Daniel Fozer, Assistant Professor

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10/2023

Degrees:

2019	PhD in Chemical Engineering, Budapest University of Technology and Economics, HU
2017	MSc in Chemical Process Engineering, Budapest University of Technology and Economics, HU

Positions

2023 -	Assistant Professor, Section for Quantitative Sustainability Assessment (QSA), DTU Sustain, DK
2021 -2023	Postdoc, Section for Quantitative Sustainability Assessment (QSA), DTU Management Engineering/DTU Sustain, DK
2019-2021	Assistant Professor, Department of Chemical and Environmental Process Engineering, Budapest University of Technology and Economics, HU
2015-2016	Teaching Assistant, Department of Chemical and Environmental Process Engineering, Budapest University of Technology and Economics, HU
2013-2014	Intern, Richter Gedeon Nyrt., HU

Research Area

Quantifying environmental learning rates, prospective life cycle assessment, decarbonisation of conventional chemical technologies, absolute sustainability assessment, process synthesis and modelling, intelligent computational methodologies, thermochemical conversion technologies, high-pressure technologies, Power-to-X conversion, waste management and valorisation.

Distinctions and awards

2019	Excellent Master's Thesis Award in the field of Environmental Engineering, Hungarian Chamber of Engineers, (as supervisor)
2017	1st prize, K&H for Sustainable Agriculture, K&H Bank
2017	1st prize, Smart Talented Engineer Project (STEP), Wanhua BorsodChem Zrt.

Memberships of scientific committees, review

2021 -	Review Editor, Frontiers in Sustainability, ISSN: 2673-4524
2021 -	Topical Advisory Panel Member, ChemEngineering, ISSN: 2305-7084
2017 -	Assistant Editor, Circular Economy and Environmental Protection/Körforgásos Gazdaság és Környezetvédelem, ISSN: 2560-1024
2017-2021	Member of the Presidium, Technical Chemistry Section, Hungarian Chemical Society

Web of Science publications: 41; **Citations:** 530, ***h*-index:** 15

Selected projects

2022-	Innovation Fund Denmark – ReMEG – Renewable Mono Ethylene Glycol for PET Plastic, Role: participant researcher
2021-	Innovation Fund Denmark – CircFuel – Achieving Circular Economy: Pyrolysis of waste into synthetic fuel at cement plants, Role: participant researcher
2019-2023	Hungarian Scientific Research Fund, OTKA – 131586, Improvements for circular economy: development of new physicochemical process wastewater treatment methods and their evaluation, Role: participant researcher

2018-2022 Hungarian Scientific Research Fund, OTKA – 128543, Storage of fluctuating renewable energies with flexible methods: energy and raw materials, Role: participant researcher

2015-2019 Hungarian Scientific Research Fund, OTKA – 112699, Capture of CO_2 from biogases and industrial flue gases, Role: participant researcher

Selected grants

2020-2021 New National Excellence Program Research Fund, ÚNKP-20-4-II-BME-296, Postdoc category, Role: Principal Investigator, HU

2020-2021 BME Thematic Excellence Program IE grant, BME IE-MI-SC TKP2020, Role: Principal Investigator, HU

2018-2019 National Talent Program 2018 Research Fund, NTP-NFTÖ-18-B-0154, HU

2017-2018 New National Excellence Program Research Fund, ÚNKP-17-3-I-BME-022, PhD student category, HU

Selected publications (2017 or later)

Fozer, D., Nimmegeers, P., Toth, A.J., Varbanov, P.S., Klemeš, J.J., Mizsey, P., Hauschild, M.Z., Owsianiak, M., Hybrid Prediction-Driven High-Throughput Sustainability Screening for Advancing Waste-to-Dimethyl Ether Valorization, ENVIRONMENTAL SCIENCE & TECHNOLOGY, **2023**, doi: 10.1021/acs.est.3c01892

Gruber Z., Toth, A.J., Menyhárd, A., Mizsey, P., Owsianiak, M., **Fozer, D.**, Improving green hydrogen production from *Chlorella vulgaris* via formic acid-mediated hydrothermal carbonisation and neural network modelling, BIORESOURCE TECHNOLOGY, **2022**, 365:128071, doi: 10.1016/j.biortech.2022.128071

Fozer, D., Toth, A.J., Varbanov, P.S., Klemeš, J.J., Mizsey, P., Sustainability assessment of biomethanol production via hydrothermal gasification supported by artificial neural network, JOURNAL OF CLEANER PRODUCTION, **2021**, 318:128606, doi: 10.1016/j.jclepro.2021.128606

Sztancs, G., Kovacs, A., Toth, A.J., Mizsey, P., Billen, P., **Fozer, D.,** Catalytic hydrothermal carbonization of microalgae biomass for low-carbon emission power generation: the environmental impacts of hydrochar co-firing, FUEL, **2021**, 300:120927, doi: 10.1016/j.fuel.2021.120927

Fozer, D., Volanti, M., Passarini, F., Varbanov, P.S., Klemeš, J.J., Mizsey, P., Bioenergy with Carbon Emission Capture and Utilisation towards GHG neutrality: Power-to-Gas storage via Hydrothermal Gasification, APPLIED ENERGY, **2020**, 115923, doi: 10.1016/j.apenergy.2020.115923

Sztancs, G., Juhasz, L., Nagy, B.J., Nemeth, A., Selim, A., Andre, A., Toth, A.J., Mizsey, P., **Fozer, D.,** Co-Hydrothermal gasification of *Chlorella vulgaris* and hydrochar: The effects of waste-to-solid biofuel production and blending concentration on biogas generation, BIORESOURCE TECHNOLOGY, **2020**, 302:122793,
doi: 10.1016/j.biortech.2020.122793

Volanti, M., Cespi, D., Passarini, F., Neri, E., Cavani, F., Mizsey, P., **Fozer, D.,** Terephthalic acid from renewable sources: early stage sustainability analysis of a bio-PET precursor, GREEN CHEMISTRY, **2019**, 21:885-896,
doi: 10.1039/C8GC03666G

Fozer, D., Kiss, B., Lorincz, L., Szekely, E., Mizsey, P., Nemeth, A., Improvement of microalgae biomass productivity and subsequent biogas yield of hydrothermal gasification via optimization of illumination, RENEWABLE ENERGY, **2019**, 138:1262-1272 doi: 10.1016/j.renene.2018.12.122

Fozer, D., Sziraky, F.Z., Racz, L., Nagy, T., Tarjani, A.J., Toth, A.J., Haáz, E., Benko, T., Mizsey, P., Life cycle, PESTLE and Multi-Criteria Decision Analysis of CCS process alternatives, JOURNAL OF CLEANER PRODUCTION, **2017**, 147:75–85, doi: 10.1016/j.jclepro.2017.01.056

Fozer, D., Valentinyi, N., Racz, L., Mizsey, P., Evaluation of microalgae-based biorefinery alternatives, CLEAN TECHNOLOGIES AND ENVIRONMENTAL POLICY, **2017**, 19(2):501–515, doi: 10.1007/s10098-016-1242-8