



MELIHA HONIC

Dipl.-Ing. Dr. techn.

Postdoctoral Fellow at ETH Zurich

PROFILE

Postdoctoral researcher with focus on:

- BIM-based workflows
- Material Passports
- Digitalization of the building stock
- Blockchain for a Circular Economy

LANGUAGES

German (native)
English (fluent)
Turkish (native)
Bosnian (intermediate)
French (intermediate)

CONTACT

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Curriculum Vitae



WORK EXPERIENCE

since 05/2022

ETH Zurich, Institute of Construction & Infrastructure Management – Circular Engineering for Architecture
Postdoctoral Fellow

- Enabling a circular economy in the construction sector through blockchain technology, BIM and material passports

11/2020 – 04/2022

Delta Holding (part-time)
BIM-6D Expert

- Project initiator and leader of the research project „**BIM4eco**“: Web-Tool for the automated generation of BIM-based LCAs

04/2020 – 04/2022

TU Wien, Institute for Interdisciplinary Building Process Management - Integrated Planning and Industrial Building
Post-Doc Researcher/University Assistant

Research

- Project initiator and leader of the research project „**BIMstocks**“: Digital Urban Mining Platform: Assessing the material composition of building stocks through coupling of BIM to GIS
- Project leader of the research project „**LargeClouds2BIM**“: Efficient workflow transforming large 3D point clouds to Building Information Models with user-assisted automatization

Teaching

- Lead of the lecture „Material Passport“
- Support within the lecture “Planning Processes with BIM”
- Supervision of Master Theses

04/2016 – 04/2020

TU Wien, Institute for Interdisciplinary Building Process Management - Integrated Planning and Industrial Building
PhD candidate/Project Assistant

- Project leader and scientific staff of the research project „**SCI_BIM**“: Scanning and data capturing for the Integrated Resources and Energy Assessment using Building Information Modelling
- Scientific staff of the research project „**BIMaterial**“: Process-Design for a BIM-based Material Passport



EDUCATION BACKGROUND

04/2016 – 12/2019

Doctoral studies at the faculty for Civil Engineering at TU Wien

- Graduated on 6th December 2019
- Doctoral thesis: „Process-Design for the semi-automated generation of BIM-based Material Passports for buildings“

03/2013 – 03/2016

Master programme in Architecture at TU Wien

- Graduated on 15th March 2016 with honors
- Master thesis „Optimierte Nachverdichtung durch BIM und LCA-Tools“

10/2009 – 02/2013

Bachelor programme in Architecture at TU Wien

- Graduated on 20th February 2013



PUBLICATIONS

Journal Papers

- [Submitted] Honic M., Ferschin P., Kovacic I. (2022). Framework for a digital urban mining platform for the building stock of Vienna. *Journal of Sustainable Development of Energy, Water and Environment Systems*.
- Roithner C., Cencic O., Honic M. & Rechberger H. (2022). Recyclability assessment at the building design stage based on statistical entropy: A case study on timber and concrete building. *Resources, Conservation & Recycling*.
- [Submitted] Sanchez B. & Honic M. (2021). Integrating disassembly parameters into Material Passport of buildings for a Circular Economy. *Automation in Construction*.
- Honic, M., Kovacic, I., Aschenbrenner P. & Ragossnig A. (2021). Material Passports for the End-of-Life Stage of Buildings: Challenges and Potentials. *Journal of Cleaner Production*, 319. <https://doi.org/10.1016/j.jclepro.2021.128702>
- Kovacic, I., & Honic, M. (2021). Scanning and data capturing for BIM-supported resources assessment: a case study. *Journal of Information Technology in Construction (ITcon)*, 26(32), 624-638.

- Kovacic, I., Honic, M., & Sreckovic, M. (2020). Digital Platform for Circular Economy in AEC Industry. *Engineering Project Organization Journal*, 9.
- Honic, M., & Kovacic, I. (2020). Model and data management issues in the integrated assessment of existing building stocks. *Organization, Technology & Management in Construction: an international journal*, 12(1), 2148-2157.
- Honic, M., Kovacic, I., & Rechberger, H. (2019). Improving the recycling potential of buildings through Material Passports (MP): An Austrian case study. *Journal of Cleaner Production*, 217, 787-797.
- Honic, M., Kovacic, I., Sibenik, G., & Rechberger, H. (2019). Data- and stakeholder management framework for the implementation of BIM-based Material Passports. *Journal of Building Engineering*, 23, 341-350.
- Honic, M., Kovacic, I., & Rechberger, H. (2019). BIM-based material passport (MP) as an optimization tool for increasing the recyclability of buildings. In *Applied Mechanics and Materials*, 887, 327-334. Trans Tech Publications Ltd.

Conference Contributions (selected publications)

- Honic, M., Hinterleitner A., Schlögel I., Sreckovic M., Kovacic. (2021) Application of GPR-technology for Identifying the Material Composition of Building Components. *Presented at the European Conference on Computing in Construction*, Online eConference, July 26-28, 2021.
Available at:
https://ec-3.org/conference2021/wp-content/uploads/sites/4/2021/07/Contribution_188_final.pdf
- Kán, P., Ferschlin, P., Honic, M., & Kovacic, I. (2021). Building Information Monitoring via Gamification. In *VISIGRAPP (1: GRAPP)*, 261-270.
- Honic, M., Kovacic, I., Gilmutdinov I., & Wimmer M. (2020). Scan to BIM for the Semi-Automated Generation of a Material Passport for an Existing Building. *Proceedings of the 37th International Conference of CIB W78, Sao Paulo - online*, BR, 18-20 August, ISSN: 2706-6568, 338-346.
- Honic, M., Kovacic, I., & Rechberger, H. (2019). Concept for a BIM-based Material Passport for buildings. In *IOP Conference Series: Earth and Environmental Science*, 225(1), 012073. IOP Publishing.
- Honic, M., Kovacic, I., & Rechberger, H. (2019). Assessment of the recycling potential and environmental impact of building materials using material passports-a case study. *Proceedings of proceedings of the International Conference on Sustainable Materials, Systems and Structures - Energy efficient building design and legislation*, pp. 172-179. RILEM Publications S.A.R.L.
- Kovacic, I., Honic, M., & Rechberger, H. (2019). Proof of concept for a BIM-based material passport. In *Advances in Informatics and Computing in Civil and Construction Engineering*, 741-747. Springer, Cham.



AWARDS

ETH Fellowship Postdoctoral Fellowship 2022

<https://ethz.ch/en/research/research-promotion/eth-fellowships.html>

Best Paper

Best Paper Award OTMC 2019

In the category of Young Researcher for presenting the paper titled: „Model and Data Management Issues in Integrated Assessment of Existing Building stocks“

Winner

PINT 2018: Award for Innovation and Technology

Awarded by the TU Wien alumni club, Plattform 4.0 and Chamber of Commerce (WKÖ) for outstanding research activities

Nomination

ÖGUT-Environment Award 2018

Category: City of the Future, for the research project “BIMaterial”



OTHER SKILLS & HOBBIES

Committee on equal treatment

Member of the committee on equal treatment of TU Wien, representing the faculty of Civil Engineering (<https://www.tuwien.at/tu-wien/tuw-fuer-alle/arbeitskreis-fuer-gleichbehandlungsfragen-akg/kontakt>)

ÖGNI

Member of the working group Circular Economy of ÖGNI (Österreichische Gesellschaft für Nachhaltige Immobilienwirtschaft)

DiCE-lab

Member of the Digital Circular Economy (DiCE)-lab (<https://www.dice-lab.com/about>)

INNOVATORINNEN

Alumnae of the Leadership-Program “INNOVATORINNEN” (https://www.ffg.at/innovatorinnen_alumnae)

Dismantling Expert

Training course: Demolition work – dismantling expert (2020)

Volleyball

3 times Austrian champion with the club and school team
8 years competitive sports in the club „SVS Sokol“

Certificate

Cambridge Certificate in advanced English (C1)