

Prof. Dr.-Ing. Agnes Jocher

Assistant Professorship of Sustainable Future Mobility

Curriculum vitae

Name: Assistant Prof. Dr.-Ing. Agnes Jocher
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Current Position

- Assistant Professor, Assistant Professorship of Sustainable Future Mobility, Technical University of Munich, since July 2020

Academic Qualifications

- Doctorate in Mechanical Engineering, bi-national, RWTH Aachen University, Germany and Sorbonne Université, France, 2017
- Diploma in Mechanical Engineering and Management, Technical University of Munich, Germany, 2011

Professional Career

2020 Scientific Staff, German Environment Agency (UBA), Dessau, Germany
2018 – 2020 Postdoctoral fellow under sponsorship of the Deutsche Forschungsgemeinschaft, Department of Chemical Engineering, Massachusetts Institute of Technology, Cambridge, USA
2017 Alternative Fuels, Environment Branch, ICAO Headquarters, Montréal, Canada
2011 – 2017 Research Assistant, Institute for Combustion Technology, RWTH Aachen University, Germany and Sorbonne Université, France

Other

- Nominated Expert ICAO, Fuel Task Group (FTG), since 2021.
- Member of the founding advisory board of the German Center for Mobility of the Future/Deutsches Zentrum Mobilität der Zukunft (DZM), since 2021.
- Co-organizer, 1st International Conference on Ultra-High-Speed Transportation, Munich, Germany, 2021.
- Editorial Board, Fuel Communications, since 2020.
- Nominated Expert ICAO, Feasibility of a long term global aspirational goal for international aviation (LTAG), since 2020.
- Member of the German Section of the Combustion Institute, since 2020.
- Reviewer: Combustion Theory and Modelling, Combustion and Flame, Industrial & Engineering Chemistry Research

Selected Publications

1. Liu, M.; Grinberg Dana, A.; Johnson, M. S.; Goldman, M. J.; **Jocher, A.**; et al. Reaction Mechanism Generator v3.0: Advances in Automatic Mechanism Generation. *J. Chem. Inf. Model.* 2021, 61 (6), 2686–2696. DOI: [10.1021/acs.jcim.0c01480](https://doi.org/10.1021/acs.jcim.0c01480)
2. **Jocher, A.**; Evans, M. J.; Medwell, P. R.; Dally, B. B.; Pitsch, H.; Nathan, G. J. On the use of oscillating jet flames in a coflow to develop soot models for practical applications. *Proc. Comb. Inst.* 2021, 38 (1), 1309–1317. DOI: [10.1016/j.proci.2020.06.038](https://doi.org/10.1016/j.proci.2020.06.038)

3. Liu, M.; Chi, T.-C.; **Jocher, A.**; Smith, M. C.; Lengyel, I.; Green, W. H. Predicting polycyclic aromatic hydrocarbon formation with an automatically generated mechanism for acetylene pyrolysis. *Int. J. Chem. Kinet.* 2021, 53 (1), 27-42. DOI: [10.1002/kin.21421](https://doi.org/10.1002/kin.21421)
4. **Jocher, A.**; Vandewiele, N. M.; Han, K. et al. Scalability strategies for automated reaction mechanism generation. *Comput. Chem. Eng.* 2019, 131, 106578. DOI: [10.1016/j.compchemeng.2019.106578](https://doi.org/10.1016/j.compchemeng.2019.106578)
5. **Jocher, A.**; Bonnetty, J.; Gomez, T.; Pitsch, H.; Legros, G. Magnetic control of flame stability: Application to oxygen-enriched and carbon dioxide-diluted sooting flames. *Proc. Comb. Inst.* 2019, 37 (4), 5637-5644. DOI: [10.1016/j.proci.2018.05.156](https://doi.org/10.1016/j.proci.2018.05.156)
6. **Jocher, A.**; Pitsch, H.; Gomez, T.; Bonnetty, J.; Legros, G. Combustion instability mitigation by magnetic fields. *Phys. Rev. E.* 2017, 95 (6), 063113. DOI: [10.1103/PhysRevE.95.063113](https://doi.org/10.1103/PhysRevE.95.063113)
7. **Jocher, A.**; Foo, K. K.; Sun, Z.; Dally, B.; Pitsch, H.; Alwahabi, Z.; Nathan, G. Impact of acoustic forcing on soot evolution and temperature in ethylene-air flames. *Proc. Combust. Inst.* 2017, 36(1), 781-788. DOI: [10.1016/j.proci.2016.08.025](https://doi.org/10.1016/j.proci.2016.08.025)
8. **Jocher, A.**; Bonnetty, J.; Pitsch, H.; Gomez, T.; Legros, G. Dual magnetic effects on soot production in partially premixed flames. *Proc. Comb. Inst.* 2017, 36 (1), 1377-1385. DOI: [10.1016/j.proci.2016.05.017](https://doi.org/10.1016/j.proci.2016.05.017)
9. **Jocher, A.**; Pitsch, H.; Gomez, T.; Legros, G. Modification of sooting tendency by magnetic effects. *Proc. Comb. Inst.* 2015, 35 (1), 889-895. DOI: [10.1016/j.proci.2014.05.139](https://doi.org/10.1016/j.proci.2014.05.139)
10. Flouros, M.; Cottier, F.; Hirschmann, M.; Kutz, J.; **Jocher, A.**, Ejector Scavenging of Bearing Chambers: A Numerical and Experimental Investigation. *J. Eng. Gas Turbines Power*, 2013, 135(8), 081602. DOI: [10.1115/1.4024259](https://doi.org/10.1115/1.4024259)