

## INFORMATII PERSONALE

Dr. Ing. Ungureanu Lucian



Lucian-  
Constantin  
Ungureanu

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## APLICATIE PENTRU POZITIA

## Șef de Lucrări poz. 22

din statul de funcții al Departamentului de Beton, Materiale, Tehnologie și Management, Facultatea de Construcții și Instalații

## EXPERIENTA PROFESIONALA

2021-prezent

## Fondator/Director General

digitAEC Matters SRL (<https://digitaec.com/>) Iași, Romania

- Dezvoltarea afacerii
- Dezvoltare, cercetare, și implementare strategii de digitizare și digitalizare organizații și proiecte
- Implicare în proiecte de cercetare (H2020 Ashvin, Horizon Smartwins, Horizon RoBetArme)
- Consultanță și implementare BIM pe proiecte și în organizații
- Explorări de noi tehnologii și strategii de adoptare în activitățile ingineriei civile (proiectare, execuție, operare, și întreținere)

09/2021 – 11/2023

## Manager de Inovare &amp; BIM Manager

Splendid Development SRL, Iași, Romania

- Propunerea și dezvoltarea strategiilor de automatizare a designului proiectelor
- Perspectivă de piață și propunerile de dezvoltare a afacerii
- Explorări de noi tehnologii și strategii de adoptare
- ISO 19650 – Certificare BIM a organizației
- Implicarea în proiectele companiei. Proiect de referință: The Oosterweel connection, Antwerp, Belgium (BIM Expert Consultant, Team Lead Building permitting preparation, Team Lead Tender Documentation Preparation, BIM Coordination) <https://www.oosterweelverbinding.be/>

04-07/2022, 2023, 2024

## Lector adjunct

Technische Universitaet Berlin, Berlin, Germany

- Predare curs master "Engineering Agile Civil Systems" parte a programul de master internațional "Civil Systems Engineering"

03/2021 – 03/2022

## Coordonator de Proiect de Cercetare H2020

Technische Universitaet Berlin, Berlin, Germany

- Coordonare proiect de cercetare Horizon2020 ASHVIN <https://www.ashvin.eu/> Digital Twin - Ashvin – Assistants for Healthy, Safe, and Productive Virtual Construction Design, Operation & Maintenance using a Digital Twin
- Managementul proiectului, al consorțiului și activităților de cercetare
- Participare la evenimente de diseminare a rezultatelor (Sustainable Places 2021, CIB W78 - LDAC 2021)

09/2016 – 01/2022

## Director Tehnic

Contecht GmbH, Berlin, Germany

- Consultanță și dezvoltare în IT pentru organizații mari
- Pregătire și livrare programe de training "Data Analytics Translators" pentru Arcadis 10x (2018, 2019)
- Dezvoltarea de instrumente de asistență pentru proiectare bazată pe web și automatizarea designului cu Forge - Training (2021)
- Managementul proiectelor de cercetare și de dezvoltare programelor software
- Implicarea în proiecte de cercetare

08/2016 – 02/2021

## Asistent de cercetare și predare

Technische Universitaet Berlin, Berlin, Germany

- predare cursuri de specialitate licență și master
- cercetare și dezvoltare pe proiecte interne și europene
- coordonare proiecte de cercetare studenți licență, master
- publicare articole în jurnale și conferințe de specialitate

- implicare in proiecte de cercetare (CBIM, SAFE10T, P2Endure, BIMSpeed)

02/2012 – 07/2016

### BIM Manager / Worksharing Manager/ Inginer Structuri

#### Arcadis, Iași, Romania

- Implementarea, managementul și livrarea BIM la nivel de proiect
- Implementarea BIM la nivel de companie
- comunicarea cu echipa de proiect, clientul și consultanții
- gestionarea proceselor și procedurilor de schimb de informații
- găzduirea și participarea la revizuirile de proiectare și sesiuni de coordonare
- estimarea volumului de muncă, și implicarea în procesul de alocare a resurselor interne;
- Supravegherea proiectelor pentru a ajunge la un acord asupra scopului, timpului și bugetului;
- Dezvoltarea de noi competențe și piețe;
- Consilierea echipelor de proiect cu privire la implementarea BIM și selectarea software-ului pentru a se potrivi proiectelor lor specifice;

#### Proiecte de referință:

- Gold Line, Doha Metro.
- Uithoflijn – linie nouă de tramvai Utrecht, Netherlands;
- Kanaalkom – complex rezidențial, Hasselt Belgium;
- Podul Uccle, Belgium;
- R4 South – segment de autostradă, Gent, Belgium;
- Ecluza Deurganck, Antwerp, Belgium;

## EDUCAȚIE ȘI FORMARE PROFESIONALĂ

2008--2011

### Doctor in Inginerie Civilă

- Universitatea Tehnică „Gh. Asachi” Iași
- Teza de doctorat: Optimizarea tehnologiilor și metodelor de organizare pentru execuția clădirilor înalte
- Îndrumător de doctorat: Prof. Dr. Ing. Șerbănoiu Ion

2008--2009

### Master in Inginerie civilă

- Facultatea de Construcții și Instalații, Universitatea Tehnică „Gh. Asachi” Iași
- Specialitate: Concepții avansate în proiectarea structurilor metalice
- Îndrumător teza de master: Conf. Dr. Ing. Străteanu Petru

2003--2008

### Licență în Inginerie Civilă

- Facultatea de Construcții și Instalații, Universitatea Tehnică „Gh. Asachi” Iași
- Specialitatea: CCIA
- Îndrumător licență: Conf. Dr. Ing. Străteanu Petru

## ABILITĂȚI PERSONALE

Limba maternă

romana

Alte limbi străine

	INTELEGERE		VORBIT		SCRIS
	Comprehenziune orală	Citit	Interacțiune	Producție	
Engleză	C2 - Utilizator experimentat	C2 - Utilizator experimentat	C2 - Utilizator experimentat	C2 - Utilizator experimentat	C2 - Utilizator experimentat
Franceză	A2 - Utilizator de bază	B1 - Utilizator independent	A2 - Utilizator de bază	A2 - Utilizator de bază	A2 - Utilizator de bază
Germană	B1 - Utilizator independent	B1 - Utilizator independent	B1 - Utilizator independent	B1 - Utilizator independent	B1 - Utilizator independent

## Competente digitale

AUTOEVALUARE				
Prelucrarea informatiilor	Comunicare	Creare continut	Siguranta si securitate	Rezolvarea problemelor
Utilizator experimentat	Utilizator experimentat	Utilizator experimentat	Utilizator experimentat	Utilizator experimentat

Levels: Basic user - Independent user - Proficient user

[Digital competences - Self-assessment grid](#)

Replace with name of ICT-certificate(s)

programe de specialitate (Revit, Autocad, Tekla) - avansat Microsoft Office ( Excel ; PowerPoint ; Word ) - nivel experimentat programare (Borland Pascal, C#, FoxPro, Java, javascript, python, R) - experimentat

- competente avansate de utilizare a calculatorului

## Permis de conducere B



## INFORMAȚII SUPLIMENTARE

### Publicații - Carti

- Ungureanu, L.,** Serbanoiu, I., (2011) – Metode de organizare a execuției clădirilor înalte , Ed. Societății Academice " Matei Teiu-Botez", Iasi, Romania, (in Romanian language), 236 pages, ISBN: 978-606-582-008-1.
- Ungureanu, L.,** Serbanoiu, I., (2011) – Tehnologii de execuție a clădirilor înalte , Ed. Societății Academice " Matei Teiu-Botez", Iasi, Romania, (in Romanian language), 170 pages, ISBN: 978-606-582-009-8.
- Serbanoiu, I., **Ungureanu, L.** (2010) – Tehnici moderne pentru programarea lucrărilor de construcții , Ed. Societății Academice " Matei Teiu-Botez", Iasi, Romania (in Romanian language), 250 pages, ISBN: 978-973-8955-79-0.

### Publicații – Articole

- Jungmann, M., Hartmann, T., Tomar, R., **Ungureanu, L.**, (June 2023). A Combined Digital Twin and Location-Based Management System, Proceedings of the 31st Annual Conference of the International Group for Lean Construction (IGLC 31) (pp. 1267-1278) <https://doi.org/10.24928/2023/0184>
- Jungmann, M., **Ungureanu, L.**, Hartmann, T., Posada, H., & Chacon, R. (2022, December). Real-Time Activity Duration Extraction of Crane Works for Data-Driven Discrete Event Simulation. In 2022 Winter Simulation Conference (WSC) (pp. 2365-2376). IEEE.
- Khan, R., Tomar, R., Hartmann, T., **Ungureanu, L.**, Chacón Flores, R. A., & Ibrahim, A. (2022). Platology: a digital twin ontology suite for the complete lifecycle of infrastructure. In Proceedings of the 29th EG-ICE International Workshop on Intelligent Computing in Engineering (pp. 1-10).
- Posada, H., Chacón, R., **Ungureanu, L. C.**, & García, D. (2022). Closing the Gap Between Concrete Maturity Monitoring and Nonlinear Time-dependent FEM Analysis through a Digital Twin. Case Study: Post-tensioned Concrete Slab of an Office Building, Barcelona, Spain. In ISARC. Proceedings of the International Symposium on Automation and Robotics in Construction (Vol. 39, pp. 215-222). IAARC Publications.
- Amoroch, J. A. P., Hartmann, T., & **Ungureanu, L. C.** (2022, September). Reno-DM: A Knowledge model to support the decision-making process in the context of residential building renovation projects. In IOP Conference Series: Earth and Environmental Science (Vol. 1078, No. 1, p. 012018). IOP Publishing.
- Guyo, Hartmann, & **Ungureanu, 2021** - Interoperability between BIM and GIS through open data standards: An overview of current literature - accepted in CIB W78 - LDAC 2021
- Ungureanu L.C., 2021.** A Design Recommender System: A Rules-based Approach to Exploit Natural Language Imprecision using Belief and Fuzzy Theories, egi-ce Workshop 2021, Berlin
- Ungureanu L.C.,** Hartmann T., 2019. Information Extraction to Support Automation of Navigation through 3D Models During Collaborative Design Sessions, eg-ice Workshop 2019 Leuven
- Kuenz, P., **Ungureanu, L.C.**, Hartmann, T. and Albers, T., 2019. Simulation of Health and Safety Aspects during the Maintenance of Offshore Wind Farms. In Computing in Civil Engineering 2019: Smart Cities, Sustainability, and Resilience (pp. 507-514). Reston, VA: American Society of Civil Engineers.
- T. Hartmann, **L.C. Ungureanu**, E. Borun, D. Harasymczuk, (2018). An Open Data Taxonomy for Support Rail Asset Management, Proceedings of 7th Transport Research Arena TRA 2018, April 16-19, Vienna, Austria
- Ungureanu L.C.,** Hartmann T. (2019) Inside the Collective Mind: Features Extraction to Support Automated Design Space Explorations. In: Mutis I., Hartmann T. (eds) Advances in Informatics and Computing in Civil and Construction Engineering. Springer, Cham
- L.C. Ungureanu**, and T. Hartmann, (2018). "Civil Systems Engineering: Definition and Basic Concepts." In Construction Research Congress, April, 2-4, New Orleans, USA;
- L.C. Ungureanu**, and T. Hartmann, (2017). "Natural Language Controlled Parametric Design" 24th International Workshop on Intelligent Computing in Engineering, July 10-12, Nottingham, UK.
- Călin S., **Ungureanu, L.** (2011) - Spherical Voided Bi-Axial Concrete Floor Slabs - Shortcomings of CAD Models, Simpozion Internațional „Computational Civil Engineering 2011 - New approaches in numerical analysis in civil engineering”, Ed. Societății Academice "Matei - Teiu Botez", Iași, Romania
- Bushra, N., Hartmann, T., & **Ungureanu, L. C.** (2022). A method for global potential assessment of roof integrated two-stage solar concentrators (TSSCs) at district scale. Applied Energy, 326, 120018. <https://doi.org/10.1016/j.apenergy.2022.120018>
- Ungureanu, L. C.**, & de Wilde, P. (2022). Intelligent computing: Digitization and digitalization to support waste reduction and prevention. <https://doi.org/10.1016/j.aei.2022.101576>
- Bushra, N., Hartmann, T., & **Ungureanu, L. C.** (2022). Performance assessment method for roof-integrated TSSCs. Applied Energy, 322, 119454. <https://doi.org/10.1016/j.apenergy.2022.119454>
- Lucian Constantin Ungureanu**, Timo Hartmann (2021) "Analysing frequent natural language expressions from design conversations", Design Studies, Volume 72, 2021, 100987, ISSN

0142-694X, <https://doi.org/10.1016/j.destud.2020.100987>.

**Lucian Constantin Ungureanu**, Timo Hartmann, Ion Serbanoiu, (2019). Quantitative lean assessment of line of balance schedules' quality, Engineering, Construction and Architectural Management, Vol. 26 Issue: 2, pp.224-244, <https://doi.org/10.1108/ECAM-05-2017-0088>  
Timo Hartmann, **Lucian-Constantin Ungureanu**, Rizal Sebastian, (2018). The Horizon 2020 BIM-SPEED Project, The REHVA European HVAC Journal, Vol. 05/2018, pp. 20-22, <https://www.rehva.eu/rehva-journal/chapter/the-horizon-2020-bim-speed-project>

#### Prezentări

Invited speaker: BIMcon summit 5.0 Edition – openBIM – Digital Twins for the construction phase, Oct. 26th, Bucharest, Romania;  
Keynote Speaker: CCE 2023 – Embedding digital and green for resilient constructions - ASHVIN – A Digital Twin Platform and Toolkit to enable an efficient construction process – May 24th, Iasi, Romania  
Invited speaker: BIMcon summit 4.0 Edition – openBIM - Design Automation to support the life cycle of infrastructure design projects, Oct. 28th, Bucharest, Romania;  
Guest speaker: 4th BIM-international Summer School 2021 – BIM Examples from Practice July, 2021;  
Guest speaker: 4th BIM-international Summer School 2021 – Beyond BIM - ASHVIN – Digital Twin for Productivity, Resource Efficiency, and Safety, July, 2021;  
Guest Lecture: National Taiwan University of Science and Technology 2021 – Engineering Agile Civil Systems, April 2021, online.  
Shift2Rail Innovation Days – GOSAFE Rail – Data Management platform and data standards for railways; October 2020;  
Guest speaker: 3rd BIM-international Summer School 2020 – BIM Examples from Practice June, 2020;  
Workshop: Spatial data analysis and machine learning with R, AEC Hackathon, 2018, Berlin  
Invited talk: ARCADIS: Global BIM Community meeting: Gold Line Doha Metro: BIM Implementation and lesson learned; May, 2016;  
Invited Talk: ARCADIS: 3rd BIM Civil Structures network meeting: Dynamo BIM – A visual programming tool; October 2015, Doha, Qatar;  
Webinar: ARCADIS – BIM as part of the Program Management Centre of Excellence: Enhancing Parametric Design using Visual Programming, October 2014, Antwerp, Belgium;  
Invited talk ARCADIS – Global Knowledge network Bridges: Enhancing parametric design using visual programming; September 2016, Romania;

#### Proiecte de cercetare

**Ashvin** – Assistants for Healthy, Safe, and Productive Virtual Construction Design, Operation & Maintenance using a Digital Twin  
Project start: 01.10.2020  
Horizon 2020 H2020-NMBP-ST-IND-2018-2020  
Overall Funding: 5 609 858; allocated to TU Berlin: 1 113 125; allocated digitAEC Matters 36 230.50

**Precept** – A novel decentralized edge-enabled PREsCRIPTivE and ProacTive framework for increased energy efficiency and well-being in residential buildings  
Project Start: 01.10.2020  
H2020-NMBP-ST-IND-2020-singlestage  
Overall Funding: 6 053 667; allocated to Contect: 415 000

**BIMSpeed** - Harmonised Building Information Speedway for Energy-Efficient Renovation  
Project Start: 01.10.2018  
H2020-NMBP-ST-IND-2018-2020  
Overall Funding: EUR 6 997 781,25; allocated to TU Berlin: EUR 895 000  
<https://www.bim-speed.eu/en>

**CBIM** – Action Title: Cloud-based Building Information Modelling  
Project start: 01.03.2020  
Marie Skłodowska-Curie Actions (MSCA) Innovative Training Networks (ITN) H2020-MSCA-ITN-2019  
Overall Funding: 3 888 430.56; allocated TU Berlin: 505 576.80

**SAFE10T** – Safety of Transport Infrastructure on the TEN-T Network  
Project Start: 1.6.2017  
Horizon 2020 H2020-MG-2016-2017  
Overall Funding: 2 997 500; allocated to TU Berlin: 253 750

**P2Endure** – Plug-and-Play product and process innovation for Energy-efficient building deep renovation



Project Start: 1.10.2016  
Horizon 2020 H2020-EE-2016-2017  
Overall Funding: 3 999 991; allocated to TU Berlin: 280 875

**GoSafe** - Global SAFETY Management Framework for RAIL Operations  
Project Start: 1.10.2016  
Horizon 2020 H2020-S2RJU-OC-2015-01-2  
Overall Funding: 1 298 750; 121 875 allocated to Contecht GmbH

#### Afilieri

Expert evaluator pentru Horizon Europe 2023  
Expert evaluator pentru EPFLLeaders4Impact co-funded by the Marie Skłodowska-Curie Actions  
Postdoctoral Fellowships at EPFL 2023  
Membru al American Association for the Advancement of Science (AAAS)  
Editor Invitat 2021, 2022 pentru Advanced Engineering Informatics (Elsevier; Factor de impact: 8.8, CiteScore: 11.8)  
Membru activ al Building Smart Romania din 2022  
Membru în ASOCIAȚIA INGINERILOR CONSTRUCTORI PROIECTANȚI DE STRUCTURI din 2024  
Membru în comitetul științific CCE2023, CCE2021, Conference on Building Services and Energy Efficiency – 2020  
Președinte organizatoric al 28th International Workshop on Intelligent Computing in Engineering, eg-ice2021, Berlin, Germany;  
Președinte al Comitetului Științific 27th International Workshop on Intelligent Computing in Engineering, eg-ice2020, Germany;  
Copreședinte al Comitetului de Organizare 31st Bauinformatik Forum, 2019  
Recenzor activ pentru:

- Advanced Engineering Informatics (Elsevier);
- Engineering Construction and Architectural Management (Emerald);
- Journal of Information Technology in Construction;
- Smart Infrastructure and Construction (ICE);
- Journal of Computing in Civil Engineering (ASCE)
- Design Studies (Elsevier)

#### Cursuri Academice

**Engineering Agile Civil Systems 2017 – 2023**; Master module civil engineering TU Berlin, translating the Agile philosophy to the civil engineering field, with the main goal of engineering flexible-to-change civil systems.  
**Modeling civil engineering products 2016 – 2021**; Master module civil engineering TU Berlin, Teaches ontological and parametric product modeling methods.  
**Whole Lifecycle Analysis of Civil Systems 2017 – 2021**; Master module civil engineering TU Berlin, focus on the lifecycle impact assessment.  
**Data Engineering 2017 – 2020**; Bachelor and Master module civil engineering TU Berlin, teaches the students the basics of machine learning and its applicability to the civil engineering field.  
**Construction Management 2010**; Master class, Technical University "Gheorghe Asachi" of Iasi, Faculty of Civil Engineering and Building Services; Scheduling techniques and tools.

#### Cursuri in industrie

Autodesk DynamoBIM, Design parametric, Ianuarie – Martie, 2024, Splendid Development, Romania  
Autodesk Revit for Architecture -Advanced Level – June 2023, Bog'Art, Romania  
Autodesk Revit for Architecture -Beginner Level – May 2023, Bog'Art, Romania  
Autodesk Revit for Infrastructure Projects – Intermediate Level – May 2022, SWECO, Belgium  
Autodesk Forge – Design Automation, July – August 2021, Cideon, online  
Data Analytics Translators – November, 2019- ARCADIS Europe, London, United Kingdom  
EDNA#5 - Data Analytics Translators – October, 2019- ARCADIS Global, Corsendonk, Belgium  
Data Analytics Translators – August, 2019- ARCADIS South America, Sao Paulo, Brazil  
EDNA#4 - Data Analytics Translators – June, 2019- ARCADIS Global, Corsendonk, Belgium  
EDNA#3 - Data Analytics Translators – January, 2019- ARCADIS Global, Corsendonk, Belgium  
Data Analytics Translators – December, 2018- ARCADIS North America, Dallas, USA  
EDNA#2 - Data Analytics Translators – November, 2018- ARCADIS Global, Corsendonk, Belgium  
EDNA#1 - Data Analytics Translators – September, 2018- ARCADIS Global, Corsendonk, Belgium  
Data Analytics Translators – June, 2018- ARCADIS Europe, Berlin, Germany

#### Supervizare cercetare

Student Project work

- Path finding for planning infrastructure alignments using the Dijkstra Algorithm (2020)
- Analysis of transcripts with n - grams from Integrated Collaborative Engineering (ICE) - Sessions in relation to architectural design sessions (2021)
- Waste pickup planning – a data-driven case study for Berlin Recycling (2019)

- From Speech Act to Virtual Design Implementation (2019)
- Parametrization of a pavilion "Schattendach Tegel" (2019)

#### Bachelor theses

- Determination of the useful life of heating systems with stochastic risk assessment methods (thesis in German) (2020)
- Data analysis to improve the efficiency of Berlin's drinking water supply (thesis in German) (2019)
- Analysis of ultrasonic data from rail testing using methods of "supervised machine learning" (thesis in German) (2018)
- Stochastic fault tree analysis for the technical assessment of critical risks in schedules (thesis in German) (2018)
- Parametric modeling for the verification of temporary bridges of the Deutsche Bahn (thesis in German) (2018)

#### Master theses

- Increasing the efficiency and safety of construction processes with the help of discrete event simulations (Hardy Neuer – 2021)
- Verbesserungspotenziale durch die Automatisierung und den Einsatz von Sensorik innerhalb der Schraubprozesse im Gleisbau (Felix Höfling, 2020)
- Automated parametric preliminary design of construction pits (thesis in German) (Martin Büchler - 2019)
- Simulation-based investigation of health and safety aspects due to environmental impacts in the operation and maintenance phase of offshore wind farms (Philipp\_Kuenz-2017)

#### Activități editoriale

Advanced Engineering Informatics – Special Issue Guest Editor – eg-ice2021  
(<https://www.sciencedirect.com/journal/advanced-engineering-informatics/special-issue/1015QP7DX0T> )

Advanced Engineering Informatics – Special Issue Guest Editor – eg-ice2020  
(<https://www.sciencedirect.com/journal/advanced-engineering-informatics/special-issue/1012LKFRS5V> )

Abualdenien, Bormann, Ungureanu, & Hartmann, T. (Eds.). (2021). EG-ICE 2021 Workshop on Intelligent Computing in Engineering. Universitätsverlag der TU Berlin. (<https://depositonce.tu-berlin.de/handle/11303/13226> )

Ungureanu, L. C., & Hartmann, T. (Eds.). (2020). EG-ICE 2020 Workshop on Intelligent Computing in Engineering. Universitätsverlag der TU Berlin. (open access: <https://depositonce.tu-berlin.de/handle/11303/11088> )

Sternal, M., Ungureanu, L. C., Böger, L., & Bindal-Gutsche, C. (Eds.). (2019). 31. Forum Bauinformatik: 11.–13. September 2019 in Berlin. Proceedings. Universitätsverlag der TU Berlin. (open access: <https://depositonce.tu-berlin.de/handle/11303/9730> )