceedings of Building Simulation 2019 : 16th IBPSA International Conference and Exhibition, 2-4 Sept., Rome 2020* / p. 1609-1616 : ill <https://doi.org/10.26868/25222708.2019.210579>

Lusikast linnani

De Luca, Francesco *Sirp* 2015 / lk. 26 : fot <https://sirp.ee/s1-artiklid/arhitektuur/lusikast-linnani/>

Machine learning approach versus prediction formulas to design healthy dwellings in a cold climate

Sepulveda Luque, Abel; **Eslamirad, Nasim**; **De Luca, Francesco** *eCAADe* 2023 : Digital Design Reconsidered : Proceedings of the 41st Conference on Education and Research in Computer Aided Architectural Design in Europe ; vol. 2 Proceedings of the International Conference on Education and Research in Computer Aided Architectural Design in Europe 2023 / p. 359-368 <https://doi.org/10.52842/conf.ecaade.2023.2.359> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Machine learning-based optimization design workflow based on obstruction angles for building facades

Sepulveda Luque, Abel; **Eslamirad, Nasim**; **Seyed Salehi, Seyed Shahabaldin**; **Thalfeldt, Martin**; **De Luca, Francesco**

Regenerating the City Performance-driven and Simulation-based Computational Design for Sustainable Cities and Communities : proceedings of the 9th Regional International Symposium on Education and Research in Computer Aided Architectural Design in Europe, Tallinn University of Technology, 15-16 June 2023 2023 / p. 15-24 <https://digikogu.taltech.ee/et/Item/c29fc911-ec34-45da-afe6-bc1e8515e15d>

Making use of point cloud for generating subtractive solar envelopes

Alkadri, Miktha Farid; **De Luca, Francesco**; Turrin, Michel; Sariyildiz, Sevil eCAADe SIGraDi 2019 - Architecture in the Age of the 4th Industrial Revolution. Vol. 1 2019 / p. 633-640 : ill http://papers.cumincad.org/data/works/att/ecaadesigradi2019_061.pdf https://doi.org/10.5151/proceedings-ecaadesigradi2019_061 [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

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

Methodology for determining fenestration ranges for daylight and energy efficiency in Estonia

De Luca, Francesco; Dogan, Timur; **Kurnitski, Jarek** 2018 Proceedings of the symposium on simulation for architecture and urban design 2018 / p. 63–70 : ill <http://www.simaud.org/proceedings/>

Methodology for improving wind comfort in a cold region through modular urban elements

Eslamirad, Nasim; **De Luca, Francesco**; Sepulveda Luque, Abel; **Lylykangas, Kimmo Sakari** Regenerating the city : performance-driven and simulation-based computational design for sustainable cities and communities 2023 / p. 5-14 <https://digikogu.taltech.ee/et/Item/c29fc911-ec34-45da-afe6-bc1e8515e15d>

Multi-objective optimization for daylight retrofit

De Luca, Francesco; Wortmann, Thomas eCAADe 2020 : Anthropologic – Architecture and Fabrication in the cognitive age : Proceedings of the 38th eCAADe Conference : Education and research in Computer Aided Architectural Design in Europe, Berlin, Germany, 16-17 September 2020 2020 / p. 57-66 : ill http://ecaade.org/downloads/eCAADe2020_volume1-print.pdf http://papers.cumincad.org/cgi-bin/works/paper/ecaade2020_272 [Conference proceeding at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

A multi-objective optimization workflow based on solar access and solar radiation for the design of building envelopes in cold climates

Sepulveda Luque, Abel; **De Luca, Francesco** 2020 Proceedings of the Symposium on Simulation for Architecture and Urban Design 2020 / p. 131–138 : ill http://www.simaud.org/proceedings/download.php?f=SimAUD2020_Proceedings_LowRes.pdf

Multi-performance method for urban densification

Sepulveda Luque, Abel; **Eslamirad, Nasim**; **De Luca, Francesco** Proceedings of Building Simulation 2023 : 18th Conference of IBPSA 2023 / p. 1169-1176 https://publications.ibpsa.org/conference/paper/?id=bs2023_1307

Multi-performance optimization of static shading devices for glare, daylight, view and energy consideration

De Luca, Francesco; **Sepulveda Luque, Abel**; **Varjas, Toivo** Building and environment 2022 / art. 109110 <https://doi.org/10.1016/j.buildenv.2022.109110> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A novel multi-criteria method for building massing based on energy performance and solar access : the mixed solar envelope (MSE) method

Sepulveda Luque, Abel; **De Luca, Francesco** Co-creating the future: inclusion in and through design ; Vol. 1 2022 / p. 649-658 : ill <https://doi.org/10.52842/conf.ecaade.2022.1.649> <https://www.researchgate.net/publication/363503843> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

A novel multi-criteria workflow based on reverse solar envelopes for the design of residential clusters

Sepulveda Luque, Abel; **De Luca, Francesco** Proceedings of the 2022 Annual Modeling and Simulation Conference, ANNSIM 2022 2022 / p. 475-486 : ill <https://doi.org/10.23919/ANNSIM55834.2022.9859537>

A novel parametric method for assessing view towards green in the early Stages of urban design

Madelat, Payam; **De Luca, Francesco** eCAADe 2024 : Data-Driven Intelligence : Proceedings of the 42nd Conference on Education and Research in Computer Aided Architectural Design in Europe ; vol. 2 Proceedings of the International Conference on Education and Research in Computer Aided Architectural Design in Europe 2024 / p. 347-356 <https://doi.org/10.52842/conf.ecaade.2024.2.347> [Conference proceedings at Scopus](#) [Article at Scopus](#)

A novel solar envelope method based on solar ordinances for urban planning

De Luca, Francesco; Dogan, Timur Building Simulation 2019 / p. 817 - 834 <https://doi.org/10.1007/s12273-019-0561-1> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A novel workflow for early design stages to ensure daylight and summer thermal comfort in buildings = Uudne töövoog projekteerimise algfaasis, et tagada päevalgus ja suvine soojusmugavus hoonetes

Sepulveda Luque, Abel 2022 <https://doi.org/10.23658/taltech.34/2022> <https://digikogu.taltech.ee/et/Item/9d383d7b-f702-490a-a054-bdbbf238e402> https://www.estar.ee/record=b5503220*est

Outdoor comfort analysis in a University Campus during the warm season and parametric design of mitigation strategies for Resilient Urban Environments

De Luca, Francesco Computer-Aided Architectural Design. Design Imperatives: The Future is Now. CAAD Futures 2021 2022 / p. 473-493 https://doi.org/10.1007/978-981-19-1280-1_29 [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Outdoor thermal comfort optimization in a cold climate to mitigate the level of urban heat island in an urban area

Eslamirad, Nasim; Sepulveda Luque, Abel; De Luca, Francesco; Lylykangas, Kimmo Sakari; Ben Yahia, Sadok Energies 2023 / art. 4546, 28 p. : ill <https://doi.org/10.3390/en16124546> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Overheating and daylighting evaluation for free-running classroom designs

Kiil, Martin; Simson, Raimo; De Luca, Francesco; Thalfeldt, Martin; Kurnitski, Jarek IOP conference series : earth and environmental science 2019 / art. 012059, 7 p. : ill <https://doi.org/10.1088/1755-1315/352/1/012059> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Quick protocol for integrating the attribute information of unstructured point cloud data into a solar envelope simulation

Alkadri, Miktha Farid; De Luca, Francesco; Turrin, Michela; Agung, Muhammad Rafif Cahyadi Journal of green building 2023 / p. 3-15 : ill <https://doi.org/10.3992/jgb.18.4.3> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Regenerating the city. Performance-driven and simulation-based computational design for sustainable cities and communities : proceedings of the 9th Regional International Symposium on Education and Research in Computer Aided Architectural Design in Europe, Tallinn University of Technology, 15-16 June, 2023

2023 <https://digikogu.taltech.ee/en/Item/c29fc911-ec34-45da-afe6-bc1e8515e15d>

Relationship analysis and optimisation of space layout to improve the energy performance of office buildings

Du, Tiantian; Turrin, Michela; Jansen, Sabine; Dobbels, Andy van den; De Luca, Francesco Energies 2022 / art. 1268 <https://doi.org/10.3390/en15041268> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reverse solar envelope method. A new building form-finding method that can take regulatory frameworks into account

De Luca, Francesco; Dogan, Timur; Sepulveda Luque, Abel Automation in construction 2021 / art. 103518, 18 p. : ill <https://doi.org/10.1016/j.autcon.2020.103518> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Risen from the dead : from slumming to gentrification

Hiob, Mart; Nutt, Nele; Nurme, Sulev; De Luca, Francesco Transylvanian review of administrative sciences 2012 / p. 92-105 : ill https://www.researchgate.net/publication/283139084_Risen_from_the_Dead_From_Slumming_to_Gentrification

The role of building morphology on pedestrian level comfort in Northern climate

Eslamirad, Nasim; De Luca, Francesco; Lylykangas, Kimmo Sakari Journal of physics : conference series 2021 / art. 012053, p. 1-6 : ill <https://doi.org/10.1088/1742-6596/2042/1/012053> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Shadow optimisation of low-impact temporary architecture to improve climatic comfort in urban spaces

Siani, Rossella; De Luca, Francesco eCAADe 2024 : Data-Driven Intelligence : Proceedings of the 42nd Conference on Education and Research in Computer Aided Architectural Design in Europe ; vol. 2 Proceedings of the International Conference on Education and Research in Computer Aided Architectural Design in Europe 2024 / p. 577-586 https://papers.cumincad.org/data/works/att/ecaade2024_81.pdf <https://doi.org/10.52842/conf.ecaade.2024.2.577> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Simulation based daylight uniformity optimizations for elementary school projects in Quebec province

Szentesi-Nejur, Szende; De Luca, Francesco; Flamand, Krystal Co-creating the Future : Inclusion in and through Design - Proceedings of the 40th Conference on Education and Research in Computer Aided Architectural Design in Europe (eCAADe 2022), Ghent, 13-16 September 2022 ; Vol. 1 2022 / p. 639-647 <https://doi.org/10.52842/conf.ecaade.2022.1.639> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

The Solar Block Generator : an additive parametric method for solar driven urban block design

Natanian, Jonathan; De Luca, Francesco; Wortmann, Thomas; Capeluto, Guedi Journal of Physics: Conference Series 2021 / art. 012049 <https://doi.org/10.1088/1742-6596/2042/1/012049> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Solar collection multi-isosurface method : computational design advanced method for the prediction of direct solar access in urban environments

De Luca, Francesco; Voll, Hendrik Computer-Aided Architectural Design : Future Trajectories : 17th International Conference, CAAD Futures 2017, Istanbul, Turkey, July 12-14, 2017 : selected papers 2017 / p. 170-187 : ill https://doi.org/10.1007/978-981-10-5197-5_10 [Conference proceedings at Scopus](#) [Article at Scopus](#)

Solar collection multi-isosurface method : computational design advanced method for the prediction of direct solar access in urban environments

De Luca, Francesco; Voll, Hendrik Future Trajectories of Computation in Design : 17th International Conference, CAAD Futures

2017, Istanbul, July 12-14, 2017 : proceedings 2017 / p. 225 http://caadfutures2017.itu.edu.tr/wp-content/uploads/2017/09/CAADFutures2017_Proceedings-updated-20092017.pdf

Solar envelope optimization method for complex urban environments

De Luca, Francesco CAADence in architecture : back to command : proceedings of the International Conference on Computer Aided Architectural Design : 16-17 June 2016, Budapest, Hungary, Faculty of Architecture, Budapest University of Technology and Economics. 2nd ed 2016 / p. 195-201 : ill <http://dx.doi.org/10.3311/CAADence.1657>

Solar form finding : subtractive solar envelope and integrated solar collection computational method for high-rise buildings in urban environments

De Luca, Francesco Acadia 2017 : Disciplines & Disruption : proceedings of the 37th Annual Conference of the Association for Computer Aided Design in Architecture 2017 / p. 212-221 : ill

Solar insolation requirement the reason for overheating in nearly zero energy apartment buildings

Voll, Hendrik; Tamm, Kristel; De Luca, Francesco Advanced Building Skins : 12th Conference on Advanced Building Skins, 2-3 October 2017, Bern, Switzerland 2017 / p. 785-787 : ill

Solar radiation-based method for early design stages to balance daylight and thermal comfort in office buildings

Sepulveda Luque, Abel; Seyed Salehi, Seyed Shahabaldin; De Luca, Francesco; Thalfeldt, Martin Frontiers of architectural research 2023 / p. 1030 - 1046 <https://doi.org/10.1016/j.foar.2023.07.001> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Static Shading Optimization for Glare Control and Daylight

De Luca, Francesco; Sepulveda Luque, Abel; Varjas, Toivo Proceedings of the 39th eCAADe Conference - Towards a new, configurable architecture : University of Novi Sad, Novi Sad, Serbia, 8-10 September 2021. Vol. 2 2021 / p. 419-428 <https://doi.org/10.52842/conf.ecaade.2021.2.419> https://papers.cumincad.org/cgi-bin/works/paper/ecaade2021_230 [Conference proceedings at Scopus](#) [Article at Scopus](#)

Sun and wind : integrated environmental performance analysis for building and pedestrian comfort

De Luca, Francesco SimAUD 2019 : 2019 Proceedings of the Symposium on Simulation for Architecture & Urban Design : 10th Anniversary Edition 2019 / p. 3-10 : ill http://www.simaud.org/proceedings/download.php?f=SimAUD2019_Proceedings_HiRes.pdf

Tall buildings cluster form rationalization in a Nordic climate by factoring in indoor-outdoor comfort and energy

De Luca, Francesco; Naboni, Emanuele; Lobaccaro, Gabriele Energy and buildings 2021 / art. 110831, 16 p. : ill <https://doi.org/10.1016/j.enbuild.2021.110831> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Ten questions concerning environmental architectural design exploration

De Luca, Francesco; Natanian, Jonathan; Wortmann, Thomas Building and environment 2024 / art. 111697 <https://doi.org/10.1016/j.buildenv.2024.111697> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Ten questions on tools and methods for positive energy districts

Natanian, Jonathan; Guarino, Francesco; Manapragada, Naga; Magyari, Abel; Naboni, Emanuele; **De Luca, Francesco**; Cellura, Salvatore; Brunetti, Alberto; Reith, Andras Building and environment 2024 / art. 111429 <https://doi.org/10.1016/j.buildenv.2024.111429> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Tropical responsive envelopes for urban heat island mitigation in tropical countries: A proposed workflow for integrated environmental digital simulation

Irsyad, Naufal Andi; Alkadri, Miktha Farid; **De Luca, Francesco**; Arif, Muhammad; Heinzelmann, Florian eCAADe 2023 : Digital Design Reconsidered : Proceedings of the 41st Conference on Education and Research in Computer Aided Architectural Design in Europe ; vol. 2 Proceedings of the International Conference on Education and Research in Computer Aided Architectural Design in Europe 2023 / p. 249-258 <https://doi.org/10.52842/conf.ecaade.2023.2.249> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Understanding computational methods for solar envelopes based on design parameters, tools, and case studies : a review

Alkadri, Miktha Farid; **De Luca, Francesco**; Turrin, Michel; Sariyildiz, Sevil Energies 2020 / art. 3302, 25 p. : ill <https://doi.org/10.3390/en13133302> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Urban planning principles of nearly zero-energy residential buildings in Estonia

Voll, Hendrik; Thalfeldt, Martin; De Luca, Francesco; Kurnitski, Jarek; Olesk, Timo Management of environmental quality - an international journal 2016 / p. 634-648 : ill <https://doi.org/10.1108/meq-05-2015-0101> [Journal metrics at Scopus](#) [Article at Scopus](#)

Urban Shaderade. Building space analysis method for energy and sunlight consideration in urban environments

De Luca, Francesco; Sepulveda Luque, Abel Computer-Aided Architectural Design. INTERCONNECTIONS: Co-computing Beyond Boundaries. CAAD Futures 2023 : 20th International Conference, Delft, The Netherlands, July 5-7, 2023 : Selected Papers 2023 / p. 317-332 https://doi.org/10.1007/978-3-031-37189-9_21 [Conference proceedings at Scopus](#) [Article at Scopus](#)

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

Wind comfort analysis and design of small scale elements for improving urban space livability - a case study in Tallinn, Estonia

Kazak, Jelena; De Luca, Francesco; Partanen, Jenni Vilhelmiina Co-creating the Future : Inclusion in and through Design - Proceedings of the 40th Conference on Education and Research in Computer Aided Architectural Design in Europe (eCAADe 2022), Ghent, 13-16 September 2022 , vol. 2 2022 <https://doi.org/10.52842/conf.ecaade.2022.2.247> [Conference Proceedings at Scopus Article at Scopus](#)