

Curriculum Vitae



Personal information

Name **Edmund Widl**
Telephone +43 50550 6034 Mobile: +43 664 8251489
E-mail edmund.widl@ait.ac.at
Nationality Austria
Date of birth February 9, 1979

Work experience

2016 – present Senior scientist, research field Integrated Energy Systems / Power System Digitalization
AIT Austrian Institute of Technology, Center for Energy, Vienna, Austria
2011 – 2015 Scientist, research field Complex Energy Systems
AIT Austrian Institute of Technology, Center for Energy, Vienna, Austria
2008 – 2011 Postdoctoral researcher, physics analysis for the CMS experiment at CERN
Austrian Academy of Sciences, Institute for High Energy Physics (HEPHY), Vienna, Austria

Education and training

2004 – 2008 PhD in technical physics
Title of thesis: Global Alignment of the CMS Tracker
TU Wien, Vienna, Austria
1997 – 2004 Master in technical physics
Title of thesis: Results and further developments of the qualification procedures for the CMS Tracker silicon microstrip sensors
TU Wien, Vienna, Austria

Personal skills and competences

Mother tongue German

Other languages

Understanding		Speaking		Writing
Listening	Reading	Spoken interaction	Spoken production	
excellent	excellent	excellent	excellent	excellent
basics	basics	basics	basics	basics

English

Japanese

Programming languages

C/C++, Python, Java, TypeScript, MATLAB, Fortran

Domain expertise

- simulation-based assessment of multi-domain energy system (FMI-based co-simulation, etc.)
- software development toolchains (Visual Studio, GNU Build System, CMake, Jenkins, etc.)
- data analysis toolkits (Python, MATLAB, ROOT, etc.)
- interactive computing applications and deployment of online services (JupyterLab, JupyterHub, Keycloak, Docker, etc.)
- productivity software (Microsoft Office, LaTeX, Google Docs, Wikis, Confluence, etc.)

Awards

- 2009 Victor Hess Award of the Austrian Physical Society for outstanding PhD thesis in the field of nuclear and particle physics
- 2018 IEEE Senior Member

Research project coordination

- 2018 – 2019 Project leader for *DIM4Energy – Digitale Informationsmodelle für die Planung und Betriebsoptimierung von urbaner Energieinfrastruktur* (FFG, Staff der Zukunft, #867315)
- 2017 – 2019 Work package leader for *SmILES – Smart Integration of Energy Storages in Local Multi Energy Systems for Maximising the Share of Renewables in Europe's Energy Mix* (H2020, LCE-33-2016, #730936)
- 2016 – 2019 Task leader for *ERIGrid – European Research Infrastructure supporting Smart Grid Systems Technology Development, Validation and Roll Out* (H2020, INFRAIA-1-2014-2015, #654113)
- 2015 – 2016 Project leader for *OptHySys – Optimierung Hybrider Energienetze und -Systeme* (FFG, Energieforschung, #848778)
- 2013 – 2017 Project leader of the Austrian contribution to the *IEA EBC Annex 60 – New generation computational tools for building and community energy systems* (FFG, Forschungs Kooperation IEA, #843149)

Conference organization

- 2015 – present Program Chair for *Workshop on Modeling and Simulation of Cyber-Physical Energy Systems* (MSCPES)
- 2016 Publication Chair and Registration Co-chair for *Cyber-Physical Systems Week* (CPS Week 2016)
- 2013 Senior Registration Officer for the *Annual Conference of the IEEE Industrial Electronics Society* (IECON 2013)

Editorships

- 2020 – present Editorial Board Member for MDPI Energies
- 2018 – 2019 Guest Editor for *Special Issue on Cyber-Physical Energy Systems* (MDPI Applied Sciences)
- 2013 – 2014 Corresponding Guest Editor for *Special Section on Modeling, Simulation, and Application of Cyber-Physical Energy Systems* (IEEE Transactions for Industrial Informatics)

Selected journal publications

- E. Widl, B. Leitner, D. Basciotti, S. Henein, T. Ferhatbegovic, R. Hofmann: "Combined Optimal Design and Control of Hybrid Thermal-Electrical Distribution Grids Using Co-Simulation", *Energies* 13(8), 2020 (<https://doi.org/10.3390/en13081945>)
- M. H. Spiegel, E. Widl, B. Heinzl, W. Kastner, N. Akroud: "Model-Based Virtual Components in Event-Based Controls: Linking the FMI and IEC 61499", *Applied Sciences* 10 (5), 2020 (<https://doi.org/10.3390/app10051611>)
- B. Leitner, E. Widl, W. Gawlik, R. Hofmann: "A method for technical assessment of power-to-heat use cases to couple local district heating and electrical distribution grids", *Energy* 182, pp. 729-738, 2019 (<https://doi.org/10.1016/j.energy.2019.06.016>)
- E. Widl, T. Jacobs, D. Schwabeneder, S. Nicolas, D. Basciotti, S. Henein, et al: "Studying the potential of multi-carrier energy distribution grids: A holistic approach", *Elsevier Energy* 153, pp. 519-529, 2018 (<https://doi.org/10.1016%2Fj.energy.2018.04.047>)
- S.C. Müller, H. Georg, J.J. Nutaro, E. Widl, Y. Deng, P. Palensky, et al: "Interfacing Power System and ICT Simulators: Challenges, State-of-the-Art, and Case Studies", *IEEE Transactions on Smart Grid* 9 (1), pp. 14-24, 2018 (<https://www.doi.org/10.1109/TSG.2016.2542824>)
- P. Palensky, E. Widl, A. Elsheikh: "Simulating Cyber-Physical Energy Systems: Challenges, Tools and Methods", *IEEE Transactions on Systems, Man, and Cybernetics: Systems* 44 (3), pp. 318-326, 2014 (<https://doi.org/10.1109/TSMCC.2013.2265739>)
- P. Palensky, E. Widl, M. Stifter, A. Elsheikh: "Modeling Intelligent Energy Systems: Co-Simulation Platform for Validating Flexible-Demand EV Charging Management", *IEEE Transactions on Smart Grid* 4 (4), pp. 1939-1947, 2013 (<https://doi.org/10.1109/TSG.2013.2258050>)