Horst Fischer

List of Publications by Year
in descending order

110 papers	4,657 citations	117625 34 h-index	110387 64 g-index
111 all docs	111 docs citations	111 times ranked	6370 citing authors

#	Article	IF	Citations
1	Effect of nanoscale surface topography on the adsorption of globular proteins. Applied Surface Science, 2021, 535, 147671.	6.1	21
2	Current Trends in In Vitro Modeling to Mimic Cellular Crosstalk in Periodontal Tissue. Advanced Healthcare Materials, 2021, 10, e2001269.	7.6	27
3	A 3D printed in vitro bone model for the assessment of molecular and cellular cues in metastatic neuroblastoma. Biomaterials Science, 2021, 9, 1716-1727.	5.4	4
4	Biofunctionalization of Dental Abutment Surfaces by Crosslinked ECM Proteins Strongly Enhances Adhesion and Proliferation of Gingival Fibroblasts. Advanced Healthcare Materials, 2021, 10, e2100132.	7.6	13
5	Multiscale 3D Bioprinting by Nozzleâ€Free Acoustic Droplet Ejection. Small Methods, 2021, 5, e2000971.	8.6	34
6	Hand-held bioprinting for de novo vascular formation applicable to dental pulp regeneration. Connective Tissue Research, 2020, 61, 205-215.	2.3	40
7	Influence of Different Cell Types and Sources on Pre-Vascularisation in Fibrin and Agaroseâ€“Collagen Gels. Organogenesis, 2020, 16, 14-26.	1.2	19
8	Biomechanical effects of posterior pedicle screw-based instrumentation using titanium versus carbon fiber reinforced PEEK in an osteoporotic spine human cadaver model. Clinical Biomechanics, 2020, 80, 105153.	1.2	19
9	Emerging Neuroblastoma 3D In Vitro Models for Pre-Clinical Assessments. Frontiers in Immunology, 2020, 11, 584214.	4.8	11
10	Attachment of Ultralow Amount of Engineered Plant Viral Nanoparticles to Mesenchymal Stem Cells Enhances Osteogenesis and Mineralization. Advanced Healthcare Materials, 2020, 9, e2001245.	7.6	13
11	Objective computerised assessment of residual ridge resorption in the human maxilla and maxillary sinus pneumatisation. Clinical Oral Investigations, 2020, 24, 3223-3235.	3.0	6
12	Enhanced osteogenic differentiation of human mesenchymal stromal cells as response to periodical microstructured Ti6Al4V surfaces. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2020, 108, 2218-2226.	3.4	5
13	Effects of Strontium-Doped Î²-Tricalcium Scaffold on Longitudinal Nuclear Factor-Kappa Beta and Vascular Endothelial Growth Factor Receptor-2 Promoter Activities during Healing in a Murine Critical-Size Bone Defect Model. International Journal of Molecular Sciences, 2020, 21, 3208.	4.1	9
14	Influence of nanoporous titanium niobium alloy surfaces produced via hydrogen peroxide oxidative etching on the osteogenic differentiation of human mesenchymal stromal cells. Materials Science and Engineering C, 2019, 98, 635-648.	7.3	15
15	Influence of additional cement augmentation on endplate stability in circumferential stabilisation of osteoporotic spine fractures. Clinical Biomechanics, 2019, 68, 163-168.	1.2	4
16	Role of Nrf2 in Fracture Healing: Clinical Aspects of Oxidative Stress. Calcified Tissue International, 2019, 105, 341-352.	3.1	46
17	Combination of vascularization and cilia formation for threeâ€dimensional airway tissue engineering. Journal of Biomedical Materials Research - Part A, 2019, 107, 2053-2062.	4.0	19
18	Corneal bioprinting utilizing collagenâ€based bioinks and primary human keratocytes. Journal of Biomedical Materials Research - Part A, 2019, 107, 1945-1953.	4.0	98

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19	Synchronized Dual Bioprinting of Bioinks and Biomaterial Inks as a Translational Strategy for Cartilage Tissue Engineering. 3D Printing and Additive Manufacturing, 2019, 6, 63-71.	2.9	15
20	Influence of bioactive glass-coating of zirconia implant surfaces on human osteoblast behavior in vitro. Dental Materials, 2019, 35, 862-870.	3.5	14
21	Development of a solvent-free polylactide/calcium carbonate composite for selective laser sintering of bone tissue engineering scaffolds. Materials Science and Engineering C, 2019, 101, 660-673.	7.3	86
22	Exploring Cancer Cell Behavior In Vitro in Three-Dimensional Multicellular Bioprintable Collagen-Based Hydrogels. Cancers, 2019, 11, 180.	3.7	45
23	Calcium phosphate scaffolds with defined interconnecting channel structure provide a mimetic 3D niche for bone marrow metastasized tumor cell growth. Acta Biomaterialia, 2019, 88, 527-539.	8.3	16
24	Periodic microstructures on bioactive glass surfaces enhance osteogenic differentiation of human mesenchymal stromal cells and promote osteoclastogenesis in vitro. Journal of Biomedical Materials Research - Part A, 2018, 106, 1965-1978.	4.0	6
25	Ultrasound-mediated deposition and cytocompatibility of apatite-like coatings on magnesium alloys. Surface and Coatings Technology, 2018, 345, 167-176.	4.8	4
26	Mimicking physiological flow conditions to study alterations of bioactive glass surfaces in vitro. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2018, 106, 228-236.	3.4	6
27	Response of umbilical cord mesenchymal stromal cells to varying titanium topographical signals. Journal of Biomedical Materials Research - Part A, 2018, 106, 180-191.	4.0	5
28	Does soft really matter? Differentiation of induced pluripotent stem cells into mesenchymal stromal cells is not influenced by soft hydrogels. Biomaterials, 2018, 156, 147-158.	11.4	27
29	Biological Activation of Bioinert Medical High-Performance Oxide Ceramics by Hydrolytically Stable Immobilization of c(RGDyK) and BMP-2. ACS Applied Materials & Interfaces, 2018, 10, 38669-38680.	8.0	7
30	Incorporating 4D into Bioprinting: Realâ€Time Magnetically Directed Collagen Fiber Alignment for Generating Complex Multilayered Tissues. Advanced Healthcare Materials, 2018, 7, e1800894.	7.6	115
31	Retrievability of implant-supported zirconia restorations cemented on zirconia abutments. Journal of Prosthetic Dentistry, 2018, 120, 740-746.	2.8	8
32	The Effect of Addition of Calcium Phosphate Particles to Hydrogelâ€Based Composite Materials on Stiffness and Differentiation of Mesenchymal Stromal Cells toward Osteogenesis. Advanced Healthcare Materials, 2018, 7, e1800343.	7.6	21
33	Influence of the material properties of a poly(D,L-lactide)/Î²-tricalcium phosphate composite on the processability by selective laser sintering. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 87, 267-278.	3.1	28
34	Engineering biofunctional in vitro vessel models using a multilayer bioprinting technique. Scientific Reports, 2018, 8, 10430.	3.3	143
35	Computational geometry assessment for morphometric analysis of the mandible. Computer Methods in Biomechanics and Biomedical Engineering, 2017, 20, 27-34.	1.6	13
36	Planning of mandibular reconstructions based on statistical shape models. International Journal of Computer Assisted Radiology and Surgery, 2017, 12, 99-112.	2.8	34

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37	Selective laser-melted fully biodegradable scaffold composed of poly(<scp>d</scp> ,<scp>l</scp>) Tj ETQq1 1 0.784314 rgBT /Overlock maxillofacial reconstruction: In vitro and in vivo results. , 2017, 105, 1216-1231.		13
38	3D bioprinting of cell-laden hydrogels for advanced tissue engineering. Current Opinion in Biomedical Engineering, 2017, 2, 58-66.	3.4	50
39	Artificial Neural Networks as a powerful numerical tool to classify specific features of a tooth based on 3D scan data. Computers in Biology and Medicine, 2017, 80, 65-76.	7.0	59
40	Manufacturing and Characterization of Highly Porous Bioactive Glass Composite Scaffolds Using Unidirectional Freeze Casting. Advanced Engineering Materials, 2017, 19, 1700129.	3.5	10
41	Classification of the level of mandibular atrophy â€“ A computer-assisted study based on 500 CT scans. Journal of Cranio-Maxillo-Facial Surgery, 2017, 45, 2061-2067.	1.7	4
42	Three-Dimensional Printing and Angiogenesis: Tailored Agarose-Type I Collagen Blends Comprise Three-Dimensional Printability and Angiogenesis Potential for Tissue-Engineered Substitutes. Tissue Engineering - Part C: Methods, 2017, 23, 604-615.	2.1	94
43	Engineered Potato virus X nanoparticles support hydroxyapatite nucleation for improved bone tissue replacement. Acta Biomaterialia, 2017, 62, 317-327.	8.3	24
44	Mechanically Tunable Bioink for 3D Bioprinting of Human Cells. Advanced Healthcare Materials, 2017, 6, 1700255.	7.6	86
45	GelMA-collagen blends enable drop-on-demand 3D printablility and promote angiogenesis. Biofabrication, 2017, 9, 045002.	7.1	144
46	A New Laser-Processing Strategy for Improving Enamel Erosion Resistance. Journal of Dental Research, 2017, 96, 1168-1175.	5.2	12
47	Functional in situ assessment of human articular cartilage using MRI: a whole-knee joint loading device. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1971-1986.	2.8	20
48	Glass-ceramic coating material for the CO 2 laser based sintering of thin films as caries and erosion protection. Dental Materials, 2017, 33, 995-1003.	3.5	7
49	Bone regeneration induced by a 3D architectured hydrogel in a rat critical-size calvarial defect. Biomaterials, 2017, 113, 158-169.	11.4	58
50	Functional MR Imaging Mapping of Human Articular Cartilage Response to Loading. Radiology, 2017, 282, 464-474.	7.3	35
51	Bioprinting Organotypic Hydrogels with Improved Mesenchymal Stem Cell Remodeling and Mineralization Properties for Bone Tissue Engineering. Advanced Healthcare Materials, 2016, 5, 1336-1345.	7.6	143
52	Structuring of bioactive glass surfaces at the micrometer scale by direct casting intended to influence cell response. Biomedical Glasses, 2016, 2, .	2.4	1
53	A tailored three-dimensionally printable agaroseâ€“collagen blend allows encapsulation, spreading, and attachment of human umbilical artery smooth muscle cells. Biofabrication, 2016, 8, 025011.	7.1	93
54	Inkjet printed periodical micropatterns made of inert alumina ceramics induce contact guidance and stimulate osteogenic differentiation of mesenchymal stromal cells. Acta Biomaterialia, 2016, 44, 85-96.	8.3	38

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55	Laser-based in situ embedding of metal nanoparticles into bioextruded alginate hydrogel tubes enhances human endothelial cell adhesion. Nano Research, 2016, 9, 3407-3427.	10.4	37
56	Simulation of the gelation process of hydrogel droplets in 3D bioprinting. Proceedings in Applied Mathematics and Mechanics, 2016, 16, 117-118.	0.2	3
57	Effect of platelet mediator concentrate (PMC) on Achilles tenocytes: an in vitro study. BMC Musculoskeletal Disorders, 2016, 17, 307.	1.9	6
58	Controlling Shear Stress in 3D Bioprinting is a Key Factor to Balance Printing Resolution and Stem Cell Integrity. Advanced Healthcare Materials, 2016, 5, 326-333.	7.6	571
59	An engineered multicomponent bone marrow niche for the recapitulation of hematopoiesis at ectopic transplantation sites. Journal of Hematology and Oncology, 2016, 9, 4.	17.0	35
60	Plasma-Enhanced Chemical Vapor Deposition (PE-CVD) yields better Hydrolytical Stability of Biocompatible SiOx Thin Films on Implant Alumina Ceramics compared to Rapid Thermal Evaporation Physical Vapor Deposition (PVD). ACS Applied Materials & Interfaces, 2016, 8, 17805-17816.	8.0	41
61	Calcium phosphate/microgel composites for 3D powderbed printing of ceramic materials. Biomedizinische Technik, 2016, 61, 267-279.	0.8	18
62	Cellulose Nanofibril Hydrogel Tubes as Sacrificial Templates for Freestanding Tubular Cell Constructs. Biomacromolecules, 2016, 17, 905-913.	5.4	63
63	Degradation and swelling issues of poly-(d,l-lactide)/Î²-tricalcium phosphate/calcium carbonate composites for bone replacement. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 54, 82-92.	3.1	16
64	Impaired Fracture Healing after Hemorrhagic Shock. Mediators of Inflammation, 2015, 2015, 1-7.	3.0	16
65	Bioactive and Thermally Compatible Glass Coating on Zirconia Dental Implants. Journal of Dental Research, 2015, 94, 297-303.	5.2	37
66	Preparation of spherical calcium phosphate granulates suitable for the biofunctionalization of active brazed titanium alloy coatings. Biomedizinische Technik, 2015, 60, 105-14.	0.8	3
67	Adhesion of human mesenchymal stem cells can be controlled by electron beam-microstructured titanium alloy surfaces during osteogenic differentiation. Biomedizinische Technik, 2015, 60, 215-23.	0.8	4
68	Immobilization of specific proteins to titanium surface using self-assembled monolayer technique. Dental Materials, 2015, 31, 1169-1179.	3.5	20
69	Low-aspect ratio nanopatterns on bioinert alumina influence the response and morphology of osteoblast-like cells. Biomaterials, 2015, 62, 58-65.	11.4	35
70	The Stiffness and Structure of Three-Dimensional Printed Hydrogels Direct the Differentiation of Mesenchymal Stromal Cells Toward Adipogenic and Osteogenic Lineages. Tissue Engineering - Part A, 2015, 21, 740-756.	3.1	181
71	Potential of CO2 lasers (10.6 Âµm) associated with fluorides in inhibiting human enamel erosion. Brazilian Oral Research, 2014, 28, 1-6.	1.4	16
72	Nrf2 Deficiency Impairs Fracture Healing in Mice. Calcified Tissue International, 2014, 95, 349-361.	3.1	40

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73	Biological Activation of Inert Ceramics: Recent Advances Using Tailored Self-Assembled Monolayers on Implant Ceramic Surfaces. Materials, 2014, 7, 4473-4492.	2.9	18
74	Erforschung Ti-Co-basierter, bioaktiver AuftraglÃ¶tschichten auf oxidischen Hochleistungskeramiken in der Medizintechnik. Materialwissenschaft Und Werkstofftechnik, 2014, 45, 504-504.	0.9	1
75	Calcium Phosphate Based Three-Dimensional Cold Plotted Bone Scaffolds for Critical Size Bone Defects. BioMed Research International, 2014, 2014, 1-10.	1.9	13
76	Wet chemical synthesis of strontium-substituted hydroxyapatite and its influence on the mechanical and biological properties. Ceramics International, 2014, 40, 9195-9203.	4.8	34
77	Two-photon laser scanning microscopy as a useful tool for imaging and evaluating macrophage-, IL-4 activated macrophage- and osteoclast-basedIn Vitrodegradation of beta-tricalcium phosphate bone substitute material. Microscopy Research and Technique, 2014, 77, 143-152.	2.2	3
78	Temperature-dependent morphology changes of noble metal tricalcium phosphate-nanocomposites. Ceramics International, 2014, 40, 7931-7939.	4.8	5
79	Calcium phosphate scaffolds mimicking the gradient architecture of native long bones. Journal of Biomedical Materials Research - Part A, 2014, 102, 3677-3684.	4.0	27
80	Assembly of thin-walled, cell-laden hydrogel conduits inflated with perfluorocarbon. RSC Advances, 2014, 4, 46460-46469.	3.6	5
81	A cusp supporting framework design can decrease critical stresses in veneered molar crowns. Dental Materials, 2014, 30, 321-326.	3.5	15
82	Three-dimensional printing of stem cell-laden hydrogels submerged in a hydrophobic high-density fluid. Biofabrication, 2013, 5, 015003.	7.1	177
83	The effect of crystallization of bioactive bioglass 45S5 on apatite formation and degradation. Dental Materials, 2013, 29, 1256-1264.	3.5	70
84	Shear strength of composite bonded to Er:YAG laser-prepared enamel: an in vitro comparative study. Lasers in Medical Science, 2013, 28, 879-889.	2.1	11
85	Biofabrication Under Fluorocarbon: A Novel Freeform Fabrication Technique to Generate High Aspect Ratio Tissue-Engineered Constructs. BioResearch Open Access, 2013, 2, 374-384.	2.6	82
86	Towards osseointegration of bioinert ceramics: Can biological agents be immobilized on alumina substrates using self-assembled monolayer technique?. Journal of the European Ceramic Society, 2013, 33, 2705-2713.	5.7	14
87	In situ demineralisation of human enamel studied by synchrotron-based X-ray microtomography â€“ A descriptive pilot-study. Micron, 2013, 44, 404-409.	2.2	7
88	Ensuring defined porosity and pore size using ammonium hydrogen carbonate as porosification agent for calcium phosphate scaffolds. BioNanoMaterials, 2013, 14, .	1.4	1
89	Supporting Biomaterials for Articular Cartilage Repair. Cartilage, 2012, 3, 205-221.	2.7	91
90	Influence of tooth mobility on critical stresses in all-ceramic inlay-retained fixed dental prostheses: A finite element study. Dental Materials, 2012, 28, 146-151.	3.5	10

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91	Towards osseointegration of bioinert ceramics: Introducing functional groups to alumina surface by tailored self assembled monolayer technique. Journal of the European Ceramic Society, 2012, 32, 3063-3071.	5.7	17
92	Influence of connector design and material composition and veneering on the stress distribution of all-ceramic fixed dental prostheses: A finite element study. Dental Materials, 2011, 27, e171-e175.	3.5	30
93	Synthesis of novel tricalcium phosphate-bioactive glass composite and functionalization with rhBMP-2. Journal of Materials Science: Materials in Medicine, 2011, 22, 763-771.	3.6	36
94	Manufacturing of individual biodegradable bone substitute implants using selective laser melting technique. Journal of Biomedical Materials Research - Part A, 2011, 97A, 466-471.	4.0	54
95	Cytocompatibility of high strength nonâ€oxide ceramics. Journal of Biomedical Materials Research - Part A, 2010, 93A, 67-76.	4.0	31
96	Subcritical crack growth behavior of dispersion oxide ceramics. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2010, 95B, 202-206.	3.4	29
97	3D printing of bone substitute implants using calcium phosphate and bioactive glasses. Journal of the European Ceramic Society, 2010, 30, 2563-2567.	5.7	275
98	Slurry deposition by airbrush for selective laser sintering of ceramic components. Journal of the European Ceramic Society, 2009, 29, 1-6.	5.7	31
99	Chemical strengthening of a dental lithium disilicate glassâ€“ceramic material. Journal of Biomedical Materials Research - Part A, 2008, 87A, 582-587.	4.0	28
100	Structural changes in ceramic veneered three-unit implant-supported restorations as a consequence of static and dynamic loading. Dental Materials, 2008, 24, 464-470.	3.5	14
101	Hemocompatibility of high strength oxide ceramic materials: Anin vitro study. Journal of Biomedical Materials Research - Part A, 2007, 81A, 982-986.	4.0	10
102	Coupling of Phosphates on Alumina Surfaces for Bioactivation. Journal of the American Ceramic Society, 2007, 90, 1644-1646.	3.8	12
103	Bioactivation of inert alumina ceramics by hydroxylation. Biomaterials, 2005, 26, 6151-6157.	11.4	49
104	In vivo fracture resistance of implant-supported all-ceramic restorations. Journal of Prosthetic Dentistry, 2003, 90, 325-331.	2.8	169
105	Suppression of subcritical crack growth in a leucite-reinforced dental glass by ion exchange. Journal of Biomedical Materials Research Part B, 2003, 66A, 885-889.	3.1	23
106	Fracture toughness of dental ceramics: comparison of bending and indentation method. Dental Materials, 2002, 18, 12-19.	3.5	147
107	Elimination of low-quality ceramic posts by proof testing. Dental Materials, 2002, 18, 570-575.	3.5	18
108	Detection of microscopic cracks in dental ceramic materials by fluorescent penetrant method. Journal of Biomedical Materials Research Part B, 2002, 61, 153-158.	3.1	22

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109	A modified size effect model for brittle nonmetallic materials. Engineering Fracture Mechanics, 2002, 69, 781-791.	4.3	32
110	Improvement of the long-term adhesive strength between metal stem and polymethylmethacrylate bone cement by a silica/silane interlayer system. Journal of Biomedical Materials Research Part B, 2001, 57, 413-418.	3.1	17