# Frank Witte

List of Publications by Year
in descending order

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| 86 | 16,009 | 126708 | 69108 |
|---|---|---|---|
| papers | citations | 33 | 77 |
| | | h-index | g-index |

| 87 | 87 | 87 | 7806 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Open-porous magnesium-based scaffolds withstand in vitro corrosion under cyclic loading: A mechanistic study. Bioactive Materials, 2023, 19, 406-417. | 8.6 | 4 |
| 2 | Biodegradable Mg-based alloys: biological implications and restorative opportunities. International Materials Reviews, 2023, 68, 365-403. | 9.4 | 16 |
| 3 | Exploring the degradation behavior of MgXAg alloys by in vitro electrochemical methods. Bioactive Materials, 2022, 7, 441-452. | 8.6 | 2 |
| 4 | Biodegradable magnesium barrier membrane used for guided bone regeneration in dental surgery. Bioactive Materials, 2022, 14, 152-168. | 8.6 | 25 |
| 5 | Biodegradable magnesium fixation screw for barrier membranes used in guided bone regeneration. Bioactive Materials, 2022, 14, 15-30. | 8.6 | 21 |
| 6 | Sustained local ionic homeostatic imbalance caused by calcification modulates inflammation to trigger heterotopic ossification. Acta Biomaterialia, 2022, 145, 1-24. | 4.1 | 10 |
| 7 | Analysis of a Pure Magnesium Membrane Degradation Process and Its Functionality When Used in a Guided Bone Regeneration Model in Beagle Dogs. Materials, 2022, 15, 3106. | 1.3 | 15 |
| 8 | Biodegradable open-porous scaffolds made of sintered magnesium W4 and WZ21 short fibres show biocompatibility in vitro and in long-term in vivo evaluation. Acta Biomaterialia, 2022, 148, 389-404. | 4.1 | 10 |
| 9 | Biodegradation of a Magnesium Alloy Fixation Screw Used in a Guided Bone Regeneration Model in Beagle Dogs. Materials, 2022, 15, 4111. | 1.3 | 14 |
| 10 | Multi-scale mechanical and morphological characterisation of sintered porous magnesium-based scaffolds for bone regeneration in critical-sized defects. Acta Biomaterialia, 2021, 127, 338-352. | 4.1 | 17 |
| 11 | Time-resolved in situ synchrotron-microCT: 4D deformation of bone and bone analogues using digital volume correlation. Acta Biomaterialia, 2021, 131, 424-439. | 4.1 | 24 |
| 12 | Biodegradable Metals. , 2020, , 271-287. | | 3 |
| 13 | Low-cycle full-field residual strains in cortical bone and their influence on tissue fracture evaluated via in situ stepwise and continuous X-ray computed tomography. Journal of Biomechanics, 2020, 113, 110105. | 0.9 | 14 |
| 14 | Biodegradable Magnesium Alloys Promote Angioâ€Osteogenesis to Enhance Bone Repair. Advanced Science, 2020, 7, 2000800. | 5.6 | 72 |
| 15 | The in vitro and in vivo biological effects and osteogenic activity of novel biodegradable porous Mg alloy scaffolds. Materials and Design, 2020, 189, 108514. | 3.3 | 50 |
| 16 | Degradation, Bone Regeneration and Tissue Response of an Innovative Volume Stable Magnesium-Supported GBR/GTR Barrier Membrane. International Journal of Molecular Sciences, 2020, 21, 3098. | 1.8 | 38 |
| 17 | Preliminary study of microstructure, mechanical properties and corrosion resistance of antibacterial Ti-15Zr-xCu alloy for dental application. Journal of Materials Science and Technology, 2020, 50, 31-43. | 5.6 | 30 |
| 18 | Current status and outlook on the clinical translation of biodegradable metals. Materials Today, 2019, 23, 57-71. | 8.3 | 271 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Controlling magnesium corrosion and degradation-regulating mineralization using matrix GLA protein. Acta Biomaterialia, 2019, 98, 142-151. | 4.1 | 8 |
| 20 | Effect of physical cues of altered extract media from biodegradable magnesium implants on human gingival fibroblasts. Acta Biomaterialia, 2019, 98, 186-195. | 4.1 | 12 |
| 21 | 10th BIOMETAL2018 - International Symposium on Biodegradable Metals. Acta Biomaterialia, 2019, 98, 1-2. | 4.1 | 1 |
| 22 | Articular cartilage regeneration using acellular bioactive affinity-binding alginate hydrogel: A 6-month study in a mini-pig model of osteochondral defects. Journal of Orthopaedic Translation, 2019, 16, 40-52. | 1.9 | 42 |
| 23 | Normal trabecular vertebral bone is formed via rapid transformation of mineralized spicules: A high-resolution 3D ex-vivo murine study. Acta Biomaterialia, 2019, 86, 429-440. | 4.1 | 5 |
| 24 | Design of a migration assay for human gingival fibroblasts on biodegradable magnesium surfaces. Acta Biomaterialia, 2018, 79, 158-167. | 4.1 | 31 |
| 25 | Global collaboration on Biomaterials is starting with Binational Workshopsâ€“Sino-German Workshop on Biomaterials in Beijing 2016. Bioactive Materials, 2017, 2, 51-52. | 8.6 | 0 |
| 26 | Current status on clinical applications of magnesium-based orthopaedic implants: A review from clinical translational perspective. Biomaterials, 2017, 112, 287-302. | 5.7 | 674 |
| 27 | Immune response to nanobiomaterials. , 2017, , 249-260. | | 0 |
| 28 | Implant-derived magnesium induces local neuronal production of CGRP to improve bone-fracture healing in rats. Nature Medicine, 2016, 22, 1160-1169. | 15.2 | 666 |
| 29 | In vivo comparative study of tissue reaction to bare and antimicrobial polymer coated transcutaneous implants. Materials Science and Engineering C, 2016, 61, 712-719. | 3.8 | 8 |
| 30 | Recommendation for modifying current cytotoxicity testing standards for biodegradable magnesium-based materials. Acta Biomaterialia, 2015, 21, 237-249. | 4.1 | 338 |
| 31 | Reprint of: The history of biodegradable magnesium implants: A review. Acta Biomaterialia, 2015, 23, S28-S40. | 4.1 | 238 |
| 32 | Effect of the addition of low rare earth elements (lanthanum, neodymium, cerium) on the biodegradation and biocompatibility of magnesium. Acta Biomaterialia, 2015, 11, 554-562. | 4.1 | 184 |
| 33 | Bone Marrow-Derived Cell Concentrates Have Limited Effects on Osteochondral Reconstructions in the Mini Pig. Tissue Engineering - Part C: Methods, 2014, 20, 215-226. | 1.1 | 13 |
| 34 | Highly Porous Magnesium Alloy Structures and Their Properties Regarding Degradable Implant Application. Advanced Engineering Materials, 2014, 16, 309-318. | 1.6 | 18 |
| 35 | Biodegradable metals. Materials Science and Engineering Reports, 2014, 77, 1-34. | 14.8 | 1,816 |
| 36 | Non-invasive pH determination adjacent to degradable biomaterials in vivo. Acta Biomaterialia, 2014, 10, 34-39. | 4.1 | 26 |

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|---|---|---|---|
| 37 | Biodegradable Fe-based alloys for use in osteosynthesis: Outcome of an in vivo study after 52weeks. Acta Biomaterialia, 2014, 10, 3346-3353. | 4.1 | 211 |
| 38 | Electrochemical removal of metallic implants from Technovit 9100 New embedded hard and soft tissues prior to histological sectioning. Histochemistry and Cell Biology, 2013, 140, 585-593. | 0.8 | 6 |
| 39 | Biocompatibility of rapidly solidified magnesium alloy RS66 as a temporary biodegradable metal. Acta Biomaterialia, 2013, 9, 8509-8517. | 4.1 | 79 |
| 40 | Fast escape of hydrogen from gas cavities around corroding magnesium implants. Acta Biomaterialia, 2013, 9, 8714-8721. | 4.1 | 237 |
| 41 | Acta Biomaterialia Special Issue: 4th Biometal 2012, Maratea, Italy. Acta Biomaterialia, 2013, 9, 8474. | 4.1 | 0 |
| 42 | 1st Minimum Consensus Meeting on Standardization in Biodegradable Metals. Acta Biomaterialia, 2013, 9, 8472-8473. | 4.1 | 2 |
| 43 | Electrochemical Sensing of Dissolved Hydrogen in Aqueous Solutions as a Tool to Monitor Magnesium Alloy Corrosion. Electroanalysis, 2013, 25, 1105-1110. | 1.5 | 13 |
| 44 | In situ optical coherence tomography of percutaneous implant-tissue interfaces in a murine model. Biomedizinische Technik, 2013, 58, 359-67. | 0.9 | 2 |
| 45 | Simultaneous regeneration of articular cartilage and subchondral bone induced by spatially presented TGF-beta and BMP-4 in a bilayer affinity binding system. Acta Biomaterialia, 2012, 8, 3283-3293. | 4.1 | 105 |
| 46 | InÂvivo fluorescence imaging of apoptosis during foreign body response. Biomaterials, 2012, 33, 6926-6932. | 5.7 | 22 |
| 47 | In vitro corrosion of ZEK100 plates in Hank's Balanced Salt Solution. BioMedical Engineering OnLine, 2012, 11, 12. | 1.3 | 31 |
| 48 | Biomechanical characterisation of a degradable magnesium-based (MgCa0.8) screw. Journal of Materials Science: Materials in Medicine, 2012, 23, 649-655. | 1.7 | 30 |
| 49 | Biodegradable Metals. , 2012, , 93-109. | | 33 |
| 50 | Biodegradable Magnesium Implants - How Do They Corrode in-vivo?. , 2011, , 17-17. | | 1 |
| 51 | High purity biodegradable magnesium coating for implant application. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2011, 176, 1711-1717. | 1.7 | 53 |
| 52 | Action potentials in primary osteoblasts and in the MG-63 osteoblast-like cell line. Journal of Bioenergetics and Biomembranes, 2011, 43, 311-322. | 1.0 | 16 |
| 53 | Preparation and In Vivo Imaging of Lucifer Yellow Tagged Hydrogels. Macromolecular Symposia, 2011, 309-310, 222-228. | 0.4 | 8 |
| 54 | Designing the Biocompatibility of Biohybrids. Advances in Biochemical Engineering/Biotechnology, 2011, 126, 285-296. | 0.6 | 1 |

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|---|---|---|---|
| 55 | Coating of titanium implants with copolymer supports bone regeneration: a comparative in vivo study in rabbits. Journal of Applied Biomaterials and Biomechanics, 2011, 9, 26-33. | 0.4 | 3 |
| 56 | Model Based 3D Segmentation and OCT Image Undistortion of Percutaneous Implants. Lecture Notes in Computer Science, 2011, 14, 454-462. | 1.0 | 3 |
| 57 | Biodegradable Magnesium Implants â€" How do They Corrode in-Vivo?. , 2011, , 17-17. | | 1 |
| 58 | Comparison of Bone Mineral Parameter Measurements by Dual-Energy X-ray Absorptiometry With Bone Stiffness Measurements as Indicators of the Load-Bearing Capacity of Regenerating Bone. Journal of Orthopaedic Trauma, 2010, 24, 181-187. | 0.7 | 4 |
| 59 | Evaluation of short-term effects of rare earth and other elements used in magnesium alloys on primary cells and cell linesâ˜†. Acta Biomaterialia, 2010, 6, 1834-1842. | 4.1 | 496 |
| 60 | Magnesium hydroxide temporarily enhancing osteoblast activity and decreasing the osteoclast number in peri-implant bone remodellingâ˜†. Acta Biomaterialia, 2010, 6, 1861-1868. | 4.1 | 282 |
| 61 | Editorial. Acta Biomaterialia, 2010, 6, 1679-1679. | 4.1 | 10 |
| 62 | Magnesium alloys as implant materials â€" Principles of property design for Mgâ€"RE alloysâ˜†. Acta Biomaterialia, 2010, 6, 1714-1725. | 4.1 | 503 |
| 63 | In vivo corrosion and corrosion protection of magnesium alloy LAE442â˜†. Acta Biomaterialia, 2010, 6, 1792-1799. | 4.1 | 377 |
| 64 | The history of biodegradable magnesium implants: A reviewâ˜†. Acta Biomaterialia, 2010, 6, 1680-1692. | 4.1 | 1,515 |
| 65 | Histology and research at the hard tissueâ€"implant interface using Technovit 9100 New embedding technique. Acta Biomaterialia, 2010, 6, 4447-4455. | 4.1 | 67 |
| 66 | Mesenchymal Stem Cell-Dependent Formation of Heterotopic Tendon-Bone Insertions (Osteotendinous) Tj ETQq0 0 0 rgBT /Overlock 10 | 1.4 | 40 |
| 67 | Responsive Biosensors for Biodegradable Magnesium Implants. , 2009, , . | | 0 |
| 68 | Bio-mimetic hollow scaffolds for long bone replacement. Proceedings of SPIE, 2009, , . | 0.8 | 6 |
| 69 | Tunnel Widening after Anterior Cruciate Ligament Reconstruction. American Journal of Sports Medicine, 2009, 37, 1609-1617. | 1.9 | 22 |
| 70 | Muscle response to leg lengthening during distraction osteogenesis. Journal of Orthopaedic Research, 2009, 27, 483-488. | 1.2 | 11 |
| 71 | COMPARATIVE STRUCTURAL ANALYSIS OF THE CANINE FEMORAL HEAD IN LEGGâ€CALVÃ‰â€PERTHES DISEASE. Veterinary Radiology and Ultrasound, 2009, 50, 404-411. | 0.4 | 7 |
| 72 | Determination of concentration gradients in bone tissue generated by a biologically degradable magnesium implant. Journal of Analytical Atomic Spectrometry, 2009, 24, 181-188. | 1.6 | 32 |

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|---|---|---|---|
| 73 | The morphology of anisotropic 3D-printed hydroxyapatite scaffolds. Biomaterials, 2008, 29, 3799-3806. | 5.7 | 190 |
| 74 | Evaluation of the skin sensitizing potential of biodegradable magnesium alloys. Journal of Biomedical Materials Research - Part A, 2008, 86A, 1041-1047. | 2.1 | 77 |
| 75 | Progress and Challenge for Magnesium Alloys as Biomaterials. Advanced Engineering Materials, 2008, 10, B3. | 1.6 | 564 |
| 76 | Degradable biomaterials based on magnesium corrosion. Current Opinion in Solid State and Materials Science, 2008, 12, 63-72. | 5.6 | 1,537 |
| 77 | Histologic and Biomechanical Analysis of Anterior Cruciate Ligament Graft to Bone Healing in Skeletally Immature Sheep. Arthroscopy - Journal of Arthroscopic and Related Surgery, 2008, 24, 1221-1231. | 1.3 | 31 |
| 78 | Biodegradable magnesium scaffolds: Part 1: Appropriate inflammatory response. Journal of Biomedical Materials Research - Part A, 2007, 81A, 748-756. | 2.1 | 347 |
| 79 | Biodegradable magnesium scaffolds: Part II: Peri-implant bone remodeling. Journal of Biomedical Materials Research - Part A, 2007, 81A, 757-765. | 2.1 | 281 |
| 80 | Biodegradable magnesiumâ€“hydroxyapatite metal matrix composites. Biomaterials, 2007, 28, 2163-2174. | 5.7 | 570 |
| 81 | Unphysiologically High Magnesium Concentrations Support Chondrocyte Proliferation and Redifferentiation. Tissue Engineering, 2006, 12, 3545-3556. | 4.9 | 79 |
| 82 | Microtomography of magnesium implants in bone and their degradation. , 2006, 6318, 35. | | 10 |
| 83 | In vitro and in vivo corrosion measurements of magnesium alloys. Biomaterials, 2006, 27, 1013-1018. | 5.7 | 1,234 |
| 84 | The Influence of Intraoperative Pretensioning on the Chondroprotective Effect of Meniscal Transplants. American Journal of Sports Medicine, 2006, 34, 397-406. | 1.9 | 21 |
| 85 | In vivo corrosion of four magnesium alloys and the associated bone response. Biomaterials, 2005, 26, 3557-3563. | 5.7 | 2,118 |
| 86 | Internal channel structures in trabecular bone. , 2004, 5535, 792. | | 1 |