

# Matthias Zehnder

## List of Publications by Year in descending order

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125  
papers

8,466  
citations

47006

47  
h-index

48315

88  
g-index

127  
all docs

127  
docs citations

127  
times ranked

5009  
citing authors

#	ARTICLE	IF	CITATIONS
1	Root Canal Irrigants. Journal of Endodontics, 2006, 32, 389-398.	3.1	1,377
2	Remineralization of human dentin using ultrafine bioactive glass particles. Acta Biomaterialia, 2007, 3, 936-943.	8.3	276
3	European Society of Endodontology position statement: Management of deep caries and the exposed pulp. International Endodontic Journal, 2019, 52, 923-934.	5.0	268
4	The impact of root dentine conditioning on sealing ability and push-out bond strength of an epoxy resin root canal sealer. International Endodontic Journal, 2011, 44, 491-498.	5.0	266
5	Chelation in Root Canal Therapy Reconsidered. Journal of Endodontics, 2005, 31, 817-820.	3.1	240
6	Soft Tissue Dissolution Capacity of Currently Used and Potential Endodontic Irrigants. Journal of Endodontics, 2004, 30, 785-787.	3.1	234
7	The Effects of Temperature on Sodium Hypochlorite Short-Term Stability, Pulp Dissolution Capacity, and Antimicrobial Efficacy. Journal of Endodontics, 2005, 31, 669-671.	3.1	228
8	Effects of ethylenediaminetetraacetic, etidronic and peracetic acid irrigation on human root dentine and the smear layer. International Endodontic Journal, 2009, 42, 335-343.	5.0	208
9	Hard-Tissue Debris Accumulation Analysis by High-Resolution Computed Tomography Scans. Journal of Endodontics, 2009, 35, 1044-1047.	3.1	205
10	Antimicrobial Effect of Nanometric Bioactive Glass 45S5. Journal of Dental Research, 2007, 86, 754-757.	5.2	203
11	Effect of sodium hypochlorite on human root dentine " mechanical, chemical and structural evaluation. International Endodontic Journal, 2007, 40, 786-793.	5.0	166
12	Interactions of ethylenediamine tetraacetic acid with sodium hypochlorite in aqueous solutions. International Endodontic Journal, 2003, 36, 411-415.	5.0	161
13	Tissue-dissolving capacity and antibacterial effect of buffered and unbuffered hypochlorite solutions. Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics, 2002, 94, 756-762.	1.4	148
14	Tubular sclerosis rather than the smear layer impedes dye penetration into the dentine of endodontically instrumented root canals. International Endodontic Journal, 2006, 39, 18-25.	5.0	148
15	Accumulated hard tissue debris levels in mesial roots of mandibular molars after sequential irrigation steps. International Endodontic Journal, 2011, 44, 148-153.	5.0	135
16	Factors affecting the outcome of orthograde root canal therapy in a general dentistry hospital practice. Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics, 2005, 99, 119-124.	1.4	117
17	Microtomography-based Comparison of Reciprocating Single-File F2 ProTaper Technique versus Rotary Full Sequence. Journal of Endodontics, 2011, 37, 1394-1397.	3.1	116
18	Pathologic interactions in pulpal and periodontal tissues. Journal of Clinical Periodontology, 2002, 29, 663-671.	4.9	112

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19	Do bioactive glasses convey a disinfecting mechanism beyond a mere increase in pH?. International Endodontic Journal, 2008, 41, 670-678.	5.0	106
20	Compositional analysis of human acquired enamel pellicle by mass spectrometry. Archives of Oral Biology, 2001, 46, 293-303.	1.8	102
21	Necrotic pulp tissue dissolution by passive ultrasonic irrigation in simulated accessory canals: impact of canal location and angulation. International Endodontic Journal, 2009, 42, 59-65.	5.0	94
22	The mysterious appearance of enterococci in filled root canals. International Endodontic Journal, 2009, 42, 277-287.	5.0	93
23	Increased fluoride uptake and acid resistance by CO2 laser-irradiation through topically applied fluoride on human enamel in vitro. Journal of Dentistry, 2004, 32, 635-641.	4.1	90
24	Continuous chelation irrigation improves the adhesion of epoxy resin-based root canal sealer to root dentine. International Endodontic Journal, 2012, 45, 1097-1102.	5.0	90
25	Impact of Irrigant Sequence on Mechanical Properties of Human Root Dentin. Journal of Endodontics, 2007, 33, 1325-1328.	3.1	89
26	Preliminary Evaluation of Bioactive Glass S53P4 as an Endodontic Medication In Vitro. Journal of Endodontics, 2004, 30, 220-224.	3.1	84
27	Dentin enhances the effectiveness of bioactive glass S53P4 against a strain of Enterococcus faecalis. Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics, 2006, 101, 530-535.	1.4	82
28	Cytokine gene expression—part of host defence in pulpitis. Cytokine, 2003, 22, 84-88.	3.2	79
29	Matrix metalloproteinase levels and gelatinolytic activity in clinically healthy and inflamed human dental pulps. European Journal of Oral Sciences, 2002, 110, 353-357.	1.5	78
30	Use of NIR light and upconversion phosphors in light-curable polymers. Dental Materials, 2012, 28, 304-311.	3.5	76
31	Chemical and antimicrobial properties of calcium hydroxide mixed with irrigating solutions. International Endodontic Journal, 2003, 36, 100-105.	5.0	75
32	Reduction of Hard-tissue Debris Accumulation during Rotary Root Canal Instrumentation by Etidronic Acid in a Sodium Hypochlorite Irrigant. Journal of Endodontics, 2012, 38, 692-695.	3.1	75
33	Soft Chelating Irrigation Protocol Optimizes Bonding Quality of Resilon/Epiphany Root Fillings. Journal of Endodontics, 2008, 34, 703-705.	3.1	74
34	Reducing Surface Tension in Endodontic Chelator Solutions Has No Effect on Their Ability to Remove Calcium from Instrumented Root Canals. Journal of Endodontics, 2005, 31, 590-592.	3.1	73
35	Radio-opaque nanosized bioactive glass for potential root canal application: evaluation of radiopacity, bioactivity and alkaline capacity. International Endodontic Journal, 2010, 43, 210-217.	5.0	73
36	Fine-tuning of Bioactive Glass for Root Canal Disinfection. Journal of Dental Research, 2009, 88, 235-238.	5.2	72

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37	Acoustic Hypochlorite Activation in Simulated Curved Canals. Journal of Endodontics, 2009, 35, 1408-1411.	3.1	72
38	Longitudinal Co-site Optical Microscopy Study on the Chelating Ability of Etidronate and EDTA Using a Comparative Single-tooth Model. Journal of Endodontics, 2008, 34, 71-75.	3.1	69
39	A First Study on the Usefulness of Matrix Metalloproteinase 9 from Dentinal Fluid to Indicate Pulp Inflammation. Journal of Endodontics, 2011, 37, 17-20.	3.1	69
40	Functionalizing a dentin bonding resin to become bioactive. Dental Materials, 2014, 30, 868-875.	3.5	69
41	Enterococcus faecalis Type Strain Leakage through Root Canals Filled with Gutta-Percha/AH Plus or Resilon/Epiphany. Journal of Endodontics, 2007, 33, 45-47.	3.1	64
42	Impact of Growth Conditions on Susceptibility of Five Microbial Species to Alkaline Stress. Journal of Endodontics, 2008, 34, 579-582.	3.1	57
43	Stabilizing Sodium Hypochlorite at High pH: Effects on Soft Tissue and Dentin. Journal of Endodontics, 2011, 37, 693-696.	3.1	53
44	On the dynamics of root canal infectionsâ€”what we understand and what we don't. Virulence, 2015, 6, 216-222.	4.4	53
45	In vitro microleakage of adhesive-sealed dentin with lactic acid and saliva exposure: a radio-isotope analysis. Journal of Dentistry, 2004, 32, 235-240.	4.1	50
46	Assessment of a gel-type chelating preparation containing 1-hydroxyethylidene-1, 1-bisphosphonate. International Endodontic Journal, 2005, 38, 810-816.	5.0	50
47	Effect of liquid and paste-type lubricants on torque values during simulated rotary root canal instrumentation. International Endodontic Journal, 2005, 38, 223-229.	5.0	49
48	A comparative study on the disinfection potentials of bioactive glass S53P4 and calcium hydroxide in contra-lateral human premolars ex vivo. International Endodontic Journal, 2006, 39, 952-958.	5.0	49
49	Impact of Lubricant Parameters on Rotary Instrument Torque and Force. Journal of Endodontics, 2007, 33, 280-283.	3.1	48
50	Tissue-dissolution capacity and dentin-disinfecting potential of calcium hydroxide mixed with irrigating solutions. Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics, 2003, 96, 608-613.	1.4	47
51	Children at high altitude have less nocturnal periodic breathing than adults. European Respiratory Journal, 2008, 32, 189-197.	6.7	46
52	Smear layer dissolution by peracetic acid of low concentration. International Endodontic Journal, 2011, 44, 485-490.	5.0	46
53	Advances in endodontics: Potential applications in clinical practice. Journal of Conservative Dentistry, 2016, 19, 199.	0.9	45
54	Composites made of flameâ€”sprayed bioactive glass 45S5 and polymers: bioactivity and immediate sealing properties. International Endodontic Journal, 2010, 43, 1037-1046.	5.0	43

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55	Physicochemical and Pulp Tissue Dissolution Properties of Some Household Bleach Brands Compared with a Dental Sodium Hypochlorite Solution. <i>Journal of Endodontics</i> , 2012, 38, 372-375.	3.1	43
56	Fibrin Gel Improves Tissue Ingrowth and Cell Differentiation in Human Immature Premolars Implanted in Rats. <i>Journal of Endodontics</i> , 2014, 40, 246-250.	3.1	43
57	Effect of endodontic irrigants on biofilm matrix polysaccharides. <i>International Endodontic Journal</i> , 2017, 50, 153-160.	5.0	43
58	Clinical aspects related to endodontic yeast infections. <i>Endodontic Topics</i> , 2004, 9, 66-78.	0.5	41
59	Short-term storage stability of NaOCl solutions when combined with Dual Rinse HEDP. <i>International Endodontic Journal</i> , 2018, 51, 691-696.	5.0	41
60	Electrochemical Disinfection of Dental Implants – a Proof of Concept. <i>PLoS ONE</i> , 2011, 6, e16157.	2.5	40
61	The receptor activator of NF- $\kappa$ B ligand-osteoprotegerin system in pulpal and periapical disease. <i>International Endodontic Journal</i> , 2013, 46, 99-111.	5.0	40
62	Recovery of <i>Enterococcus faecalis</i> from cheese in the oral cavity of healthy subjects. <i>Oral Microbiology and Immunology</i> , 2007, 22, 248-251.	2.8	38
63	Potential systematic error in laboratory experiments on microbial leakage through filled root canals: review of published articles. <i>International Endodontic Journal</i> , 2011, 44, 183-194.	5.0	38
64	Comparative assessment of time-related bioactive glass and calcium hydroxide effects on mechanical properties of human root dentin. <i>Dental Traumatology</i> , 2009, 25, 126-129.	2.0	37
65	Interactions between the Tetrasodium Salts of EDTA and 1-Hydroxyethane 1,1-Diphosphonic Acid with Sodium Hypochlorite Irrigants. <i>Journal of Endodontics</i> , 2017, 43, 657-661.	3.1	36
66	SADMFR Guidelines for the Use of Cone-Beam Computed Tomography/Digital Volume Tomography. <i>Swiss Dental Journal</i> , 2015, 125, 945-53.	0.1	35
67	Effects of Stem Cell Factor on Cell Homing During Functional Pulp Regeneration in Human Immature Teeth. <i>Tissue Engineering - Part A</i> , 2017, 23, 115-123.	3.1	34
68	Periapical fluid RANKL and IL-8 are differentially regulated in pulpitis and apical periodontitis. <i>Cytokine</i> , 2014, 69, 116-119.	3.2	30
69	Pulp-Derived Exosomes in a Fibrin-Based Regenerative Root Filling Material. <i>Journal of Clinical Medicine</i> , 2020, 9, 491.	2.4	29
70	Sodium Hypochlorite with Reduced Surface Tension Does Not Improve In Situ Pulp Tissue Dissolution. <i>Journal of Endodontics</i> , 2013, 39, 1039-1043.	3.1	27
71	Disinfection of the root canal system during root canal retreatment. <i>Endodontic Topics</i> , 2008, 19, 58-73.	0.5	26
72	Potential systematic error in laboratory experiments on microbial leakage through filled root canals: an experimental study. <i>International Endodontic Journal</i> , 2011, 44, 827-835.	5.0	26

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73	Sodium Hypochlorite Reduces Postoperative Discomfort and Painful Early Failure after Carious Exposure and Direct Pulp Capping—Initial Findings of a Randomized Controlled Trial. Journal of Clinical Medicine, 2020, 9, 2408.	2.4	26
74	Apical fit of initial Kå€files in maxillary molars assessed by microå€computed tomography. International Endodontic Journal, 2010, 43, 328-335.	5.0	25
75	Shrinkage of Backfill Gutta-percha upon Cooling. Journal of Endodontics, 2014, 40, 721-724.	3.1	24
76	MMP-9 in Dentinal Fluid Correlates with Caries Lesion Depth. Caries Research, 2017, 51, 460-465.	2.0	24
77	Safety assessment of an etidronate in a sodium hypochlorite solution: randomized doubleå€blind trial. International Endodontic Journal, 2019, 52, 1274-1282.	5.0	24
78	Biomimetic Conditioning of Human Dentin Using Citric Acid. Journal of Endodontics, 2019, 45, 45-50.	3.1	24
79	MMP-9 Levels and NaOCl Lavage in Randomized Trial on Direct Pulp Capping. Journal of Dental Research, 2022, 101, 414-419.	5.2	24
80	Wound Lavage in Studies on Vital Pulp Therapy of Permanent Teeth with Carious Exposures: A Qualitative Systematic Review. Journal of Clinical Medicine, 2020, 9, 984.	2.4	22
81	Sealing smooth enamel surfaces with a newly devised adhesive patch: a radiochemical in vitro analysis. Dental Materials, 2005, 21, 545-550.	3.5	21
82	Endodontic infection caused by localized aggressive periodontitis: A case report and bacteriologic evaluation. Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics, 2001, 92, 440-445.	1.4	20
83	Chemical, cytotoxic and genotoxic analysis of etidronate in sodium hypochlorite solution. International Endodontic Journal, 2019, 52, 1228-1234.	5.0	20
84	Leakage of food-borne Enterococcus faecalis through temporary fillings in a simulated oral environment. International Endodontic Journal, 2007, 40, 471-477.	5.0	19
85	Identification of Synergistetes in endodontic infections. Microbial Pathogenesis, 2014, 73, 1-6.	2.9	18
86	Effect of Low Direct Current on Anaerobic Multispecies Biofilm Adhering to a Titanium Implant Surface. Clinical Implant Dentistry and Related Research, 2014, 16, 552-556.	3.7	18
87	<scp>FISH</scp>ing for guttaå€perchaå€adhered biofilms in purulent postå€treatment apical periodontitis. Molecular Oral Microbiology, 2017, 32, 226-235.	2.7	18
88	Interface evaluation after manual and ultrasonic insertion of standardized class I inlays using composite resin materials of different viscosity. Acta Odontologica Scandinavica, 2005, 63, 205-212.	1.6	17
89	Direct Resin Composite Restorations in Vital Versus Root-filled Posterior Teeth: A Controlled Comparative Long-term Follow-up. Operative Dentistry, 2007, 32, 437-442.	1.2	17
90	Prevention of bacterial leakage through instrumented root canals by bioactive glass S53P4 and calcium hydroxide suspensions in vitro. Oral Surgery Oral Medicine Oral Pathology Oral Radiology and Endodontics, 2007, 103, 423-428.	1.4	17

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91	Molecular diagnostics in endodontics. Endodontic Topics, 2014, 30, 51-65.	0.5	17
92	Incorporation of particulate bioactive glasses into a dental root canal sealer. Biomedical Glasses, 2016, 2, .	2.4	17
93	Light Transmittance and Polymerization of Bulk-Fill Composite Materials Doped with Bioactive Micro-Fillers. Materials, 2019, 12, 4087.	2.9	17
94	Dentine decalcification and smear layer removal by different ethylenediaminetetraacetic acid and 1-hydroxyethane-1,1-diphosphonic acid species. International Endodontic Journal, 2019, 52, 237-243.	5.0	16
95	Occurrence of Cervical Invasive Root Resorption in First and Second Molar Teeth of Orthodontic Patients Eight Years after Bracket Removal. Journal of Endodontics, 2013, 39, 27-30.	3.1	15
96	Regenerative Dentistry: Animal Model for Regenerative Endodontology. Transfusion Medicine and Hemotherapy, 2016, 43, 359-364.	1.6	15
97	Incorporation of reactive silver-tricalcium phosphate nanoparticles into polyamide 6 allows preparation of self-disinfecting fibers. Polymer Engineering and Science, 2011, 51, 71-77.	3.1	14
98	Call for a review of diagnostic nomenclature and terminology used in Endodontics. International Endodontic Journal, 2020, 53, 1315-1317.	5.0	13
99	Contrast-enhanced micro-CT to assess dental pulp tissue debridement in root canals of extracted teeth: a series of cascading experiments towards method validation. International Endodontic Journal, 2021, 54, 279-293.	5.0	13
100	Comparison of vehicles to collect dentinal fluid for molecular analysis. Journal of Dentistry, 2014, 42, 1027-1032.	4.1	12
101	Comparison of two contemporary rotary systems in a pre-clinical student course setting. International Endodontic Journal, 2016, 49, 591-598.	5.0	12
102	Glutaraldehyde in bonding systems disinfects dentin in vitro. Journal of Adhesive Dentistry, 2004, 6, 61-4.	0.5	12
103	Wear Resistance and Surface Roughness of a Newly Devised Adhesive Patch for Sealing Smooth Enamel Surfaces. Operative Dentistry, 2006, 31, 115-121.	1.2	11
104	Effect of Direct Current on Surface Structure and Cytocompatibility of Titanium Dental Implants. International Journal of Oral and Maxillofacial Implants, 2014, 29, 735-742.	1.4	11
105	A critical analysis of research methods to study clinical molecular biomarkers in Endodontic research. International Endodontic Journal, 2022, 55, 37-45.	5.0	11
106	Iodixanol as a Contrast Agent in a Fibrin Hydrogel for Endodontic Applications. Frontiers in Physiology, 2017, 8, 152.	2.8	10
107	Correlation between the clinically diagnosed inflammatory process and periapical index scores in severely painful endodontically involved teeth. International Endodontic Journal, 2021, 54, 172-180.	5.0	9
108	Available chlorine consumption from NaOCl solutions passively placed in instrumented human root canals. International Endodontic Journal, 2015, 48, 435-440.	5.0	8

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109	Effect of dentine cutting efficiency on the lateral force created by torque-controlled rotary instruments. International Endodontic Journal, 2020, 53, 1153-1161.	5.0	8
110	Transforming Growth Factor Beta 1 Distribution and Content in the Root Dentin of Young Mature and Immature Human Premolars. Journal of Endodontics, 2020, 46, 641-647.	3.1	8
111	Effectiveness of dentine bonding agents against cariogenic bacteria in vitro : a comparison of two methods. Oral Microbiology and Immunology, 2003, 18, 140-143.	2.8	7
112	Effect of Sodium Hypochlorite Concentration in Continuous Chelation on Dislodgement Resistance of an Epoxy Resin and Hydraulic Calcium Silicate Sealer. Polymers, 2021, 13, 3482.	4.5	7
113	Treatment options for permanent teeth with deep caries. Swiss Dental Journal, 2016, 126, 1007-1027.	0.1	7
114	A New Method to Assess Available Chlorine in Small Volumes of Liquid. Journal of Endodontics, 2014, 40, 534-537.	3.1	6
115	Influence of 1-Hydroxyethylidene-1,1-Diphosphonic Acid on the Soft Tissue-Dissolving and Gelatinolytic Effect of Ultrasonically Activated Sodium Hypochlorite in Simulated Endodontic Environments. Materials, 2021, 14, 2531.	2.9	6
116	Patients with persistent idiopathic dentoalveolar pain in dental practice. International Endodontic Journal, 2022, 55, 231-239.	5.0	6
117	Bone powder enhances the effectiveness of bioactive glass S53P4 against strains of Porphyromonas gingivalis and Actinobacillus actinomycetemcomitans in suspension. Acta Odontologica Scandinavica, 2006, 64, 183-186.	1.6	5
118	Effects of endodontic irrigants on blood and blood-stained dentin. Heliyon, 2019, 5, e01794.	3.2	5
119	Comparative assessment of hardening of demineralized dentin under lining materials using an ultramicroindentation system. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2007, 83B, 199-205.	3.4	4
120	Hydrogen Peroxide Versus Sodium Hypochlorite: All a Matter of pH?. Journal of Endodontics, 2021, 47, 297-302.	3.1	4
121	Whisky, microwave or hairdryer? Exploring the most efficient way to reduce bacterial colonisation on contaminated toothbrushes. British Dental Journal, 2018, 225, 1007-1010.	0.6	3
122	Shaping for Cleaning: Reconsidering Root Canal Debridement. , 2022, , 11-72.		1
123	Matthias Zehnder, DR MED DENT, PHD, PD, University of Zürich, Zürich, Switzerland. Endodontic Topics, 2014, 30, 109-109.	0.5	0
124	New Ways to Disinfect and Fill Dental Hard Tissues. Journal of Clinical Medicine, 2020, 9, 1524.	2.4	0
125	What happened to our former students five to six years after graduation? An endodontic teacher's perspective. Swiss Dental Journal, 2020, , 584-591.	0.1	0