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Department of Experimental Surgery – Department of Surgery
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**UNIVERSITY EDUCATION:**

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| **B.Sc.** | **Chemistry and Physics, 1991** RWTH Aachen University, Aachen, Germany |
| **M.Sc.** | **Biochemistry, 1995** RWTH Aachen University, Aachen, Germany<br>"Analysis of allosteric transitions in hexamers of insulin analogues using circular dichroism spectroscopy", Supervisor: Prof. A. Wollmer |
| **Ph.D.** | **Polymer chemistry, 2002**<br>Thesis entitled: "A critical analysis of chlorine/Hercosett™ felt-free treatment as a basis for an alternative chlorine-free process"<br>Supervisor: Prof. H. Hoecker, DWI – Leibniz-Institut für Interaktive Materialien, RWTH Aachen University, Aachen, Germany |
| **Staatsexamen** | **Medizin, April 2008**, RWTH Aachen University, Aachen, Germany |
| **Approbation** | **Medizin, May 2008**, Bezirksregierung Köln, Cologne, Germany |
| **Facharztprüfung** | **Unfallchirurgie und Orthopädie, 2018**, Ärztekammer Westfalen-Lippe, Münster, Germany |
| **Prüfarztzertifikat** | **Klinische Arzneimittel- und Medizinprodukteprüfung, 2018**, Westfälische Wilhelms-Universität Münster, Münster, Germany |

**PROFESSIONAL HISTORY:**

**2024 – Research Director Department of Experimental Surgery/ Dept. of Surgery (Prof. Schnitzbauer)**
Knappschaft Kliniken Universitätsklinikum Bochum – Hospital of the Ruhr University Bochum, Centre for Clinical Research, Bochum, Germany
**2018-2024: Surgeon, Department of Surgery (Prof. Viebahn)**
Universitätsklinikum Knappschaftskrankenhaus Bochum – Hospital of the Ruhr University Bochum, Bochum, Germany
**2014-2018: Orthopaedic surgeon, Department of Orthopaedic Surgery (Prof. Smektala)**
Universitätsklinikum Knappschaftskrankenhaus Bochum – Hospital of the Ruhr University Bochum, Bochum, Germany
**2014-2024: Head of the research group Medical Biomaterials/ Experimental Surgery (Prof. Viebahn)**
Universitätsklinikum Knappschaftskrankenhaus Bochum – Hospital of the Ruhr University Bochum, Bochum, Germany
**2013-2014: Resident physician, Department of Neurotraumatology (Prof. Schildhauer)**
Berufsgenossenschaftliches Universitätsklinikum Bergmannsheil Bochum – Hospital of the Ruhr-University Bochum, Bochum, Germany
**2012-2013: Resident physician, Department of Orthopaedic and Hand Surgery (Dr. Özokyay)**
Marien-Hospital Wesel, Wesel, Germany

**2008-2012: Resident physician, Department of Surgery (Prof. Muhr/ Prof. Schildhauer)**
Berufsgenossenschaftliches Universitätsklinikum Bergmannsheil Bochum – Hospital of the Ruhr-University Bochum, Bochum, Germany
**2002-2008: Postdoctoral Research Fellow (Prof. Höcker/ Prof. Möller)**
DWI – Leibniz-Institut für Interaktive Materialien, RWTH Aachen University, Aachen, Germany

**PUBLICATIONS:**


1. Lausmann C, Memarnia N, Salber J, et al. Is operative revision associated with favourable clinical outcomes in arthrofibrosis following total hip arthroplasty (THA)? A retrospective, single-centre data analysis of forty two cases. *Int Orthop*. 2025;49(7):1633-1643. doi:10.1007/s00264-025-06533-0.
2. Zhu M, Xu M, Bertheloot D, et al. Arcyriaflavin A Alleviates Osteoporosis by Suppressing RANKL-Induced Osteoclastogenesis. *Int J Mol Sci*. 2025;26(5):2141. Published 2025 Feb 27. doi:10.3390/ijms26052141.
3. Karthäuser JF, Gruhn D, Martínez Guajardo A, et al. *In vitro* biocompatibility analysis of protein-resistant amphiphilic polysulfobetaines as coatings for surgical implants in contact with complex body fluids. *Front Bioeng Biotechnol*. 2024;12:1403654. Published 2024 Jul 17. doi:10.3389/fbioe.2024.1403654.
4. Piakong P, Pahl M, Delgado G, et al. Twenty-year results of a neck-preserving short-stem prosthesis in primary total hip arthroplasty. *Arch Orthop Trauma Surg*. 2023;143(6):3481-3486. doi:10.1007/s00402-022-04556-5.
5. Brom VC, Strauss AC, Sieberath A, et al. Agonistic and antagonistic targeting of immune checkpoint molecules differentially regulate osteoclastogenesis. *Front Immunol*. 2023;14:988365. Published 2023 Feb 2. doi:10.3389/fimmu.2023.988365.
6. Scholz T, Akkaya M, Linke P, et al. The anatomical shape of the distal femur is an independent risk factor for aseptic loosening following one-stage septic knee revision using rotating hinge knee prosthesis. *Arch Orthop Trauma Surg*. 2023;143(1):481-488. doi:10.1007/s00402-021-04327-8.
7. Gehrke T, Althaus L, Linke P, Salber J, Krenn V, Citak M. Arthrofibrosis following primary total hip arthroplasty: a distinct clinical entity. *Arch Orthop Trauma Surg*. 2022;142(3):511-515. doi:10.1007/s00402-021-03922-z.
8. Vasquez JM, Idrees A, Carmagnola I, et al. *In situ* Forming Hyperbranched PEG-Thiolated Hyaluronic Acid Hydrogels With Honey-Mimetic Antibacterial Properties. *Front Bioeng Biotechnol*. 2021;9:742135. Published 2021 Nov 16. doi:10.3389/fbioe.2021.742135.
9. Karimzadeh Bardeei L, Seyedjafari E, Hossein G, Nabiuni M, Majles Ara MH, Salber J. Regeneration of Bone Defects in a Rabbit Femoral Osteonecrosis Model Using 3D-Printed Poly (Epsilon-Caprolactone)/Nanoparticulate Willemite Composite Scaffolds. *Int J Mol Sci*. 2021;22(19):10332. Published 2021 Sep 25. doi:10.3390/ijms221910332.
10. Idrees, A., Schmitz, I., Zoso, A., Gruhn, D., Pa-charra, S., Shah, S., Ciardelli, G., Viebahn, R., Chi-ono, V., and Salber, J. Fundamental in vitro 3D human skin equivalent tool development for as-sessing biological safety and biocompatibility – to-wards alternative for animal experiments. *4open*.2021;4:1. doi.org/10.1051/fopen/2021001.
11. Pacharra S, McMahon S, Duffy P, et al. Cytocompatibility Evaluation of a Novel Series of PEG-Functionalized Lactide-Caprolactone Copolymer Biomaterials for Cardiovascular Applications. *Front Bioeng Biotechnol*. 2020;8:991. Published 2020 Aug 13. doi:10.3389/fbioe.2020.00991.
12. Piarali S, Marlinghaus L, Viebahn R, et al. Activated Polyhydroxyalkanoate Meshes Prevent Bacterial Adhesion and Biofilm Development in Regenerative Medicine Applications. *Front Bioeng Biotechnol*. 2020;8:442. Published 2020 May 15. doi:10.3389/fbioe.2020.00442.
13. Varela P, Marlinghaus L, Sartori S, Viebahn R, Salber J, Ciardelli G. Response of Human Macrophages to Clinically Applied Wound Dressings Loaded With Silver. *Front Bioeng Biotechnol*. 2020;8:124. Published 2020 Feb 25. doi:10.3389/fbioe.2020.00124.

**14.** Pacharra S, Ortiz R, McMahon S, et al. Surface patterning of a novel PEG-functionalized poly-l-lactide polymer to improve its biocompatibility: Applications to bioresorbable vascular stents. *J Biomed Mater Res B Appl Biomater*. 2019;107(3):624-634. doi:10.1002/jbm.b.34155.
**15.** Varela P, Sartori S, Viebahn R, Salber J, Ciardelli G. Macrophage immunomodulation: An indispensable tool to evaluate the performance of wound dressing biomaterials. *J Appl Biomater Funct Mater*. 2019;17(1):2280800019830355. doi:10.1177/2280800019830355.
**16.** Idrees A, Chiono V, Ciardelli G, et al. Validation of in vitro assays in three-dimensional human dermal constructs. *Int J Artif Organs*. 2018;41(11):779-788. doi:10.1177/0391398818775519.