

Curriculum Vitae

Personal details

Name Dr. ir. Kasper Pieter Hendrik Lange
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Summary

After graduating from the Faculty of Industrial Design Engineering at TU Delft, Kasper Lange (MSc.) started working as a Research and Development Engineer in the manufacturing industry. After nine years, he dedicated his career to sustainable systems engineering research and education at the Amsterdam University of Applied Sciences (AUAS). In 2014, he obtained a basic teaching qualification for university lecturers. By the end of 2015, Kasper received a scholarship from AUAS to start a PhD research project on understanding and shaping industrial symbiosis networks at Delft University of Technology, supervised by promotor Paulien Herder and copromotor Gijsbert Korevaar. He was the main researcher in two related practice-oriented RAAK-mkb projects (NWO SIA project numbers 2015-03-03M and RAAK.MKB07.010). From March 2017, the project was also financed with a personal PhD grant for teachers by The Netherlands Organisation for Scientific Research (NWO, project number 023.009.037). Kasper successfully defended his thesis "*Simulating Industrial Symbiosis*" on July 1st 2022. During his PhD project, Kasper was at the heart of the substantive development of the new MSc programme *Urban Technology*, comprising systems engineering around circular transition, energy transition, mobility and logistics and designing future cities. In May 2022, this programme was accredited by the Dutch-Flemish Accreditation Organisation (NVAO), and the programme will start in September. Kasper is currently coordinating the development of a new interfaculty minor *Circular Amsterdam*. He is a member of the exam committees of the MSc programmes at AUAS's Faculty of Technology and an external member of the MSc MADE of AMS Institute. By the end of this year, he is expected to finish the modules Basic Qualification Examination and Senior Qualification Examination (BKE and SKE).

Relevant work experience

2022 – present Senior lecturer/researcher Circular Design and Business at the Faculty of Engineering (AUAS). Educational programmes: MSc Urban Technology and minor Circular Amsterdam.

2015 – 2022 Lecturer/PhD researcher Circular Design and Business at the Centre of Expertise Urban Technology at the Faculty of Engineering (AUAS) and the Faculty of Technology, Policy and Management (TUD).

2012 – 2015 Researcher and Project Manager in CleanTech and Urban Technology Research Programmes at AUAS.

2012 – 2015 Developer, coordinator and lecturer CleanTech Honours Programme (AUAS) and BSc Engineering.

2010 – 2011 Senior Mechanical Engineer Research & Development at BMA Nederland in Woerden. Responsible for research and development of new patents, processes and systems.

2006 – 2010 Senior Design Engineer at BMA Nederland in Woerden. Mechanical and process engineer in customer projects.

2005 – 2006 Lead Engineer R&D at TyTecker in Delft and Lelystad. Responsible for research, development, design and production activities for a new production process regarding a patented technology.

Education and competences

Education

2022	HvA Academy. Currently finishing the courses Basic and Senior Qualification Examination (BKE and SKE).
2015 – 2022	Delft University of Technology, Faculty of Technology, Policy and Management. PhD Graduate School (completed). PhD thesis: " <i>Simulating Industrial Symbiosis: Understanding and shaping circular business models for viable and robust industrial symbiosis networks through collaborative modelling and simulation</i> ".
2014	VU University Amsterdam (Vrije Universiteit Amsterdam) Bachelor University Teaching Qualification (Basiskwalificatie HBO-docent)
1998 – 2005	Delft University of Technology, Faculty of Industrial Design Engineering. MSc. thesis: " <i>Design of a positioning mechanism in a reinforcement bar tying tool for the system floor industry</i> ".
1996 – 1998	Delft University of Technology Faculty of Aerospace Engineering
1990 – 1996	High school (Gymnasium) Bonhoeffer College Castricum

Other qualifications

2008	Safety for Operational Managers (VCA-VOL)
2008	European Machine Safety Legislation (NEN)
1998	European Driving License B

Languages

Dutch	Proficient (CEFR level C2)
English	Advanced (CEFR level C1)
German	Upper intermediate (CEFR level B2)

Competences

Analytical skills, design skills, collaborative skills, modelling and simulation, R, NetLogo, Python, VBA and Simulink, pragmatic, curious, creative, independent, and perseverant.

List of relevant publications

Scientific

- Lange, K. P. H., Korevaar, G., Oskam, I. F., & Herder, P. M. (2017). Developing and understanding design interventions in relation to industrial symbiosis dynamics. *Sustainability (Switzerland)*, 9(5). <https://doi.org/10.3390/su9050826>
- Lange, K. P. H., Korevaar, G., Nikolic, I., & Herder, P. M. (2021c). Actor Behaviour and Robustness of Industrial Symbiosis Networks: An Agent-Based Modelling Approach. *Journal of Artificial Societies and Social Simulation*, 24(3). <https://doi.org/10.18564/jasss.4635>
- Lange, K. P. H., Korevaar, G., Oskam, I. F., Nikolic, I., & Herder, P. M. (2021). Agent-based modelling and simulation for circular business model experimentation. *Resources, Conservation & Recycling Advances*, 12, 200055. <https://doi.org/10.1016/j.rcradv.2021.200055>
- Lange, K.P.H., Korevaar, G., Oskam, I.F., Herder, P.M., 2022. Re-Organise: Game-Based Learning of Circular Business Model Innovation. *Front. Sustain.* 3:809700. <https://doi.org/10.3389/frsus.2022.809700>

Published models, tools and datasets

- Lange, K. P. H., Korevaar, G., Nikolic, I., & Herder, P. M. (2021a). Industrial Symbiosis Network implementation ABM v1.1.0. In CoMSES Computational Model Library. CoMSES.Net. <https://doi.org/10.25937/dt95-xk35> (peer-reviewed)

- Lange, K. P. H., Korevaar, G., Nikolic, I., & Herder, P. M. (2021b). Circular Business Model experimentation: local biodigestion network v1.1.0. CoMSES Computational Model Library. <https://doi.org/10.25937/3EWR-YT59> (peer-reviewed)
- Lange, K. P. H. (2019a). Dataset gameplay Re-Organise Game — HvA Research Database. <https://doi.org/10.21943/auas.16940191>
- Lange, K. P. H. (2019b). Re-Organise - The Game: English - V2.1 — HvA Research Database. <https://research.hva.nl/en/publications/re-organise-the-game-english-v21>

Professional publications

- Mulder, M., Lange, K.P.H., Schrik, Y., Faddegon, K., Rijke, S.J. de, Oskam, I.F., 2020. *Re-Store: Duurzaamheidsimpact bepalen en vergroten voor stedelijke initiatieven die voedselresten verwerken*. Amsterdam University of Applied Sciences, Amsterdam.
- Mulder, M., Akker, J. van den, Lange, K.P.H., Hees, M. van, Verloop, J.W., Schrik, Y., Oskam, I.F., 2018. *Re-organise - Sluiten van stedelijke kringlopen door decentrale verwerking van organisch bedrijfsafval*. Amsterdam University of Applied Sciences, Amsterdam.
- Huijgen, M., Lange, K., Warmerdam, J., Oskam, I., & Ploos van Amstel, W. (2022). Eindrapport KIEM-CE Project WOW - Waste-On-Water: Collectieve afvalinzameling over water. HvA Urban Technology.
- Lange, K.P.H. & Oskam, I.F., 2013, *Technology Roadmap and Innovation Challenges for the Development of Vertical Farming Systems*. Conference paper for Sustainable Innovation 2013: Collaboration, Co-creation & New Business Models, 18th International Conference, United Kingdom: Epsom, Surrey.
- Lange, K.P.H., Kok, M., Oskam, I.F., 2013, *Duurzaam Bewaren - Simulatiemodel en technologieën voor energiebesparing*. Amsterdam University of Applied Sciences, Amsterdam, the Netherlands.
- Lange, K.P.H., Thissen, J.P., Oskam, I.F., 2013, *Vertical Farming: Technologie en innovatierichtingen voor de toekomst*. Amsterdam University of Applied Sciences, Amsterdam, the Netherlands.

Conference contributions

- Lange, K. P. H., Korevaar, G., Oskam, I. F., & Herder, P. M. (2019). Re-Organise: educating students about symbiotic network dynamics through serious gaming — HvA Research Database. 19th European Roundtable for Sustainable Consumption and Production, 1. <https://research.hva.nl/en/publications/re-organise-educating-students-about-symbiotic-network-dynamics-t>
- Lange, K. P. H., Korevaar, G., Oskam, I. F., & Herder, P. M. (2019). Agent-based model of actor negotiation behavior for exploring economic robustness of Industrial Symbiosis. Social Simulation Conference 2019. <https://ssc2019.sched.com/event/VMXP/agent-based-model-of-actor-negotiation-behavior-for-exploring-economic-robustness-of-industrial-symbiosis>
- Lange, K. P. H., Korevaar, G., Oskam, I. F., & Herder, P. M. (2018). Exploring rules for economic robustness in Industrial Symbiosis dynamics through agent-based modelling: a case study regarding collective composting in a Dutch urban agriculture area. Gordon Research Conference Industrial Ecology. <https://www.grc.org/industrial-ecology-grs-conference/2018/>
- Lange, K. P. H. (2017). Towards a design research methodology: agent-based model development through stakeholder participation — HvA Research Database. ISIE/ISSST 2017 Joint Conference. <https://research.hva.nl/en/activities/towards-a-design-research-methodology-agent-based-model-developme-2>
- Lange, K. P. H., Korevaar, G., Oskam, I. F., & Herder, P. M. (2016). Design for industrial symbiosis: a participatory agent-based modelling strategy for designing urban agro-industrial eco-parks. Gordon Research Conference Industrial Ecology.

<https://research.hva.nl/en/publications/design-for-industrial-symbiosis-a-participatory-agent-based-model>

List of grants

Grant	Number	Subsidised budget	Role
NWO PhD grant for teachers	023.009.037	€ 174 250,-	Applicant
AUAS PhD grant for teachers	-	Approx. € 70 000,-	Applicant
SIA RAAK-mkb (Re-Organise)	2015-03-03M	€ 299.940,-	Main applicant
SIA RAAK-mkb (Re-Store)	RAAK.MKB07.010	€ 290.803,-	Main applicant
KIEM-VANG (measuring system residual waste)	CE.01.011	€ 20.000,-	Main applicant
KIEM-VANG (measuring system residual waste)	CE.02.029	€ 20.000,-	Main applicant
KIEM-CIE (Electrification of company waste management)	KIEM.CIE.05.002	€ 30.088,-	Co-applicant