Curriculum vitae Dr. rer. nat. Matthias König

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Academic Education	2002	Studies of biophysics, Humboldt-University Berlin (HepatoSys, Virtual Liver)
	2005	Pre-diploma biophysics
	2008	Diploma biophysics
	2015	Doctorate, Modeling Hepatic Carbohydrate Metabolism
	2016	Junior group leader, Humboldt-University Berlin
Professional Career	2008–2015	Scientific staff member, Institute of Biochemistry, Computational Systems Biochemistry, Charité University Hospital Berlin
	2016–2020	Junior Group Leader, Systems Medicine of the Liver, Institute for Theoretical Biology, Humboldt-University Berlin

Funding (last 5 years)

BMBF	2016–2020	LiSyM – Systems Medicine of the Liver – Junior group, Computational modeling of dynamical liver function tests

Publications (max. 10 most relevant)

1. N. Berndt, S. Bulik, I. Wallach, T. Wünsch, M. **König**, M. Stockmann, D. Meierhofer, and H.-G. Holzhütter. “HEPATOKIN1 is a biochemistry-based model of liver metabolism for applications in medicine and pharmacology.” In: *Nature Communications* 9 (1 2018), p. 2386. DOI: 10.1038/s41467-018-04720-9
2. J. K. Medley, K. Choi, M. **König**, L. Smith, S. Gu, J. Hellerstein, S. C. Sealfon, and H. M. Sauro. “Tellurium notebooks-An environment for reproducible dynamical modeling in systems biology.” In: *PLoS Computational Biology* 14 (6 2018), e1006220. DOI: 10.1371/journal.pcbi.1006220
3. K. Abshagen, M. **König**, A. Hoppe, I. Müller, M. Ebert, H. Weng, H.-G. Holzhütter, U. M. Zanger, J. Bode, B. Vollmar, M. Thomas, and S. Dooley. “Pathobiochemical signatures of cholestatic liver disease in bile duct ligated mice.” In: *BMC Systems Biology* 9 (2015), p. 83. DOI: 10.1186/s12918-015-0229-0
4. E. T. Somogyi, J.-M. Bouteiller, J. A. Glazier, M. **König**, J. K. Medley, M. H. Swat, and H. M. Sauro. “libRoadRunner: a high performance SBML simulation and analysis library.” In: *Bioinformatics* 31 (20 2015), pp. 3315–3321. DOI: 10.1093/bioinformatics/btv363
5. D. Werner, T. **Ricken**, U. **Dahmen**, O. Dirsch, H.-G. Holzhütter, and M. **König**. “On the Influence of Growth in Perfusion Dependent Biological Systems–at the Example of the Human Liver”. In: *PAMM* 15.1 (2015), pp. 119–120
6. T. **Ricken**, D. Werner, H. G. Holzhütter, M. **König**, U. **Dahmen**, and O. Dirsch. “Modeling function-perfusion behavior in liver lobules including tissue, blood, glucose, lactate and glycogen by use of a

coupled two-scale PDE-ODE approach." In: *Biomechanics and Modeling in Mechanobiology* 14 (3 2015), pp. 515–536. DOI: 10.1007/s10237-014-0619-z

7. M. **König**, H.-G. Holzhütter, and N. Berndt. "Metabolic gradients as key regulators in zonation of tumor energy metabolism: a tissue-scale model-based study." In: *Biotechnology Journal* 8 (9 2013), pp. 1058–1069. DOI: 10.1002/biot.201200393
8. M. **König**, S. Bulik, and H.-G. Holzhütter. "Quantifying the contribution of the liver to glucose homeostasis: a detailed kinetic model of human hepatic glucose metabolism." In: *PLoS Computational Biology* 8 (6 2012), e1002577. DOI: 10.1371/journal.pcbi.1002577
9. M. **König**, A. Dräger, and H.-G. Holzhütter. "CySBML: a Cytoscape plugin for SBML.". In: *Bioinformatics (Oxford, England)* 28.18 (2012), pp. 2402–2403. DOI: 10.1093/bioinformatics/bts432
10. C. Gille, C. Bölling, A. Hoppe, S. Bulik, S. Hoffmann, K. Hübner, A. Karlstädt, R. Ganeshan, M. **König**, K. Rother, M. Weidlich, J. Behre, and H.-G. Holzhütter. "HepatoNet1: a comprehensive metabolic reconstruction of the human hepatocyte for the analysis of liver physiology." In: *Molecular Systems Biology* 6 (2010), p. 411. DOI: 10.1038/msb.2010.62