

Zvi Schwartz

List of Publications by Year in descending order

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105
papers

8,372
citations

57631

44
h-index

46693

89
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106
all docs

106
docs citations

106
times ranked

8464
citing authors

#	ARTICLE	IF	CITATIONS
1	The effects of combined micron-/submicron-scale surface roughness and nanoscale features on cell proliferation and differentiation. <i>Biomaterials</i> , 2011, 32, 3395-3403.	5.7	709
2	A review on the wettability of dental implant surfaces II: Biological and clinical aspects. <i>Acta Biomaterialia</i> , 2014, 10, 2907-2918.	4.1	607
3	Titanium surface characteristics, including topography and wettability, alter macrophage activation. <i>Acta Biomaterialia</i> , 2016, 31, 425-434.	4.1	471
4	A review on the wettability of dental implant surfaces I: Theoretical and experimental aspects. <i>Acta Biomaterialia</i> , 2014, 10, 2894-2906.	4.1	356
5	Implant osseointegration and the role of microroughness and nanostructures: Lessons for spine implants. <i>Acta Biomaterialia</i> , 2014, 10, 3363-3371.	4.1	344
6	Underlying mechanisms at the bone-biomaterial interface.. <i>Journal of Cellular Biochemistry</i> , 1994, 56, 340-347.	1.2	332
7	Direct and indirect effects of microstructured titanium substrates on the induction of mesenchymal stem cell differentiation towards the osteoblast lineage. <i>Biomaterials</i> , 2010, 31, 2728-2735.	5.7	265
8	The roles of titanium surface micro/nanotopography and wettability on the differential response of human osteoblast lineage cells. <i>Acta Biomaterialia</i> , 2013, 9, 6268-6277.	4.1	252
9	Potential of chemically modified hydrophilic surface characteristics to support tissue integration of titanium dental implants. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2009, 88B, 544-557.	1.6	218
10	Osteoblast-like cells are sensitive to submicron-scale surface structure. <i>Clinical Oral Implants Research</i> , 2006, 17, 258-264.	1.9	217
11	Regulation of angiogenesis during osseointegration by titanium surface microstructure and energy. <i>Biomaterials</i> , 2010, 31, 4909-4917.	5.7	188
12	Effect of cleaning and sterilization on titanium implant surface properties and cellular response. <i>Acta Biomaterialia</i> , 2012, 8, 1966-1975.	4.1	169
13	Direct Effects of 1,25-Dihydroxyvitamin D ₃ and 24,25-Dihydroxyvitamin D ₃ on Growth Zone and Resting Zone Chondrocyte Membrane Alkaline Phosphatase and Phospholipase-A2 Specific Activities*. <i>Endocrinology</i> , 1988, 123, 2878-2884.	1.4	150
14	The Effects of Vitamin D Metabolites on the Plasma and Matrix Vesicle Membranes of Growth and Resting Cartilage Cells <i>in Vitro</i> *. <i>Endocrinology</i> , 1988, 122, 2851-2860.	1.4	142
15	Differential responses of osteoblast lineage cells to nanotopographically-modified, microroughened titanium-aluminum-vanadium alloy surfaces. <i>Biomaterials</i> , 2012, 33, 8986-8994.	5.7	141
16	Effect of Micrometer-Scale Roughness of the Surface of Ti6Al4V Pedicle Screws <i>in Vitro</i> and <i>in Vivo</i> . <i>Journal of Bone and Joint Surgery - Series A</i> , 2008, 90, 2485-2498.	1.4	133
17	Mediation of osteogenic differentiation of human mesenchymal stem cells on titanium surfaces by a Wnt-integrin feedback loop. <i>Biomaterials</i> , 2011, 32, 6399-6411.	5.7	128
18	Implant Materials Generate Different Peri-implant Inflammatory Factors. <i>Spine</i> , 2015, 40, 399-404.	1.0	127

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19	Mechanisms regulating increased production of osteoprotegerin by osteoblasts cultured on microstructured titanium surfaces. <i>Biomaterials</i> , 2009, 30, 3390-3396.	5.7	123
20	Rough titanium alloys regulate osteoblast production of angiogenic factors. <i>Spine Journal</i> , 2013, 13, 1563-1570.	0.6	112
21	<sup />Roughness and Hydrophilicity as Osteogenic Biomimetic Surface Properties. <i>Tissue Engineering - Part A</i> , 2017, 23, 1479-1489.	1.6	107
22	Matrix vesicles are enriched in metalloproteinases that degrade proteoglycans. <i>Calcified Tissue International</i> , 1992, 50, 342-349.	1.5	101
23	The responses to surface wettability gradients induced by chitosan nanofilms on microtextured titanium mediated by specific integrin receptors. <i>Biomaterials</i> , 2012, 33, 7386-7393.	5.7	99
24	Nongenomic regulation of protein kinase C isoforms by the vitamin D metabolites 1 α ,25-(OH) ₂ D ₃ and 24R,25-(OH) ₂ D ₃ . , 1996, 167, 380-393.		95
25	Clinical evaluation of demineralized bone allograft in a hyaluronic acid carrier for sinus lift augmentation in humans: a computed tomography and histomorphometric study. <i>Clinical Oral Implants Research</i> , 2007, 18, 204-211.	1.9	93
26	Membrane Estrogen Signaling Enhances Tumorigenesis and Metastatic Potential of Breast Cancer Cells via Estrogen Receptor- β 36 (ER β 36). <i>Journal of Biological Chemistry</i> , 2012, 287, 7169-7181.	1.6	89
27	Role of integrin subunits in mesenchymal stem cell differentiation and osteoblast maturation on graphitic carbon-coated microstructured surfaces. <i>Biomaterials</i> , 2015, 51, 69-79.	5.7	86
28	Protein-disulfide Isomerase-associated 3 (Pdia3) Mediates the Membrane Response to 1,25-Dihydroxyvitamin D ₃ in Osteoblasts. <i>Journal of Biological Chemistry</i> , 2010, 285, 37041-37050.	1.6	85
29	Activation of Latent Transforming Growth Factor β 21 by Stromelysin 1 in Extracts of Growth Plate Chondrocyte-Derived Matrix Vesicles. <i>Journal of Bone and Mineral Research</i> , 2001, 16, 1281-1290.	3.1	84
30	1,25-(OH) ₂ D ₃ modulates growth plate chondrocytes via membrane receptor-mediated protein kinase C by a mechanism that involves changes in phospholipid metabolism and the action of arachidonic acid and PGE ₂ . <i>Steroids</i> , 1999, 64, 129-136.	0.8	83
31	Plasma membrane Pdia3 and VDR interact to elicit rapid responses to 1 α ,25(OH) ₂ D ₃ . <i>Cellular Signalling</i> , 2013, 25, 2362-2373.	1.7	83
32	Rapid steroid hormone actions via membrane receptors. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2016, 1863, 2289-2298.	1.9	80
33	Role of lipids in calcification of cartilage. <i>The Anatomical Record</i> , 1989, 224, 211-219.	2.3	72
34	Osteoblast maturation and new bone formation in response to titanium implant surface features are reduced with age. <i>Journal of Bone and Mineral Research</i> , 2012, 27, 1773-1783.	3.1	71
35	Osteogenic response of human MSCs and osteoblasts to hydrophilic and hydrophobic nanostructured titanium implant surfaces. <i>Journal of Biomedical Materials Research - Part A</i> , 2016, 104, 3137-3148.	2.1	71
36	Integrin β 1 silencing in osteoblasts alters substrate-dependent responses to 1,25-dihydroxy vitamin D ₃ . <i>Biomaterials</i> , 2006, 27, 3716-3725.	5.7	69

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37	Role of non-canonical Wnt signaling in osteoblast maturation on microstructured titanium surfaces. <i>Acta Biomaterialia</i> , 2011, 7, 2740-2750.	4.1	68
38	Regulation of osteoclasts by osteoblast lineage cells depends on titanium implant surface properties. <i>Acta Biomaterialia</i> , 2018, 68, 296-307.	4.1	68
39	Evidence for distinct membrane receptors for $1\alpha,25\text{-(OH)}_2\text{D}_3$ and $24\text{R},25\text{-(OH)}_2\text{D}_3$ in osteoblasts. <i>Steroids</i> , 2002, 67, 235-246.	0.8	67
40	Osteoblast Lineage Cells Can Discriminate Microscale Topographic Features on Titanium-Aluminum-Vanadium Surfaces. <i>Annals of Biomedical Engineering</i> , 2014, 42, 2551-2561.	1.3	67
41	$24,25\text{-(OH)}_2\text{D}_3$ regulates cartilage and bone via autocrine and endocrine mechanisms. <i>Steroids</i> , 2001, 66, 363-374.	0.8	65
42	Novel hydrophilic nanostructured microtexture on direct metal laser sintered Ti-6Al-4V surfaces enhances osteoblast response <i>in vitro</i> and osseointegration in a rabbit model. <i>Journal of Biomedical Materials Research - Part A</i> , 2016, 104, 2086-2098.	2.1	59
43	Dendritic cell responses to surface properties of clinical titanium surfaces. <i>Acta Biomaterialia</i> , 2011, 7, 1354-1363.	4.1	58
44	Selective enrichment of microRNAs in extracellular matrix vesicles produced by growth plate chondrocytes. <i>Bone</i> , 2016, 88, 47-55.	1.4	48
45	Plasma membrane requirements for $1\alpha,25\text{(OH)}_2\text{D}_3$ dependent PKC signaling in chondrocytes and osteoblasts. <i>Steroids</i> , 2006, 71, 286-290.	0.8	46
46	Performance of laser sintered Ti-6Al-4V implants with bone-inspired porosity and micro/nanoscale surface roughness in the rabbit femur. <i>Biomedical Materials (Bristol)</i> , 2017, 12, 025021.	1.7	44
47	$1\alpha,25\text{(OH)}_2\text{D}_3$ is an autocrine regulator of extracellular matrix turnover and growth factor release via ERp60 activated matrix vesicle metalloproteinases. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2007, 103, 467-472.	1.2	43
48	Effect of $1\alpha,25\text{-Dihydroxyvitamin D}_3$ and $24\text{R},25\text{-Dihydroxyvitamin D}_3$ on Metalloproteinase Activity and Cell Maturation in Growth Plate Cartilage <i>In Vivo</i> . <i>Endocrine</i> , 2001, 14, 311-324.	2.2	42
49	Role of ER α in membrane-associated signaling by estrogen. <i>Steroids</i> , 2014, 81, 74-80.	0.8	42
50	$1\alpha,25\text{(OH)}_2\text{D}_3$ Regulates Chondrocyte Matrix Vesicle Protein Kinase C (PKC) Directly via G-protein-dependent Mechanisms and Indirectly via Incorporation of PKC during Matrix Vesicle Biogenesis. <i>Journal of Biological Chemistry</i> , 2002, 277, 11828-11837.	1.6	40
51	Regulation of Growth Plate Chondrocytes by $1,25\text{-Dihydroxyvitamin D}_3$ Requires Caveolae and Caveolin-1. <i>Journal of Bone and Mineral Research</i> , 2006, 21, 1637-1647.	3.1	40
52	Disruption of <i>Pdia3</i> gene results in bone abnormality and affects $1\alpha,25\text{-dihydroxy-vitamin D}_3$ -induced rapid activation of PKC. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2010, 121, 257-260.	1.2	40
53	Enhancement of Surface Wettability via the Modification of Microtextured Titanium Implant Surfaces with Polyelectrolytes. <i>Langmuir</i> , 2011, 27, 5976-5985.	1.6	40
54	Role of $\alpha_2\beta_1$ integrins in mediating cell shape on microtextured titanium surfaces. <i>Journal of Biomedical Materials Research - Part A</i> , 2015, 103, 564-573.	2.1	38

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55	Laser Sintered Porous Ti-6Al-4V Implants Stimulate Vertical Bone Growth. <i>Annals of Biomedical Engineering</i> , 2017, 45, 2025-2035.	1.3	37
56	Osteoprotegerin (OPG) Production by Cells in the Osteoblast Lineage is Regulated by Pulsed Electromagnetic Fields in Cultures Grown on Calcium Phosphate Substrates. <i>Annals of Biomedical Engineering</i> , 2009, 37, 437-444.	1.3	34
57	Phospholipase A2 activating protein is required for 1 α ,25-dihydroxyvitamin D3 dependent rapid activation of protein kinase C via Pdia3. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2012, 132, 48-56.	1.2	34
58	Estrogen receptor-alpha 36 mediates the anti-apoptotic effect of estradiol in triple negative breast cancer cells via a membrane-associated mechanism. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2014, 1843, 2796-2806.	1.9	34
59	Coordinated regulation of mesenchymal stem cell differentiation on microstructured titanium surfaces by endogenous bone morphogenetic proteins. <i>Bone</i> , 2015, 73, 208-216.	1.4	34
60	Comparable responses of osteoblast lineage cells to microstructured hydrophilic titanium-zirconium and microstructured hydrophilic titanium. <i>Clinical Oral Implants Research</i> , 2017, 28, e51-e59.	1.9	34
61	New insights on membrane mediated effects of 1 α ,25-dihydroxy vitamin D3 signaling in the musculoskeletal system. <i>Steroids</i> , 2014, 81, 81-87.	0.8	30
62	Signaling components of the 1 α ,25(OH)2D3-dependent Pdia3 receptor complex are required for Wnt5a calcium-dependent signaling. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , 2014, 1843, 2365-2375.	1.9	30
63	24R,25-Dihydroxyvitamin D3 Protects against Articular Cartilage Damage following Anterior Cruciate Ligament Transection in Male Rats. <i>PLoS ONE</i> , 2016, 11, e0161782.	1.1	30
64	Matrix vesicles contain metalloproteinases that degrade proteoglycans. <i>Bone and Mineral</i> , 1992, 17, 172-176.	2.0	28
65	MicroRNA Contents in Matrix Vesicles Produced by Growth Plate Chondrocytes are Cell Maturation Dependent. <i>Scientific Reports</i> , 2018, 8, 3609.	1.6	27
66	Osteoblasts grown on microroughened titanium surfaces regulate angiogenic growth factor production through specific integrin receptors. <i>Acta Biomaterialia</i> , 2019, 97, 578-586.	4.1	27
67	Regulation of mesenchymal stem cell differentiation on microstructured titanium surfaces by semaphorin 3A. <i>Bone</i> , 2020, 134, 115260.	1.4	27
68	Preferential accumulation in vivo of 24R,25-dihydroxyvitamin D3 in growth plate cartilage of rats. <i>Endocrine</i> , 1996, 5, 147-155.	2.2	26
69	Mineralization of three-dimensional osteoblast cultures is enhanced by the interaction of 1 α ,25-dihydroxyvitamin D3 and BMP2 via two specific vitamin D receptors. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2016, 10, 40-51.	1.3	26
70	17Beta-Estradiol Promotes Aggressive Laryngeal Cancer Through Membrane-Associated Estrogen Receptor-Alpha 36. <i>Hormones and Cancer</i> , 2014, 5, 22-32.	4.9	25
71	VEGF β regulates angiogenesis during osseointegration of Ti implants via paracrine/autocrine regulation of osteoblast response to hierarchical microstructure of the surface. <i>Journal of Biomedical Materials Research - Part A</i> , 2019, 107, 423-433.	2.1	25
72	Bone Morphogenetic Protein 2 Alters Osteogenesis and Anti-Inflammatory Profiles of Mesenchymal Stem Cells Induced by Microtextured Titanium <i>In Vitro</i> . <i>Tissue Engineering - Part A</i> , 2017, 23, 1132-1141.	1.6	24

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73	Role of Wnt11 during Osteogenic Differentiation of Human Mesenchymal Stem Cells on Microstructured Titanium Surfaces. <i>Scientific Reports</i> , 2018, 8, 8588.	1.6	24
74	Advanced Glycation End-Products in Skeletal Muscle Aging. <i>Bioengineering</i> , 2021, 8, 168.	1.6	22
75	Titanium implant surface properties enhance osseointegration in ovariectomy induced osteoporotic rats without pharmacologic intervention. <i>Clinical Oral Implants Research</i> , 2020, 31, 374-387.	1.9	21
76	Human osteoblasts exhibit sexual dimorphism in their response to estrogen on microstructured titanium surfaces. <i>Biology of Sex Differences</i> , 2018, 9, 30.	1.8	20
77	Formation of Tethers Linking the Epiphysis and Metaphysis Is Regulated by Vitamin D Receptor-Mediated Signaling. <i>Calcified Tissue International</i> , 2009, 85, 134-145.	1.5	18
78	Chaperone Properties of Pdia3 Participate in Rapid Membrane Actions of 1 α ,25-Dihydroxyvitamin D ₃ . <i>Molecular Endocrinology</i> , 2013, 27, 1065-1077.	3.7	18
79	Osteoinductivity of Demineralized Bone Matrix Is Independent of Donor Bisphosphonate Use. <i>Journal of Bone and Joint Surgery - Series A</i> , 2011, 93, 2278-2286.	1.4	17
80	Surface modification of bulk titanium substrates for biomedical applications via low-temperature microwave hydrothermal oxidation. <i>Journal of Biomedical Materials Research - Part A</i> , 2018, 106, 782-796.	2.1	16
81	Beta-1 integrins mediate substrate dependent effects of 1 α ,25(OH) ₂ D ₃ on osteoblasts. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2007, 103, 606-609.	1.2	15
82	A Review of Biomimetic Topographies and Their Role in Promoting Bone Formation and Osseointegration: Implications for Clinical Use. <i>Biomimetics</i> , 2022, 7, 46.	1.5	15
83	24R,25-Dihydroxyvitamin D ₃ regulates breast cancer cells in vitro and in vivo. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2019, 1863, 1498-1512.	1.1	14
84	Ibandronate Treatment Before and After Implant Insertion Impairs Osseointegration in Aged Rats with Ovariectomy Induced Osteoporosis. <i>JBMR Plus</i> , 2019, 3, e10184.	1.3	14
85	The Role of Matrix-Bound Extracellular Vesicles in the Regulation of Endochondral Bone Formation. <i>Cells</i> , 2022, 11, 1619.	1.8	14
86	Estrogen signaling and estrogen receptors as prognostic indicators in laryngeal cancer. <i>Steroids</i> , 2019, 152, 108498.	0.8	13
87	Specific MicroRNAs Found in Extracellular Matrix Vesicles Regulate Proliferation and Differentiation in Growth Plate Chondrocytes. <i>Calcified Tissue International</i> , 2021, 109, 455-468.	1.5	13
88	Coordinated tether formation in anatomically distinct mice growth centers is dependent on a functional vitamin D receptor and is tightly linked to three-dimensional tissue morphology. <i>Bone</i> , 2011, 49, 419-427.	1.4	12
89	Benchtop plasma treatment of titanium surfaces enhances cell response. <i>Dental Materials</i> , 2021, 37, 690-700.	1.6	12
90	Effects of low-frequency ultrasound treatment of titanium surface roughness on osteoblast phenotype and maturation. <i>Clinical Oral Implants Research</i> , 2017, 28, e151-e158.	1.9	10

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91	Differential Effects of Neurectomy and Botox-induced Muscle Paralysis on Bone Phenotype and Titanium Implant Osseointegration. <i>Bone</i> , 2021, 153, 116145.	1.4	10
92	Estradiol receptor profile and estrogen responsiveness in laryngeal cancer and clinical outcomes. <i>Steroids</i> , 2019, 142, 34-42.	0.8	9
93	Growth factors produced by bone marrow stromal cells on nanoroughened titanium-aluminum-vanadium surfaces program distal MSCs into osteoblasts via BMP2 signaling. <i>Journal of Orthopaedic Research</i> , 2020, 39, 1908-1920.	1.2	9
94	24R,25-dihydroxyvitamin D3 modulates tumorigenicity in breast cancer in an estrogen receptor-dependent manner. <i>Steroids</i> , 2019, 150, 108447.	0.8	8
95	Advanced Glycation End Products Are Retained in Decellularized Muscle Matrix Derived from Aged Skeletal Muscle. <i>International Journal of Molecular Sciences</i> , 2021, 22, 8832.	1.8	8
96	Acellular mineralized allogenic block bone graft does not remodel during the 10 weeks following concurrent implant placement in a rabbit femoral model. <i>Clinical Oral Implants Research</i> , 2020, 31, 37-48.	1.9	7
97	miR-122 and the WNT/β-catenin pathway inhibit effects of both interleukin-1β and tumor necrosis factor-α in articular chondrocytes in vitro. <i>Journal of Cellular Biochemistry</i> , 2022, , .	1.2	6
98	Effect of 17β-estradiol on estrogen receptor negative breast cancer cells in an osteolytic mouse model. <i>Steroids</i> , 2019, 142, 28-33.	0.8	5
99	Hot isostatic pressure treatment of 3D printed Ti6Al4V alters surface modifications and cellular response. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2020, 108, 1262-1273.	1.6	5
100	The Relative Expression of ER Isoforms ERα and ERβ Controls the Cellular Response to 24R,25-Dihydroxyvitamin D3 in Breast Cancer. <i>Molecular Cancer Research</i> , 2021, 19, 99-111.	1.5	5
101	The Biological Basis for Surface-dependent Regulation of Osteogenesis and Implant Osseointegration. <i>Journal of the American Academy of Orthopaedic Surgeons</i> , The, 2022, 30, e894-e898.	1.1	5
102	Cartilage. , 2018, , 405-417.		3
103	Hydrophilic implants generated using a low-cost dielectric barrier discharge plasma device at the time of placement exhibit increased osseointegration in an animal pre-clinical study: An effect that is sex-dependent. <i>Dental Materials</i> , 2022, 38, 632-645.	1.6	3
104	'Smart' biomaterials and osteoinductivity. <i>Nature Reviews Rheumatology</i> , 2011, 7, 1-1.	3.5	1
105	Bacterial Adhesion on Polyelectrolyte Modified Microstructured Titanium Surfaces. <i>Materials Research Society Symposia Proceedings</i> , 2010, 1277, 6101.	0.1	0