Uwe Gbureck

List of Publications by Citations

143 papers	6,794 citations	51 h-index	79 g-index
150 ext. papers	7,610 ext. citations	7.8 avg, IF	5.8 L-index

#	Paper	IF	Citations
143	How smart do biomaterials need to be? A translational science and clinical point of view. *Advanced Drug Delivery Reviews*, **2013**, 65, 581-603	18.5	350
142	Osteoconduction and osteoinduction of low-temperature 3D printed bioceramic implants. *Biomaterials*, **2008**, 29, 944-53	15.6	274
141	Resorbable Dicalcium Phosphate Bone Substitutes Prepared by 3D Powder Printing. *Advanced Functional Materials*, **2007**, 17, 3940-3945	15.6	201
140	Antimicrobial titanium/silver PVD coatings on titanium. *BioMedical Engineering OnLine*, **2006**, 5, 22	4.1	195
139	Angiogenesis in calcium phosphate scaffolds by inorganic copper ion release. *Tissue Engineering - Part A*, **2009**, 15, 1601-9	3.9	177
138	Ionic modification of calcium phosphate cement viscosity. Part I: hypodermic injection and strength improvement of apatite cement. *Biomaterials*, **2004**, 25, 2187-95	15.6	164
137	Low temperature direct 3D printed bioceramics and biocomposites as drug release matrices. *Journal of Controlled Release*, **2007**, 122, 173-80	11.7	159
136	3D powder printed calcium phosphate implants for reconstruction of cranial and maxillofacial defects. *Journal of Cranio-Maxillo-Facial Surgery*, **2010**, 38, 565-70	3.6	158
135	Direct 3D powder printing of biphasic calcium phosphate scaffolds for substitution of complex bone defects. *Biofabrication*, **2014**, 6, 015006	10.5	149
134	Low temperature additive manufacturing of three dimensional scaffolds for bone-tissue engineering applications: Processing related challenges and property assessment. *Materials Science and Engineering Reports*, **2016**, 103, 1-39	30.9	142
133	Silver-doped calcium phosphate cements with antimicrobial activity. *Acta Biomaterialia*, **2011**, 7, 4064-70	10.8	139
132	Controlled release of gentamicin from calcium phosphate-poly(lactic acid-co-glycolic acid) composite bone cement. *Biomaterials*, **2006**, 27, 4239-49	15.6	139
131	Magnesium-based bioceramics in orthopedic applications. *Acta Biomaterialia*, **2018**, 66, 23-43	10.8	135
130	3D Powder Printing of β-Tricalcium Phosphate Ceramics Using Different Strategies. *Advanced Engineering Materials*, **2008**, 10, B67-B71	3.5	129
129	Fiber reinforcement during 3D printing. *Materials Letters*, **2015**, 139, 165-168	3.3	125
128	Peptide-functionalized gold nanorods increase liver injury in hepatitis. *ACS Nano*, **2012**, 6, 8767-77	16.7	116
127	Craniofacial vertical bone augmentation: a comparison between 3D printed monolithic monetite blocks and autologous onlay grafts in the rabbit. *Biomaterials*, **2009**, 30, 6318-26	15.6	113

126	Biocompatibility of magnesium phosphate minerals and their stability under physiological conditions. *Acta Biomaterialia*, **2011**, 7, 2678-85	10.8	113
125	Surface engineering of stainless steel materials by covalent collagen immobilization to improve implant biocompatibility. *Biomaterials*, **2005**, 26, 6962-72	15.6	112
124	Iron oxide labelling of human mesenchymal stem cells in collagen hydrogels for articular cartilage repair. *Biomaterials*, **2008**, 29, 1473-83	15.6	104
123	Ion adsorption behaviour of hydroxyapatite with different crystallinities. *Colloids and Surfaces B: Biointerfaces*, **2009**, 74, 91-5	6	101
122	Reaction kinetics of dual setting □tricalcium phosphate cements. *Journal of Materials Science: Materials in Medicine*, **2016**, 27, 1	4.5	86
121	In vivo degradation of low temperature calcium and magnesium phosphate ceramics in a heterotopic model. *Acta Biomaterialia*, **2011**, 7, 3469-75	10.8	86
120	Brushite-collagen composites for bone regeneration. *Acta Biomaterialia*, **2008**, 4, 1315-21	10.8	85
119	Passive and active in vitro resorption of calcium and magnesium phosphate cements by osteoclastic cells. *Tissue Engineering - Part A*, **2010**, 16, 3687-95	3.9	83
118	Simultaneous Immobilization of Bioactives During 3D Powder Printing of Bioceramic Drug-Release Matrices. *Advanced Functional Materials*, **2010**, 20, 1585-1591	15.6	83
117	In vitro biodegradation of three brushite calcium phosphate cements by a macrophage cell-line. *Biomaterials*, **2006**, 27, 4557-65	15.6	83
116	Control of in vivo mineral bone cement degradation. *Acta Biomaterialia*, **2014**, 10, 3279-87	10.8	79
115	Fabrication of computationally designed scaffolds by low temperature 3D printing. *Biofabrication*, **2013**, 5, 035012	10.5	78
114	Osseointegration of dental implants in 3D-printed synthetic onlay grafts customized according to bone metabolic activity in recipient site. *Biomaterials*, **2014**, 35, 5436-45	15.6	76
113	Biologically mediated resorption of brushite cement in vitro. *Biomaterials*, **2006**, 27, 2178-85	15.6	74
112	Preparation of tricalcium phosphate/calcium pyrophosphate structures via rapid prototyping. *Journal of Materials Science: Materials in Medicine*, **2008**, 19, 1559-63	4.5	73
111	Low temperature fabrication of magnesium phosphate cement scaffolds by 3D powder printing. *Journal of Materials Science: Materials in Medicine*, **2010**, 21, 2947-53	4.5	72
110	The importance of particle size and DNA condensation salt for calcium phosphate nanoparticle transfection. *Biomaterials*, **2008**, 29, 3384-92	15.6	72
109	Modification of Calcium Phosphate Cement with □Hydroxy Acids and Their Salts. *Chemistry of Materials*, **2005**, 17, 1313-1319	9.6	69

108	Bioactive copper-doped glass scaffolds can stimulate endothelial cells in co-culture in combination with mesenchymal stem cells. *PLoS ONE*, **2014**, 9, e113319	3.7	69
107	Strontium modified biocements with zero order release kinetics. *Biomaterials*, **2008**, 29, 4691-7	15.6	68
106	Phase composition, mechanical performance and in vitro biocompatibility of hydraulic setting calcium magnesium phosphate cement. *Acta Biomaterialia*, **2010**, 6, 1529-35	10.8	67
105	Factors influencing calcium phosphate cement shelf-life. *Biomaterials*, **2005**, 26, 3691-7	15.6	65
104	TiO2 nanotube arrays deposited on Ti substrate by anodic oxidation and their potential as a long-term drug delivery system for antimicrobial agents. *Applied Surface Science*, **2012**, 258, 5399-5404	6.7	64
103	Photoactivation of CdSe/ZnS quantum dots embedded in silica colloids. *Small*, **2008**, 4, 1516-26	11	64
102	Strength reliability and in vitro degradation of three-dimensional powder printed strontium-substituted magnesium phosphate scaffolds. *Acta Biomaterialia*, **2016**, 31, 401-411	10.8	62
101	FTIR-monitoring of a fast setting brushite bone cement: effect of intermediate phases. *Journal of Materials Chemistry*, **2006**, 16, 3199		62
100	The effect of amorphous pyrophosphate on calcium phosphate cement resorption and bone generation. *Biomaterials*, **2013**, 34, 6631-7	15.6	61
99	Injectability and mechanical properties of magnesium phosphate cements. *Journal of Materials Science: Materials in Medicine*, **2011**, 22, 2591-8	4.5	60
98	Modeling vancomycin release kinetics from microporous calcium phosphate ceramics comparing static and dynamic immersion conditions. *Acta Biomaterialia*, **2008**, 4, 1480-6	10.8	60
97	Whisker-Reinforced Calcium Phosphate Cements. *Journal of the American Ceramic Society*, **2007**, 90, 3694-3697	3.8	59
96	3D printing of ceramic implants. *MRS Bulletin*, **2015**, 40, 127-136	3.2	58
95	Vertical bone augmentation with 3D-synthetic monetite blocks in the rabbit calvaria. *Journal of Clinical Periodontology*, **2011**, 38, 1147-53	7.7	56
94	Amorphous β-Tricalcium Phosphate: Preparation and Aqueous Setting Reaction. *Journal of the American Ceramic Society*, **2004**, 87, 1126-1132	3.8	55
93	Reinforcement Strategies for Load-Bearing Calcium Phosphate Biocements. *Materials*, **2015**, 8, 2700-2717	3.5	51
92	Application of a 3D printed customized implant for canine cruciate ligament treatment by tibial tuberosity advancement. *Biofabrication*, **2014**, 6, 025005	10.5	49
91	Temperature dependent setting kinetics and mechanical properties of β-TCP–pyrophosphoric acid bone cement. *Journal of Materials Chemistry*, **2005**, 15, 4955		49

90	Characterization of chlorhexidine-releasing, fast-setting, brushite bone cements. *Acta Biomaterialia*, **2008**, 4, 1081-8	10.8	44
89	The use of RANKL-coated brushite cement to stimulate bone remodelling. *Biomaterials*, **2008**, 29, 3253-9	15.6	44
88	Bone regeneration capacity of magnesium phosphate cements in a large animal model. *Acta Biomaterialia*, **2018**, 69, 352-361	10.8	43
87	Tribochemical structuring and coating of implant metal surfaces with titanium oxide and hydroxyapatite layers. *Materials Science and Engineering C*, **2003**, 23, 461-465	8.3	43
86	Tough magnesium phosphate-based 3D-printed implants induce bone regeneration in an equine defect model. *Biomaterials*, **2020**, 261, 120302	15.6	43
85	Antimicrobial potency of alkali ion substituted calcium phosphate cements. *Biomaterials*, **2005**, 26, 6880-6	15.6	40
84	Combining particle size distribution and isothermal calorimetry data to determine the reaction kinetics of alpha-tricalcium phosphate-water mixtures. *Acta Biomaterialia*, **2006**, 2, 343-8	10.8	39
83	The effect of Cu(II)-loaded brushite scaffolds on growth and activity of osteoblastic cells. *Journal of Biomedical Materials Research - Part A*, **2012**, 100, 2392-400	5.4	38
82	Effects of nanoparticle surface-coupled peptides, functional endgroups, and charge on intracellular distribution and functionality of human primary reticuloendothelial cells. *Nanomedicine: Nanotechnology, Biology, and Medicine*, **2012**, 8, 1282-92	6	37
81	Intracellular and extracellular T1 and T2 relaxivities of magneto-optical nanoparticles at experimental high fields. *Magnetic Resonance in Medicine*, **2010**, 64, 1607-15	4.4	36
80	Structure and mechanical properties of □TCP scaffolds prepared by ice-templating with preset ice front velocities. *Acta Biomaterialia*, **2014**, 10, 5148-5155	10.8	35
79	Effect of cold-setting calcium- and magnesium phosphate matrices on protein expression in osteoblastic cells. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2011**, 96, 326-32	3.5	35
78	Mechanical Activation of Tetracalcium Phosphate. *Journal of the American Ceramic Society*, **2004**, 87, 311-313	3.8	35
77	The effect of porosity on drug release kinetics from vancomycin microsphere/calcium phosphate cement composites. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2011**, 99, 391-8	3.5	33
76	Effect of silica gel on the cohesion, properties and biological performance of brushite cement. *Acta Biomaterialia*, **2010**, 6, 257-65	10.8	33
75	Cement Formulations in the Calcium Phosphate H2O□3PO4□4P2O7 System. *Journal of the American Ceramic Society*, **2005**, 88, 3096-3103	3.8	32
74	Formation and properties of magnesium-ammonium-phosphate hexahydrate biocements in the Ca-Mg-PO4 system. *Journal of Materials Science: Materials in Medicine*, **2011**, 22, 429-36	4.5	29
73	Cu, Co and Cr doping of a calcium phosphate cement influences materials properties and response of human mesenchymal stromal cells. *Materials Science and Engineering C*, **2017**, 73, 99-110	8.3	26

72	Dual-setting brushite-silica gel cements. *Acta Biomaterialia*, **2015**, 11, 467-76	10.8	26
71	Hard implant coatings with antimicrobial properties. *Journal of Materials Science: Materials in Medicine*, **2011**, 22, 2711-20	4.5	26
70	Nanocrystalline tetracalcium phosphate cement. *Journal of Dental Research*, **2004**, 83, 425-8	8.1	26
69	Tissue Mimicry in Morphology and Composition Promotes Hierarchical Matrix Remodeling of Invading Stem Cells in Osteochondral and Meniscus Scaffolds. *Advanced Materials*, **2018**, 30, e1706754	24	25
68	Novel bone wax based on poly(ethylene glycol)-calcium phosphate cement mixtures. *Acta Biomaterialia*, **2016**, 33, 252-63	10.8	22
67	Dual setting □tricalcium phosphate cements. *Journal of Materials Science: Materials in Medicine*, **2013**, 24, 573-81	4.5	22
66	Chelate Bonding Mechanism in a Novel Magnesium Phosphate Bone Cement. *Journal of the American Ceramic Society*, **2015**, 98, 694-697	3.8	21
65	Osteoclastic differentiation and resorption is modulated by bioactive metal ions Co2+, Cu2+ and Cr3+ incorporated into calcium phosphate bone cements. *PLoS ONE*, **2017**, 12, e0182109	3.7	19
64	Multi-directional Le Fort III midfacial distraction using an individual prefabricated device. *Journal of Cranio-Maxillo-Facial Surgery*, **2009**, 37, 210-5	3.6	18
63	Frozen delivery of brushite calcium phosphate cements. *Acta Biomaterialia*, **2008**, 4, 1916-23	10.8	18
62	3D powder printed tetracalcium phosphate scaffold with phytic acid binder: fabrication, microstructure and in situ X-Ray tomography analysis of compressive failure. *Journal of Materials Science: Materials in Medicine*, **2018**, 29, 29	4.5	17
61	The Mechanical Properties of Biocompatible Apatite Bone Cement Reinforced with Chemically Activated Carbon Fibers. *Materials*, **2018**, 11,	3.5	17
60	Phytic acid as alternative setting retarder enhanced biological performance of dicalcium phosphate cement in vitro. *Scientific Reports*, **2017**, 7, 558	4.9	17
59	A Bone Glue with Sustained Adhesion under Wet Conditions. *Advanced Healthcare Materials*, **2017**, 6, 1600902	10.1	16
58	Antimicrobial properties of nanocrystalline tetracalcium phosphate cements. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2007**, 83, 132-7	3.5	16
57	Artificial inorganic biohybrids: The functional combination of microorganisms and cells with inorganic materials. *Acta Biomaterialia*, **2018**, 74, 17-35	10.8	15
56	Mg:Ca ratio as regulating factor for osteoclastic in vitro resorption of struvite biocements. *Materials Science and Engineering C*, **2017**, 73, 111-119	8.3	14
55	Development and Bone Regeneration Capacity of Premixed Magnesium Phosphate Cement Pastes. *Materials*, **2019**, 12,	3.5	14

54	In vitro ion adsorption and cytocompatibility of dicalcium phosphate ceramics. *Biomaterials Research*, **2017**, 21, 10	16.8	14
53	Biological and mechanical performance and degradation characteristics of calcium phosphate cements in large animals and humans. *Acta Biomaterialia*, **2020**, 117, 1-20	10.8	14
52	Polymerization Behaviour of Organically Modified Titanium Alkoxides in Solution. *Journal of Sol-Gel Science and Technology*, **2003**, 27, 157-162	2.3	13
51	Hydration mechanism of a calcium phosphate cement modified with phytic acid. *Acta Biomaterialia*, **2018**, 80, 378-389	10.8	13
50	Chelate setting of alkali ion substituted calcium phosphates. *Ceramics International*, **2015**, 41, 10010-10017	5.1	12
49	Trivalent chromium incorporated in a crystalline calcium phosphate matrix accelerates materials degradation and bone formation in vivo. *Acta Biomaterialia*, **2018**, 69, 332-341	10.8	12
48	A new iron calcium phosphate material to improve the osteoconductive properties of a biodegradable ceramic: a study in rabbit calvaria. *Biomedical Materials (Bristol)*, **2015**, 10, 055012	3.5	12
47	Effect of physicochemical properties of a cement based on silicocarnotite/calcium silicate on in vitro cell adhesion and in vivo cement degradation. *Biomedical Materials (Bristol)*, **2016**, 11, 045005	3.5	11
46	Structural changes to resorbable calcium phosphate bioceramic aged in vitro. *Colloids and Surfaces B: Biointerfaces*, **2013**, 111, 469-78	6	10
45	Effect of Baghdadite Substitution on the Physicochemical Properties of Brushite Cements. *Materials*, **2019**, 12,	3.5	9
44	Highly flexible and degradable dual setting systems based on PEG-hydrogels and brushite cement. *Acta Biomaterialia*, **2018**, 79, 182-201	10.8	9
43	Computational design and fabrication of a novel bioresorbable cage for tibial tuberosity advancement application. *Journal of the Mechanical Behavior of Biomedical Materials*, **2017**, 65, 344-355	4.1	9
42	Composite Carbon Nanotube Microsphere Coatings for Use as Electrode Supports. *Advanced Functional Materials*, **2018**, 28, 1803713	15.6	9
41	Biomechanical Evaluation of Promising Different Bone Substitutes in a Clinically Relevant Test Set-Up. *Materials*, **2019**, 12,	3.5	8
40	Low temperature fabrication of spherical brushite granules by cement paste emulsion. *Journal of Materials Science: Materials in Medicine*, **2012**, 23, 2631-7	4.5	8
39	Comparing the efficacy of three bioceramic matrices for the release of vancomycin hydrochloride. *Journal of Biomedical Materials Research - Part B Applied Biomaterials*, **2010**, 93, 51-8	3.5	8
38	Magnesium Phosphate Cement as Mineral Bone Adhesive. *Materials*, **2019**, 12,	3.5	8
37	Antimicrobial and physicochemical properties of experimental light curing composites with alkali-substituted calcium phosphate fillers. *Dental Materials*, **2012**, 28, 597-603	5.7	7

36	Reinforcement of a Magnesium-Ammonium-Phosphate Cement with Calcium Phosphate Whiskers. *Journal of the American Ceramic Society*, **2015**, 98, 4028-4035	3.8	7
35	A cohesive premixed monetite biocement. *Journal of the American Ceramic Society*, **2017**, 100, 1241-1249	3.8	6
34	Calcium Phosphate Bone Graft Substitutes with High Mechanical Load Capacity and High Degree of Interconnecting Porosity. *Materials*, **2019**, 12,	3.5	6
33	Mechanical activation and cement formation of trimagnesium phosphate. *Journal of the American Ceramic Society*, **2018**, 101, 1830-1834	3.8	6
32	Simultaneous structuring and mineralization of silk fibroin scaffolds. *Journal of Tissue Engineering*, **2018**, 9, 2041731418788509	7.5	6
31	Setting Mechanism of a CDHA Forming β-TCP Cement Modified with Sodium Phytate for Improved Injectability. *Materials*, **2019**, 12,	3.5	6
30	Intrinsic 3D Prestressing: A New Route for Increasing Strength and Improving Toughness of Hybrid Inorganic Biocements. *Advanced Materials*, **2017**, 29, 1701035	24	6
29	Three-dimensional morphology and mechanics of bone scaffolds fabricated by rapid prototyping. *International Journal of Materials Research*, **2012**, 103, 200-206	0.5	6
28	Simultaneous formation and mineralization of star-P(EO-stat-PO) hydrogels. *Materials Science and Engineering C*, **2017**, 75, 471-477	8.3	5
27	Anisotropic Cryostructured Collagen Scaffolds for Efficient Delivery of RhBMP-2 and Enhanced Bone Regeneration. *Materials*, **2019**, 12,	3.5	5
26	Self-healing capacity of fiber-reinforced calcium phosphate cements. *Scientific Reports*, **2020**, 10, 9430	4.9	5
25	Electroceutical Silk-Silver Gel to Eradicate Bacterial Infection. *Advanced Biology*, **2020**, 4, e1900242	3.5	5
24	Fabrication and cytocompatibility of spherical magnesium ammonium phosphate granules. *Materials Science and Engineering C*, **2014**, 42, 130-6	8.3	5
23	Long-Term in Vivo Performance of Low-Temperature 3D-Printed Bioceramics in an Equine Model. *ACS Biomaterials Science and Engineering*, **2020**, 6, 1681-1689	5.5	5
22	Baghdadite coating formed by hybrid water-stabilized plasma spray for bioceramic applications: Mechanical and biological evaluations. *Materials Science and Engineering C*, **2021**, 122, 111873	8.3	5
21	Influence of Cu on Osteoclast Formation and Activity In Vitro. *International Journal of Molecular Sciences*, **2021**, 22,	6.3	5
20	Prefabricated and Self-Setting Cement Laminates. *Materials*, **2019**, 12,	3.5	4
19	Physical and chemical characterization of Ag-doped Ti coatings produced by magnetron sputtering of modular targets. *Materials Science and Engineering C*, **2014**, 44, 126-31	8.3	3

18	Biomaterial-Induction of a Transplantable Angiosome. *Advanced Functional Materials*, **2020**, 30, 1905115	15.6	3
17	Phase Conversion of Ice-Templated β-Tricalcium Phosphate Scaffolds into Low-Temperature Calcium Phosphates with Anisotropic Open Porosity. *Advanced Engineering Materials*, **2021**, 23, 2001417	3.5	3
16	Structural Optimization of Macroporous Magnesium Phosphate Scaffolds and their Cytocompatibility. *Key Engineering Materials*, **2011**, 493-494, 813-819	0.4	2
15	Experimental Drillable Magnesium Phosphate Cement Is a Promising Alternative to Conventional Bone Cements. *Materials*, **2021**, 14,	3.5	2
14	Tough and Elastic β-Tricalcium Phosphate Cement Composites with Degradable PEG-Based Cross-Linker. *Materials*, **2018**, 12,	3.5	2
13	Low Temperature 3D Printing of Drug Loaded Bioceramic Scaffolds and Implants. *Computational Methods in Applied Sciences (Springer)*, **2019**, 51-66	0.4	1
12	Nano-magnesium phosphate hydrogels: efficiency of an injectable and biodegradable gel formulation towards bone regeneration. *AME Medical Journal*, **2017**, 51-51	1	1
11	Data on TOF-SIMS analysis of Cu, Co and Cr doped calcium phosphate cements. *Data in Brief*, **2017**, 13, 353-355	1.2	1
10	In situ formation of multilayer biocomposite with anisotropic crystal orientation. *Materials Letters*, **2014**, 120, 111-114	3.3	1
9	Augmentation of suture anchors with magnesium phosphate cement - Simple technique with striking effect.. *Journal of the Mechanical Behavior of Biomedical Materials*, **2022**, 128, 105096	4.1	1
8	Bone regeneration capacity of newly developed spherical magnesium phosphate cement granules. *Clinical Oral Investigations*, **2021**, 1	4.2	1
7	Morphological Control of Freeze-Structured Scaffolds by Selective Temperature and Material Control in the Ice-Templating Process. *Advanced Engineering Materials*,2100860	3.5	1
6	Dual setting brushite-gelatin cement with increased ductility and sustained drug release.. *Journal of Biomaterials Applications*, **2022**, 8853282221075877	2.9	1
5	Calcium phosphate-based biomaterials trigger human macrophages to release extracellular traps.. *Biomaterials*, **2022**, 285, 121521	15.6	1
4	Cement-augmented screw fixation for calcaneal fracture treatment: a biomechanical study comparing two injectable bone substitutes. *Journal of Orthopaedic Surgery and Research*, **2020**, 15, 533	2.8	0
3	Chemical Surface Modifications **2008**, 51-116		
2	Osteoclast and osteoblast response to strontium-doped struvite coatings on titanium for improved bone integration. *Biomedizinische Technik*, **2020**, 65, 631-641	1.3	
1	Hydraulic reactivity and cement formation of baghdadite. *Journal of the American Ceramic Society*, **2021**, 104, 3554-3561	3.8	