

Curriculum Vitae

Personal information Gaby Wangorsch

Work experience

1. Employer: Paul-Ehrlich-Institut
 - Start date: Dezember, 2015
 - End date: present
 - Position: Scientific assessor for pharmacometrics
 - Activities: Scientific assessor for population pharmacokinetics and PKPD, Assessment and scientific advice in the fields of pharmacokinetics, pharmacodynamics, mathematical modelling and simulation, biostatistics; Focus on biologics, blood products, vaccines, immunotherapeutics; research activities
 - Country: Germany
2. Employer: Julius-Maximilians-University of Wuerzburg
 - Start date: August, 2013
 - End date: March, 2015
 - Position: Postdoctoral Research Associate (Systems Biology)
 - Activities: Mathematical modelling and simulation to tackle biomedical problems mainly in the fields of inflammation and oncology, application of different qualitative and quantitative modelling methods, statistical and multivariate data analysis, international and multidisciplinary research environment, teaching
 - Country: Germany

Education and training

1. Subject: Graduate School of Life Sciences/Julius-Maximilians-University of Wuerzburg - Section Biomedicine
 - Start date: March, 2008
 - End date: July, 2013
 - Qualification: Doctoral Study Program Life Sciences - Dr. rer. nat
 - Organisation: Systems biological analysis, quantitative and qualitative modeling of signaling cascades and their crosstalk in different cell types and organisms Collaborative research experience in an international and multidisciplinary team Supervision of student projects; teaching in bioinformatics, quantitative biology, systems biology
 - Country: Germany
2. Subject: University of Luebeck
 - Start date: October, 2005
 - End date: February, 2008
 - Qualification: Studies of Computational Life Science - Master of Science
 - Organisation: Prognostic Models, Stochastic Processes and Modelling, Database Systems, Applied Mathematics, Biochemistry, Neuroinformatics (learning algorithms, AI)
 - Country: Germany
3. Subject: University of Luebeck
 - Start date: October, 2002
 - End date: October, 2005
 - Qualification: Studies of Computational Life Science - Bachelor of Science
 - Organisation: Biometrics, Genetic Epidemiology, Bioinformatics, Stochastics, Optimization, Numerics, Cell Biology
 - Country: Germany

Additional information

Publications

- Hartung, N., Wangorsch G., Huisinga W., Weisser K. Extension and validation of a physiologically based toxicokinetic model for risk assessment of aluminium exposure in humans. Arch Toxicol. 2025 Apr 19. doi: 10.1007/s00204-025-04031-1. Online ahead of print.
- Hethey, C., Hartung, N., Wangorsch, G. et al. Physiology_based toxicokinetic modelling of aluminium in rat and man. Arch Toxicol 95, 2977–3000 (2021). https://doi.org/10.1007/s00204-021_03107_y
- Musuamba, FT., Skotheim Rusten, I., Lesage, R., Russo, G., Bursi, R., Emili, L., Wangorsch, G., Manolis, E., Karlsson, KE., Kulesza, A., Courcelles, E., Boissel, J.P., Rousseau, CF., Voisin, EM., Alessandrello, R., Curado, N., Dall'ara, E., Rodriguez, B., Pappalardo, F., Geris, L. Scientific and regulatory evaluation of mechanistic in silico drug and disease models in drug development: Building model credibility. <https://doi.org/10.1002/psp4.12669>, CPT Pharmacometrics Syst Pharmacol. 2021;10:804–825.
- Prada, PJ.*, Wangorsch, G.*, Kucka, K., Lang, I., Dandekar, T., Wajant, H. A systems_biology model of the tumor necrosis factor (TNF) interactions with TNF receptor 1 and 2. Bioinformatics, btaa844. 2020 Sep.
- Weisser, K., Göen, T., Oduro, JD., Wangorsch, G., Hanschmann, KO., Keller_Stanislawski B. Aluminium in plasma and tissues after intramuscular injection of adjuvanted human vaccines in rats. Arch Toxicol. 2019 Oct.
- Weisser, K., Göen, T., Oduro, JD., Wangorsch, G., Hanschmann, KO., Keller_Stanislawski, B. Aluminium from adjuvanted subcutaneous allergen immunotherapeutics in rats is mainly detected in bone. Allergy. 2019 Jul 15.
- Weisser, K., Göen, T., Oduro, JD., Wangorsch, G., Hanschmann, KO. and Keller_Stanislawski, B. Aluminium toxicokinetics after intramuscular, subcutaneous, and intravenous injection of Al citrate solution

in rats. Archives of Toxicology, 2018.

- Manolis, E., et al. (on behalf of the MSWG). Commentary on the MID3 Good Practices Paper. CPT Pharmacometrics Syst. Pharmacol. (2017) 6, 416–417
 - Brietz, A., Schuch, KV., Wangorsch, G., Lorenz K., and Dandekar T. Analyzing ERK 1/2 signalling and targets. Mol. Biosyst., 2016,12, 2436_2446.
 - Fricke*, F., Malkusch*, S., Wangorsch, G., Greiner, JF., Kaltschmidt, B., Kaltschmidt, C., Widera, D., Dandekar, T. and Heilemann, M. Quantitative single_molecule localization microscopy combined with rule_based modeling reveals ligand_induced TNF_R1 reorganization towards higher_order oligomers. Histochem Cell Biol: 1_11.
 - Stratmann*, AT., Fecher*, D., Wangorsch*, G., Walles, T., Walles, H., Dandekar, T., Dandekar, G. and Nietzer, SL. Establishment of a human 3D lung cancer model based on a biological tissue matrix combined with a Boolean in silico model. Mol Oncol 8:351_365.
 - Pachel, CE., Mathes, D., Bayer, B., Umbenhauer, S., Wangorsch, G., Heitzmann, W., Lang, I., Hossein, A., Ertl, G., Dandekar, T., Wajant, H. and Frantz, S. Exogenous administration of a recombinant variant of TWEAK impairs healing after myocardial infarction by aggravation of inflammation. PLoS One 8:e78938.
 - Mischnik, M., Boyanova, D., Hubertus, K., Geiger, J., Dittrich, M., Wangorsch, G., Timmer, J. and Dandekar, T. A Boolean view separates platelet activatory and inhibitory signalling as verified by phosphorylation monitoring including threshold behaviour and integrin modulation. Mol Biosyst 9:1326_1339.
 - Naseem, M., Philippi, N., Hussain, A., Wangorsch, G., Ahmed, N. and Dandekar, T. Integrated systems view on networking by hormones in Arabidopsis immunity reveals multiple crosstalk for cytokinin. Plant Cell 24:1793_1814.
 - Schlatter*, R., Philippi*, N., Wangorsch, G., Pick, R., Sawodny, O., Borner, C., Timmer, J., Ederer, M., and Dandekar, T. Integration of Boolean models exemplified on hepatocyte signal transduction. Brief Bioinform 13:365_376.
 - Wangorsch, G., Butt, E., Mark, R., Hubertus, K., Geiger, J., Dandekar, T., and Dittrich, M. Time_resolved in silico modeling of fine_tuned cAMP signaling in platelets: feedback loops, titrated phosphorylations and pharmacological modulation. BMC Syst Biol 5:178.
- *: equally contributed first authors

Projects

Current: PBPK and PBTk modelling (aluminum) in rat and man (adult and paediatric population) Systems Biology of platelet signalling (large scale and mechanistic quantitative modelling approaches)

Memberships

Other Relevant Information