

## *Curriculum vitae*

Dipl.-Ing. Dr. Stephan Harm

ORCID: <https://orcid.org/0000-0003-1944-9898>

### Personal Data

---

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

**Contact** University for Continuing Education Krems

Dr. Karl-Dorrek-Strasse 30

3500 Krems

Phone: +43 (0)2732 893-2636

E-Mail: [stephan.harm@donau-uni.ac.at](mailto:stephan.harm@donau-uni.ac.at)

### Current Positions, Employment, and Faculty Appointments

---

**since 2018** Postdoc 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, University for Continuing Education Krems, Krems, Austria

### Research Interests

---

- Apheresis and extracorporeal blood purification
- Anticoagulation
- Adsorption
- Blood-Material interaction
- Biocompatibility
- Antimicrobial Peptides
- Endotoxins
- Sepsis

## Awards

---

- 2015 ESAO Wichtig Research 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”
- 2021 Tecnet/Accent Innovation Award 2021: “Blood Vessel Chamber”

## Memberships in Professional Societies

---

**ESAO** European Society for Artificial Organs

## Peer-Reviewed Articles

---

- Pilecky, M. & Harm, S., Bauer, C., Zottl, J., Emprechtlinger R., Eichhorn, T., Schildböck, C. Ecker, M., Willheim, M., Weber, V., Hartmann, J. Performance of Lateral Flow Assays for SARS-CoV-2 Compared to RT-qPCR. <http://dx.doi.org/10.2139/ssrn.3991640> (2022).
- Harm, S., Schildbock, C., Strobl, K. & Hartmann, J. An in vitro study on factors affecting endotoxin neutralization in human plasma using the Limulus amebocyte lysate test. *Sci Rep* **11**, 4192, <http://dx.doi.org/10.1038/s41598-021-83487-4> (2021).
- Strobl, K., Harm, S., Fichtinger, U., Schildbock, C. & Hartmann, J. Impact of anion exchange adsorbents on regional citrate anticoagulation. *Int J Artif Organs* **44**, 149-155, <http://dx.doi.org/10.1177/0391398820947733> (2021).
- Kielbassa, A. M., Leimer, M. R., Hartmann, J., Harm, S., Pasztorek, M. & Ulrich, I. B. Ex vivo investigation on internal tunnel approach/internal resin infiltration and external nanosilver-modified resin infiltration of proximal caries exceeding into dentin. *PLoS One* **15**, e0228249, <http://dx.doi.org/10.1371/journal.pone.0228249> (2020).
- Harm, S., Schildbock, C. & Hartmann, J. Cytokine Removal in Extracorporeal Blood Purification: An in vitro Study. *Blood Purif* **49**, 33-43, <http://dx.doi.org/10.1159/000502680> (2020).
- Harm, S. *et al.* Blood Compatibility-An Important but Often Forgotten Aspect of the Characterization of Antimicrobial Peptides for Clinical Application. *Int J Mol Sci* **20**, <http://dx.doi.org/10.3390/ijms20215426> (2019).
- Harm, S., Schildbock, C. & Hartmann, J. Removal of stabilizers from human serum albumin by adsorbents and dialysis used in blood purification. *PLoS One* **13**, e0191741, <http://dx.doi.org/10.1371/journal.pone.0191741> (2018).
- Gubensek, J., Strobl, K., Harm, S., Weiss, R., Eichhorn, T., Buturovic-Ponikvar, J., Weber, V. & Hartmann, J. Influence of citrate concentration on the activation of blood cells in an in vitro dialysis setup. *PLoS One* **13**, e0199204, <http://dx.doi.org/10.1371/journal.pone.0199204> (2018).

- 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* **40**, 15-21, <http://dx.doi.org/10.5301/ijao.5000558> (2017).
- Hartmann, J. & Harm, S. A new integrated technique for the supportive treatment of sepsis. *Int J Artif Organs* **40**, 4-8, <http://dx.doi.org/10.5301/ijao.5000550> (2017).
- Hartmann, J. & Harm, S. Removal of bile acids by extracorporeal therapies: an in vitro study. *Int J Artif Organs*, 0, <http://dx.doi.org/10.5301/ijao.5000643> (2017).
- Eichhorn, T., Hartmann, J., Harm, S., Linsberger, I., Konig, F., Valicek, G., Miestinger, G., Hormann, C. & Weber, V. Clearance of Selected Plasma Cytokines with Continuous Veno-Venous Hemodialysis Using Ultraflux EMiC2 versus Ultraflux AV1000S. *Blood Purif* **44**, 260-266, <http://dx.doi.org/10.1159/000478965> (2017).
- Harm, S. and J. Hartmann, Polymyxin-Coated Nanostructured Materials: An Option for Sepsis Treatment. *J Nanomater Mol Nanotechnol*, **S4**(001). <http://dx.doi.org/104172/2324-8777.S4-003> (2016)
- Harm, S., Gruber, A., Gabor, F. & Hartmann, J. Adsorption of Selected Antibiotics to Resins in Extracorporeal Blood Purification. *Blood Purif* **41**, 55-63, <http://dx.doi.org/10.1159/000440973> (2016).
- Harm, S., Gabor, F. & Hartmann, J. Low-dose polymyxin: an option for therapy of Gram-negative sepsis. *Innate Immun* **22**, 274-283, <http://dx.doi.org/10.1177/1753425916639120> (2016).
- Harm, S., Gabor, F. & Hartmann, J. Characterization of Adsorbents for Cytokine Removal from Blood in an In Vitro Model. *J Immunol Res* **2015**, 484736, <http://dx.doi.org/10.1155/2015/484736> (2015).
- Tripisciano, C., Eichhorn, T., Harm, S. & Weber, V. Adsorption of the inflammatory mediator high-mobility group box 1 by polymers with different charge and porosity. *Biomed Res Int* **2014**, 238160, <http://dx.doi.org/10.1155/2014/238160> (2014).
- Hartmann, J., R. Beyer, and Harm, S., Effective Removal of Estrogens from Drinking Water and Wastewater by Adsorption Technology. *Environmental Processes Journal* **1**, 87-94. <http://dx.doi.org/10.1007/s40710-014-0005-y> (2014)
- Harm, S., Falkenhagen, D. & Hartmann, J. Endotoxin adsorbents in extracorporeal blood purification: do they fulfill expectations? *Int J Artif Organs* **37**, 222-232, <http://dx.doi.org/10.5301/ijao.5000304> (2014).
- Harm, S., Falkenhagen, D. & Hartmann, J. Pore size--a key property for selective toxin removal in blood purification. *Int J Artif Organs* **37**, 668-678, <http://dx.doi.org/10.5301/ijao.5000354> (2014).
- Harm, S., Stroble, K., Hartmann, J. & Falkenhagen, D. Alginate-encapsulated human hepatoma C3A cells for use in a bioartificial liver device - the hybrid-MDS. *Int J Artif Organs* **32**, 769-778, <http://dx.doi.org/10.1177/039139880903201102> (2009).

## **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).