Jun.Prof. Dr.-Ing. Kai Langenbach

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Current position: W1-Professor for Interfacial Thermodynamics

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Born 30 June 1984 (Siegen), Nationality: German, married, 2 children

Scientific Curriculum Vitae

2003 – 2010	Studies of Physical Engineering at TU Berlin
2010	Graduation at TU Berlin (Diploma, 1.4)
2011 – 2013	Research Assistant at the Chair of Thermodynamics and Thermal Separation Processes
2013	PhD in Thermodynamics
2013 – 2016	Postdoctoral stay at the Laboratory of Engineering Thermodynamics, TU Kaiserslautern, Kaiserslautern, Germany
2016 – 2017	Postdoctoral stay at the Department of Chemical and Biomolecular Engineering, Rice University, Houston, TX, USA
since 2017	Assistant Professor (Juniorprofessor) for Interfacial Thermodynamics, TU Kaiserslautern, Kaiserslautern, Germany

Administrative Activities

Since 2018	Member of the ProcessNet Junior Research Group (Junges Kollegium Thermodynamik; JuKo-Therm)

Most Important Publications (2011-2016)

Books

Peer-Reviewed Publications

[1] Enders, S.; Langenbach, K.; Schrader, P.; Zeiner, T.:Phase diagrams for systems containing hyperbranched polymers, Polymers (2012), 4, 72-115.

[2] Werth, S.; Kohns, M.; Langenbach, K.; Heilig, M.; Horsch, M., Hasse, H.: Interfacial and bulk properties of vapor-liquid equilibria in the system toulene + hydrogen chloride + carbon

dioxide by molecular simulation and density gradient theory + PC-SAFT, Fluid Phase Equilibr. (2016), 427, 219-230.

[3] Langenbach, K.; Enders, S.; Browarzik, C.; Browarzik, D.: Calculation of the high pressure phase equilibrium in hyperbranched polymer systems with lattice-cluster theory, J. Chem. Thermodyn. (2013), 59, 107-113.

[4] Becker, S.; Werth, S.; Horsch, M.; Langenbach, K.; Hasse, H.: Interfacial tension and adsorption in the binary system ethanol and carbon dioxide: Experiments, molecular simulation and density gradient theory, Fluid Phase Equilibr. (2016), 427, 476-487.

[5] Langenbach, K.; Enders, S.: Development of an EOS based on lattice cluster theory for pure components, Fluid Phase Equilibr. (2012), 331, 58-79.

[6] Langenbach, K.; Browarzik, D.; Sailer, J.; Enders, S.: New formulation oft he lattice cluster theory equation of state for multi-component systems, Fluid Phase Euqilibr. (2014), 362, 196-212.

[7] Althans, D.; Langenbach, K.; Enders, S.: Influence of different alcohols on the swelling behavior of hydrogels, Mol. Phys. (2012), 110, 1391-1402.

[8] Langenbach, K.; Fischlschweiger, M.; Enders, S.: Prediction of the solid–liquid–liquid equilibria of linear and branched semi-crystalline poly-ethylene in solutions of diphenyl ether by Lattice Cluster Theory, Mol. Phys. (2016), 114, 2717-2723.

[9] Langenbach, K.; Engin, C.; Reiser, S.; Horsch, M.; Hasse, H.: On the simultaneous description of h-bonding and dipolar interactions with point charges in force field models, AIChE J. (2015), 61, 2926-2932.

[10] Walowski, C.; Langenbach, K.; Browarzik, D.; Enders, S.: Cloud point pressure in the system polyethylene+ ethylene–Impact of branching, Fluid Phase Equilibr. (2016), 428, 38-47.

Other Publications