

Curriculum vitae

Dipl.-Ing. Dr. Stephan Harm

Personal Data

Date of birth 24-01-1981, Krems, Austria

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Current Positions, Employment, and Faculty Appointments

since 2009 Scientist in the research group: Medical Process Engineering, Center for Biomedical Technology, Danube University Krems, Krems, Austria

Education

2001 Master of Science Biotechnology, BOKU – University of Natural Resources and Life Sciences, Vienna

2018 Doctoral thesis, University Vienna, Life science/pharmacy

Academic and Professional Career

2004-2006 scientific assistant on the institute of chemistry and microbiology of the research center in Klosterneuburg, Austria

Since 2009 Scientist in the research group: Medical Process Engineering, Center for Biomedical Technology, Danube University Krems, Krems, Austria

Since 2018 Postdoc in the research group: Medical Process Engineering, Center for Biomedical Technology, Danube University Krems, Krems, Austria

Research Interests

- Apheresis and extracorporeal blood purification
- Anticoagulation
- Adsorption
- Blood-Material interaction
- Biocompatibility

Awards

- 2015 ESAO Wichtig Award for the publication: Harm S, Falkenhagen D, Hartmann J. Pore size – a key property for selective toxin removal in blood purification. Int J Artif Organs 2014; 37(9): 668 – 678. DOI:10.5301/ijao.5000354.
- 2016 Krems Cooperation Research Award for best publication: Harm S, Gabor F, Hartmann

J: Low-Dose Polymyxin: An Option for Therapy of Gram-Negative Sepsis. *Innate Immunity*, March 2016. DOI: 10.1177/1753425916639120.

2016 Nomination for the Lower Austrian Innovation Award (Karl Ritter von Ghega Preis) for the project "Antimicrobial Peptides and their Application in Blood Purification"

Memberships in Professional Societies

ESAO European Society for Artificial Organs

Peer-Reviewed Articles

Harm S, Strobl K, Hartmann J, Falkenhagen D: Alginate-Encapsulated Human Hepatoma C3A Cells for use in a Bioartificial Liver Device - the Hybrid-MDS. *Int J Art Org*, 32, 11, 2009.

A. Springler, S. Harm, D. Schwanzer Pfeiffer, D. Falkenhagen: THE ENCAPSULATION OF MONOCYTES INTO POLYELECTROLYTE CAPSULES FOR THE TREATMENT OF SEPSIS. *The International journal of artificial organs* 07/2009; 32(7):407-407.

Hartmann J, Beyer R, Harm S. Effective Removal of Estrogens from Drinking Water and Wastewater by Adsorption Technology. *Environmental Processes Journal*, 2014, Vol 1, Issue 1 (2014): S. 87-94.

Harm S, Falkenhagen D, Hartmann J. Endotoxin Adsorbents in Extracorporeal Blood Purification – Do They Fulfill The Expectations? *Int J Art Org*, 2014, 37(3): 222-232, DOI:10.5301/ijao.5000304.

Harm S, Falkenhagen D, Hartmann J. Pore size – a key property for selective toxin removal in blood purification. *Int J Artif Organs* 2014; 37(9): 668 - 678 DOI:10.5301/ijao.5000354.

Carla Tripisciano, Tanja Eichhorn, Stephan Harm, Viktoria Weber: Adsorption of the Inflammatory Mediator High-Mobility Group Box 1 by Polymers with Different Charge and Porosity. *Biomed Res Int*. 2014; 2014:238160; DOI:10.1155/2014/238160

Harm S, Gruber A, Gabor F, Hartmann J: Adsorption of Selected Antibiotics to Resins in Extracorporeal Blood Purification. *Blood Purif* 2015; 41(1-3):55-63.

S Harm, F Gabor, J Hartmann: INF/IR-9: IN VITRO CHARACTERIZATION OF A NEW ADSORBENT FOR CYTOKINES IN EXTRACORPOREAL BLOOD PURIFICATION. *Shock (Augusta, Ga.)* 09/2015; 44 Suppl 2:9., DOI:10.1097/01.shk.0000472031.10310.f2

Harm S, Gabor F, Hartmann J.: Characterization of Adsorbents for Cytokine Removal from Blood in an In Vitro Model. *Journal of Immunology Research*, Vol 2015, Article ID 484736, 11 pages; <http://dx.doi.org/10.1155/2015/484736>.

Harm S, Gabor F, Hartmann J: Low-Dose Polymyxin: An Option for Therapy of Gram-Negative Sepsis. *Innate Immunity*, March 2016. DOI: 10.1177/1753425916639120.

Harm S., Hartmann J.: Polymyxin-Coated Nanostructured Materials: An Option for Sepsis Treatment. *J Nanomater Mol Nanotechnol* 2016, S4. DOI: 10.4172/2324-8777.S4-001.

Strobl K, Harm S, Weber V, Hartmann J: The role of ionized calcium and magnesium in regional citrate anticoagulation and its impact on inflammatory parameters. *Int J Artif Organs* 2017; 40(1): 15-21, DOI: 10.5301/ijao.5000558.

Hartmann J, Harm S: A new integrated technique for the supportive treatment of sepsis. *Int J Artif Organs* 2017; 40(1): 4-8, DOI: 10.5301/ijao.5000550.

Hartmann J, Harm S: Removal of bile acids by extracorporeal therapies: an in vitro study. *Int J Artif Organs*, 2017 Sep. DOI: 10.5301/ijao.5000643

Tanja Eichhorn, Jens Hartmann, Stephan Harm, Ingrid Linsberger, Franz König, Gerhard Valicek, Georg Miestinger, Christoph Hörmann, Viktoria Weber: Clearance of Selected Plasma Cytokines with

Continuous Veno-Venous Hemodialysis Using Ultraflux EMIc2 versus Ultraflux AV1000S. *Blood Purification* 10/2017; 44(4):260-266., DOI:10.1159/000478965

Harm S, Schildböck C, Hartmann J: Removal of stabilizers from human serum albumin by adsorbents and dialysis used in blood purification. Accepted for publication. *PLOS ONE*, 2018.

Jakob Gubensek, Karin Strobl, Stephan Harm, Rene Weiss, Tanja Eichhorn, Jadranka Buturovic-Ponikvar, Viktoria Weber, Jens Hartmann: Influence of citrate concentration on the activation of blood cells in an in vitro dialysis setup. *PLoS ONE* 06/2018; June 13, 2018(6)., DOI:10.1371/journal.pone.0199204

Patents and Patent Applications

Falkenhagen D, Harm S, Hartmann J, Weber V (2010): Neuartiges Sorptionsmittel für Endotoxine./Novel Sorbent for Endotoxins. Österreichisches Patent A-1073/2010, Internationale Patentanmeldung PCT/AT2011/000273, 29.12.2011. WO Patent WO/2011/160149.

Falkenhagen D, Harm S, Hartmann J (2012): Selektives Sorptionsmittel für die extrakorporale Blutreinigung. Europäische Patentanmeldung 12174028.6-1257, 28.06.2012.

Falkenhagen D, Harm S, Hartmann J (2012): Dosierungsanleitung für endotoxinbindende Lipopeptide. Europäische Patentanmeldung 12174285.2-2123, 29.06.2012.

Falkenhagen D, Harm S, Hartmann J: Extrakorporale Perfusionseinrichtung. Europäische Patenteinreichung Nr. 12174028. Japanisches Patent Nr 6092380 (Anmeldung Nr. 2015519091, erteilt 17.02.2017).