

PUBLIKATIONEN & VORTRÄGE PD DR. STEFAN HERZ

1. Wissenschaftliche Publikationen:

1. Vogel P, Rückert MA, Greiner C, Günther J, Reichl T, Kampf T, Bley TA, Behr VC, Herz S. iMPI: portable human-sized magnetic particle imaging scanner for real-time endovascular interventions. *Nature Sci Rep.* 2023. doi: 10.1038/s41598-023-37351-2.
2. Herz S, Stefanescu MR, Lohr D, Vogel P, Kosmala A, Terekhov M, Weng AM, Grunz JP, Bley TA, Schreiber LM. Effects of image homogeneity on stenosis visualization at 7 T in a coronary artery phantom study: With and without B1-shimming and parallel transmission. *PLoS ONE.* 2022. doi.org/10.1371/journal.pone.0270689.
3. Reichel T, Herz S, Tabbakh M, Bley TA, Plumhoff P, Rueckl K. Less than 9.5 mm coracohumeral distance on axial magnetic resonance imaging scans predicts for subscapularis tear. *JSES Int.* 2021. doi:10.1016/j.jseint.2021.01.014.
4. Herzberg M, Dorn F, Dietrich P, Rückert MA, Kampf T, Bley TA, Behr VC, Herz S*, Vogel P*. Magnetic particle imaging for artifact-free imaging of intracranial flow diverter stents: a phantom study. *Phys Med.* 2021. doi:10.1016/j.ejmp.2021.06.018.
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5. Dietrich P, Vogel P, Kampf T, Rückert MA, Behr VC, Bley TA, Herz S. Near real-time magnetic particle imaging for visual assessment of vascular stenosis in a phantom model. *Phys Med.* 2021. doi:10.1016/j.ejmp.2020.12.020.
6. Grunz JP, Weng AM, Kunz AS, Veyhl-Wichmann M, Schmitt R, Gietzen CH, Pennig L, Herz S, Ergün S, Bley TA, Gassenmaier T. 3D cone-beam CT with a twin robotic x-ray system in elbow imaging: comparison of image quality to high-resolution multidetector CT. *Euro Radiol Exp.* 2020. doi:10.1186/s41747-020-00177-y.
7. Vogel P, Kampf T, Herz S, Rückert MA, Bley TA, Behr VC. Adjustable hardware lens for traveling wave magnetic particle imaging. *IEEE Trans Magn.* 2020. doi:10.1109/TMAG.2020.3023686.
8. Hock M, Terekhov M, Stefanescu MR, Lohr D, Herz S, Reiter T, Ankenbrand M, Kosmala A, Gassenmaier T, Juchem C, Schreiber LM. B0 shimming of the human heart at 7T. *MRM.* 2020. doi:10.1002/mrm.28423.
9. Vogel P, Kampf T, Herz S, Rückert M, Bley TA, Behr VC. Parallel magnetic particle imaging. *Rev Sci Instr.* 2020. doi:10.1063/1.5126108.
10. Vogel P, Rückert M, Kampf T, Herz S, Stang A, Wöckel L, Bley T, Dutz S, Behr VC. Superspeed bolus visualization for vascular magnetic particle imaging. *IEEE Trans Med Imag.* 2020. doi:10.1109/TMI.2020.2965724.

11. Herz S, Vogel P, Kampf T, Dietrich P, Veldhoen S, Rückert MA, Kickuth R, Behr VC, Bley TA. Magnetic particle imaging guided stenting. *J Endovasc Ther.* 2019. doi:10.1177/15266028198551202.
12. Vogel P, Markert J, Rückert M, Herz S, Keßler B, Dremel K, Althoff D, Weber M, Buzug T, Bley TA, Kullmann W, Hanke R, Zabler S, Behr V. Magnetic particle imaging meets computed tomography: first simultaneous imaging. *Sci Rep.* 2019. doi:10.1038/s41598-019-48960-1.
13. Vogel P, Rückert MA, Kemp SJ, Khandhar AP, Ferguson RM, Herz S, Vilter A, Klauer P, Bley TA, Krishnan KM, Behr VC. Micro-traveling wave magnetic particle imaging – sub-millimeter resolution with optimized tracer LS-008. *IEEE Trans Magn.* 2019. doi:10.1109/TMAG.2019.2924198.
14. Herz S*, Vogel P*, Dietrich P, Kampf T, Rückert MA, Kickuth R, Behr VC, Bley TA. Magnetic particle imaging guided real-time percutaneous transluminal angioplasty in a phantom model. *Cardiovasc Intervent Radiol.* 2018. doi:10.1007/s00270-018-1955-7. (*geteilte Erstautorenschaft)
15. Herz S, Vogel P, Kampf T, Rückert MA, Veldhoen S, Behr VC, Bley TA. Magnetic particle imaging for quantification of vascular stenoses: a phantom study. *IEEE Trans Med Imag.* 2018. doi:10.1109/TMI.2017.2717958.
16. Herold V, Herz S, Winter P, Gutjahr FT, Anelovic K, Bauer WR, Jakob PM. Assessment of local pulse wave velocity distribution in mice using k-t BLAST PC-CMR with semi-automatic area segmentation. *J Cardiovasc Magn Reson.* 2017. doi:10.1186/s12968-017-0382-2.
17. Vogel P, Herz S, Kampf T, Rückert MA, Bley TA, Behr VC. Low latency real-time reconstruction for MPI systems. *Int J Magn Part Imag.* 2017. doi:10.18416/ijmpi.2017.1707002.
18. Thiem A, Kneitz H, Schummer P, Herz S, Schrama D, Houben R, Goebeler M, Schilling B, Gesierich A. Coincident metastatic melanoma and merkel cell carcinoma with complete remission upon treatment with pembrolizumab. *Acta Derm Venerol.* 2017. doi:10.2340/00015555-2757.
19. Vogel P, Rückert MA, Klauer P, Herz S, Kampf T, Bley TA, Behr VC. Real-time 3D dynamic rotating slice-scanning mode for traveling wave MPI. *Int J Magn Part Imag.* 2017. doi:10.18416/ijmpi.2017.1706001.
20. Herz S, Vogel P, Kampf T, Rückert MA, Behr VC, Bley TA. Selective signal suppression in traveling wave mpi: focusing on areas with low concentration of magnetic particles. *Int J Magn Part Imag.* 2017. doi:10.18416/ijmpi.2017.1709001.
21. Veldhoen S, Sauer A, Gassenmaier T, Petritsch B, Herz S, Blanke P, Derlin T, Bley TA, Wirth C. Contrast-enhanced voiding urosonography phantom study: intravenous iodinated and gadolinium-based contrast agents may cause false-negative results in assessment of vesicoureteral reflux in children. *Pediatr Radiol.* 2015. doi:10.1007/s00247-014-3243-2.

2. Veröffentlichte Abstracts:

1. Herzberg M, Rückert MA, Dorn F, Kampf T, Bley TA, Behr VC, Herz S, Vogel P. Imaging of the lumen of intracranial flow diverter stents with MPI. Proc. IWMPI. 2022.
2. Vogel P, Rückert MA, Greiner C, Reichl T, Günther J, von Boehn A, Mirzozan L, Kampf T, Bley TA, Herz S, Behr VC. iMPI – interventional Magnetic Particle Imaging. Proc. IWMPI. 2022.
3. Günther J, Rückert MA, Reichl T, Greiner C, von Boehn A, Kampf T, Bley TA, Behr VC, Herz S, Vogel P. Human-Sized Lightweight Head-Scanner Design. Proc. IWMPI. 2022.
4. Reichl T, Winter P, Anđelović K, Bauer WR, Jakob PM, Bley TA, Herold V, Behr VC, Herz S, Vogel P. Highly Flexible Human Aneurysm Models for Realistic Flow Experiments with MPI and MRI. Proc. IWMPI. 2022.
5. Vogel P, Rückert MA, Reichl T, Günther J, Greiner C, Mirzozan L, von Boehn A, Kampf T, Bley TA, Behr VC, Herz S. iMPI – first real-time imaging with a human-sized interventional Magnetic Particle Imaging scanner. Proc. ISMRM. 2022.
6. Vogel P, Rückert MA, Reichl T, Günther J, von Boehn A, Kampf T, Bley TA, Herz S, Behr VC. iMPI – Strahlenfreie Echtzeitbildgebung für Interventionen am menschlichen Bein. Proc. DGMP. 2022.
7. Winter P, Kampf T, Reichl T, Herz S, Anđelović K, Bauer WR, Jakob PM, Herold V, Vogel P. 3D printed highly flexible phantom for realistic dynamic flow measurements. Proc. BMT 2022.
8. Vogel P, Rückert MA, Reichl T, Günther J, von Boehn A, Kampf T, Bley TA, Herz S, Behr VC. iMPI – Lightweight MPI scanner for human-sized intervention. Proc. BMT. 2022.
9. Günther J, Rückert MA, Reichl T, von Boehn A, Kampf T, Bley TA, Behr VC, Herz S, Vogel P. Die Herz-Vogel Kappe – Ein tragbarer Hirnperfusionsscanner auf Grundlage von Magnetic Particle Spectroscopy. Proc. DGMP. 2022.
10. Vogel P, Rückert MA, Greiner C, Reichl T, Günther J, von Böhn A, Mirzozan L, Kampf T, Bley TA, Herz S, Behr VC. Magnetic Particle Imaging goes Human-sized. Proc. ISMRM-DS. 2021.
11. Seeg M, Rückert MA, Herz S, Kampf T, Bley TA, Vogel P. Interventional Magnetic Particle Imaging Open-bore Scanner design. Proc. ISMRM. 2021.
12. Vogel P, Rückert MA, Seeg M, Greiner C, Reichl T, Günther J, von Böhn A, Mirzozan L, Kampf T, Bley TA, Behr VC, Herz S. iMPI – initial results with a human-sized interventional Magnetic Particle Imaging scanner. DGMP. 2021.

13. Winter P, Seeg M, Reichl T, Kampf T, Herz S, Anđelovic A, Jakob PM, Bauer WR, Herold V, Vogel P. A novel phantom for realistic dynamic flow and wall shear stress measurements in an aneurysm model. Proc. ISMRM-DS. 2021.
14. Vogel P, Rückert MA, Greiner C, Reichl T, Günther J, von Böhn A, Mirzozan L, Kampf T, Bley TA, Herz S, Behr VC. iMPI – Human-sized interventional Magnetic Particle Imaging Scanner. Proc. EMIM. 2021.
15. Vogel P, Rückert MA, Greiner C, Reichl T, Günther J, von Böhn A, Mirzozan L, Kampf T, Bley TA, Herz S, Behr VC. iMPI – Human-sized interventional Magnetic Particle Imaging. Proc. WMIC. 2021.
16. Herz S, Vogel P, Kampf T, Kunz J, Kickuth R, Behr VC, Bley TA. Magnetic Particle Imaging (MPI)-geführte Applikation eines gecoverten Stents in einem humanen Modell-Aneurysma. Röko. 2020.
17. Vogel P, Herz S, Rückert MA, Kampf T, Bley TA, Behr VC. MPS-MOUSE – Mobiles Messinstrument für die Detektion erkrankter Wächterlymphknoten. Proc. DGMP. 2019.
18. Vogel P, Herz S, Rückert MA, Kampf T, Bley TA, Behr VC. MPI-geführtes Stenting. Proc. DGMP. 2019.
19. Vogel P, Herz S, Rückert MA, Kampf T, Bley TA, Behr VC. iMPI – Dedizierter Magnetic Particle Imaging Scanner für kardiovaskuläre Intervention. Proc. DGMP. 2019.
20. Vogel P, Markert J, Rückert MA, Herz S, Keßler B, Dremel K, Althoff D, Weber M, Buzug TM, Bley TA, Kullmann WH, Hanke R, Zabler S, Behr VC. MPI trifft CT – Erste simultane Bilder aus zwei Welten. Proc. DGMP. 2019.
21. Herz S, Vogel P, Dietrich P, Kampf T, Kickuth R, Behr VC, Bley TA. Magnetic Particle Imaging (MPI) geführtes Stenting. RöKo. 2019.
22. Dietrich P, Vogel P, Rückert MA, Bley TA, Herz S. Magnetic Particle Imaging – Visuelle Stenosequantifizierung am Phantom-Model. RöKo. 2019.
23. Herz S, Vogel P, Kampf T, Dietrich P, Rückert MA, Kickuth R, Behr VC, Bley TA. MPI vs. X-ray guidance. Proc. IWMPI. 2019.
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25. Vogel P, Markert J, Rückert MA, Herz S, Keßler B, Dremel K, Althoff D, Weber M, Buzug TM, Bley TA, Kullmann WH, Hanke R, Zabler S, Behr VC. MPI meets CT – Simultaneous Acquisition of MPI and CT images. International Engineering in Medicine and Biology Conference EMBC. 2019.

26. Vogel P, Rückert MA, Brand H, Dahsler M, Kampf T, Herz S, Behr VC. Magnetic Particle Imaging – From the Small to the Big World. Proc. ISMAP. 2019.
27. Hock M, Stefanescu MR, Terekhov M, Lohr D, Herz S, Juchem C, Schreiber LM. Third-order Cardiac B0-Shimming at 7 T in Humans. Proc. ISMRM. 2019.
28. Stefanescu MR, Grunz JP, Lohr D, Kosmala A, Herz S, Schreiber LM (2019) How gating affects 2D phase contrast flow in the ascending aorta at 7.0T MRI. Proc. ISMRM. 2019.
29. Vogel P, Rückert MA, Dahsler M, Kampf T, Herz S, Behr VC. Magnetic Particle Imaging using Toroidal Vortex Rotation of Halbach Rings. Proc. ICMRM. 2019.
30. Vogel P, Herz S, Rückert MA, Kampf T, Bley TA, Behr VC. Kardiovaskuläre Intervention mit Magnetic Particle Imaging. Proc. DS-ISMIR. 2019.
31. Herz S, Vogel P, Kampf T, Dietrich P, Rückert MA, Veldhoen S, Kosmala A, Kickuth R, Behr VC, Bley TA. Magnetic Particle Imaging-guided Percutaneous Transluminal Angioplasty in an Iliac Artery Phantom Model. Proc. RSNA. 2018.
32. Vogel P, Kampf T, Herz S, Rückert MA, Bley TA, Behr VC. Parallel Magnetic Particle Imaging. Proc. IWMPI. 2018.
33. Herz S, Vogel P, Rückert MA, Behr VC, Bley TA. MPI Arthrography – Proof of Principle in a Phantom Study. Proc. IWMPI. 2018.
34. Vogel P, Fidler F, Herz S, Piekarek F, Markert J, Rückert MA, Kullmann WH, Bley TA, Behr VC. Hybrid Gradiometer Design for Traveling Wave Magnetic Particle Imaging. Proc. IWMPI. 2018.
35. Vogel P, Rückert MA, Kampf T, Herz S, Bley TA, Behr VC. Enhancements for Traveling Wave Magnetic Particle Imaging. Proc. DGBMT. 2018.
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37. Kampf T, Vogel P, Herz S, Rückert MA, Bley TA, Behr VC. A comparison of image-based system matrices. Proc. IWMPI. 2018.
38. Herz S, Vogel P, Dietrich P, Kampf T, Kunz J, Behr VC, Bley TA. Magnetic Particle Imaging: Dynamische Darstellung einer Ballondilatation im Gefäßmodell in Echtzeit. RöKo. 2017.
39. Herz S, Vogel P, Rückert MA, Kampf T, Behr VC, Bley TA. Selective Signal Suppression in MPI: Focusing on Areas of high Signal Intensity Range. Proc. IWMPI. 2017.

40. Vogel P, Rückert MA, Kampf T, Herz S, Behr VC, Bley TA. Real-time Reconstruction for (TW)MPI Systems. Proc. IWMPI. 2017.
41. Vogel P, Herz S, Dietrich P, Kampf T, Behr VC, Bley TA. Real-time Percutaneous Trans-luminal Angioplasty with Traveling Wave Magnetic Particle Imaging. Proc. on ISMRM. 2017.
42. Vogel P, Rückert MA, Klauer P, Kampf T, Herz S, Bley TA, Behr VC. Real-time 3D Dynamic Rotational Slice-Scanning Mode for Traveling Wave MPI. Proc. IWMPI. 2017.
43. Herz S, Vogel P, Behr VC, Bley TA. Quantification of Vascular Stenosis Phantoms using Traveling Wave MPI. Proc. IWMPI. 2016.
44. Herz S, Vogel P, Kampf T, Veldhoen S, Behr VC, Bley TA. Quantification of Vascular Stenosis Phantoms using Magnetic Particle Imaging. Proc. DGMP. 2016.
45. Herz S, Vogel P, Brede C, Brandl A, Rückert VC, Kampf T, Veldhoen S, Jakob PM, Behr VC, Bley TA. Magnetic Particle Imaging with labeled tumor cells: proof of principle study in a murine small cell lung cancer model. Proc. RSNA. 2015.
46. Vogel P, Herz S, Rückert MA, Brede C, Brandl A, Kampf T, Veldhoen S, Jakob PM, Beilhack A, Bley TA, Behr VC. Traveling Wave MPI goes pre-clinical application. Proc. IWMPI. 2015.
47. Herz S, Vogel P, Rückert MA, Brede C, Kampf T, Veldhoen S, Jakob PM, Beilhack A, Behr VC, Bley TA. Magnetic Particle Imaging / MRT-Fusionsbildgebung: Machbarkeitsstudie an einem murinen Graft-versus-Host Disease Modell. Proc. Röko. 2015.
48. Vogel P, Herz S, Rückert MA, Brede C, Brandl A, Kampf T, Veldhoen S, Jakob PM, Beilhack A, Bley TA, Behr VC. Magnetic Particle Imaging – initial results of a murine small cell lung cancer model study. Proc. DGMP. 2015.
49. Vogel P, Herz S, Rückert MA, Brede C, Kampf T, Veldhoen S, Jakob PM, Beilhack A, Bley TA, Behr VC. First pre-clinical measurements using Traveling Wave Magnetic Particle Imaging and beyond. Proc. DGMP. 2014.
50. Vogel P, Herz S, Rückert MA, Brede C, Kampf T, Veldhoen S, Jakob PM, Beilhack A, Bley TA, Behr VC. First pre-clinical measurements using Traveling Wave Magnetic Particle Imaging. Proc. DGMP. 2014.
51. Herz S, Vogel P, Rückert MA, Brede C, Kampf T, Veldhoen S, Jakob PM, Beilhack A, Behr VC, Bley TA. Visualizing Immune Processes with 3D Magnetic Particle / Magnetic Resonance Fusion Imaging: Proof of Concept in a Murine Graft-versus-Host Disease Model. Proc. RSNA. 2014.

3. Wissenschaftliche Vorträge:

1. Herz S, Bley TA. Potential Applications of MPI in Medicine, IWMPi 2022, Würzburg.
2. Herz S, Behr VC, Bley TA, Vogel P. Magnetic Particle Imaging-guided Stenting. ESVB 2021, Straßburg.
3. Herz S, Vogel P, Dietrich P, Kampf T, Kickuth R, Behr VC, Bley TA. Magnetic Particle Imaging (MPI) geführtes Stenting. Röko 2019, Leipzig.
4. Herz S, Vogel P, Dietrich P, Kampf T, Kickuth R, Behr VC, Bley TA. Percutaneous transluminal angioplasty: MPI vs. X-ray guidance. IWMPi 2019, New York.
5. Herz S, Vogel P, Kampf T, Dietrich P, Rückert MA, Veldhoen S, Kosmala A, Kickuth R, Behr VC, Bley TA. RSNA 2018, Chicago.
6. Herz S, Vogel P, Rückert MA, Behr VC, Bley TA. MPI Arthrography – Proof of Principle in a Phantom Study. IWMPi 2018, Hamburg.
7. Herz S, Vogel P, Rückert MA, Kampf T, Behr VC, Bley TA. Selective Signal Suppression in MPI: Focusing on Areas of high Signal Intensity Range. IWMPi 2017, Prag.
8. Herz S, Vogel P, Dietrich P, Kampf T, Kunz J, Behr VC, Bley TA. Magnetic Particle Imaging: Dynamische Darstellung einer Ballondilatation im Gefäßmodell in Echtzeit. Röko 2017, Leipzig.
9. Herz S, Herold V, Winter P, Kunz J, Gassenmaier T, Jakob P, Bley TA, Bauer WR. Local pulse wave velocity in the murine abdominal aorta at 17.6 T MRI. RSNA 2016, Chicago.
10. Herz S, Vogel P, Behr VC, Bley TA. Quantification of Vascular Stenosis Phantoms using Traveling Wave MPI. IWMPi 2016, Lübeck.
11. Herz S, Vogel P, Kampf T, Veldhoen S, Behr VC, Bley TA. Quantification of Vascular Stenosis Phantoms using Magnetic Particle Imaging. DGMP 2016, Würzburg.
12. Herz S, Vogel P, Brede C, Rückert M, Kampf T, Veldhoen S, Jakob P, Behr VC, Beilhack A, Bley TA, Brandl A. Magnetic Particle Imaging with Labeled Tumor Cells: Proof of Principal Study in a Murine Small Cell Lung Cancer Model. RSNA 2015, Chicago.
13. Herz S, Vogel P, Brede C, Rückert M, Veldhoen S, Jakob P, Behr V, Beilhack A, Bley T. Magnetic Particle Imaging/MRT-Fusionsbildgebung: Machbarkeitsstudie an einem murinen Graft-versus-Host Disease Modell. Röko 2015, Hamburg.

4. Fortbildungsvorträge:

1. Herz S. „Sportverletzungen“, Vorlesung Radiologie / Leitsymptome in Bildern, Medizinische Fakultät der Universität Würzburg, Sommersemester 2019 – 2022.
2. Herz S. „Knorpelbildung im MRT“, Fortbildungsreihe Speciality Day, Orthopädische Klinik König-Ludwig-Haus, Würzburg, 2020.
3. Herz S. „Rotatorenmanschette und -Intervall“, Intensivkurs Muskuloskelettale Radiologie, Deutsche Röntgengesellschaft, Würzburg, 2020.