Yohan Payan

List of Publications by Year
in descending order

136	2,722	172207	223531
papers	citations	29 h-index	46 g-index

143	143	143	1948
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Patient specific finite element model of the face soft tissues for computer-assisted maxillofacial surgery. Medical Image Analysis, 2003, 7, 131-151.	7.0	137
2	The mesh-matching algorithm: an automatic 3D mesh generator for finite element structures. Journal of Biomechanics, 2000, 33, 1005-1009.	0.9	130
3	Haptic Guidance Improves the Visuo-Manual Tracking of Trajectories. PLoS ONE, 2008, 3, e1775.	1.1	118
4	A biomechanical model of cardinal vowel production: Muscle activations and the impact of gravity on tongue positioning. Journal of the Acoustical Society of America, 2009, 126, 2033-2051.	0.5	114
5	Synthesis of V-V sequences with a 2D biomechanical tongue model controlled by the Equilibrium Point Hypothesis. Speech Communication, 1997, 22, 185-205.	1.6	78
6	Coupled hardâ€“soft tissue simulation with contact and constraints applied to jawâ€“tongueâ€“hyoid dynamics. International Journal for Numerical Methods in Biomedical Engineering, 2011, 27, 367-390.	1.0	75
7	Influences of tongue biomechanics on speech movements during the production of velar stop consonants: A modeling study. Journal of the Acoustical Society of America, 2003, 114, 1582-1599.	0.5	71
8	Non-linear elastic properties of the lingual and facial tissues assessed by indentation technique. Medical Engineering and Physics, 2005, 27, 884-892.	0.8	70
9	In vivo measurement of human brain elasticity using a light aspiration device. Medical Image Analysis, 2009, 13, 673-678.	7.0	65
10	A control model of human tongue movements in speech. Biological Cybernetics, 1997, 77, 11-22.	0.6	64
11	A fast and robust patient specific Finite Element mesh registration technique: Application to 60 clinical cases. Medical Image Analysis, 2010, 14, 303-317.	7.0	60
12	Aid to Percutaneous Renal Access by Virtual Projection of the Ultrasound Puncture Tract onto Fluoroscopic Images. Journal of Endourology, 2007, 21, 460-465.	1.1	54
13	Brain-shift compensation using intraoperative ultrasound and constraint-based biomechanical simulation. Medical Image Analysis, 2017, 40, 133-153.	7.0	54
14	Can a plantar pressureâ€“based tongue-placed electrotactile biofeedback improve postural control under altered vestibular and neck proprioceptive conditions?. Neuroscience, 2008, 155, 291-296.	1.1	51
15	Controlling posture using a plantar pressure-based, tongue-placed tactile biofeedback system. Experimental Brain Research, 2007, 179, 409-414.	0.7	49
16	Simulation of dynamic orofacial movements using a constitutive law varying with muscle activation. Computer Methods in Biomechanics and Biomedical Engineering, 2010, 13, 469-482.	0.9	45
17	Numerical and experimental study of expiratory flow in the case of major upper airway obstructions with fluidâ€“structure interaction. Journal of Fluids and Structures, 2008, 24, 250-269.	1.5	43
18	Sensory supplementation system based on electrotactile tongue biofeedback of head position for balance control. Neuroscience Letters, 2008, 431, 206-210.	1.0	43

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19	Biomechanical modeling to prevent ischial pressure ulcers. Journal of Biomechanics, 2014, 47, 2231-2236.	0.9	39
20	3D statistical models for tooth surface reconstruction. Computers in Biology and Medicine, 2007, 37, 1461-1471.	3.9	38
21	A Simulator for Maxillofacial Surgery Integrating 3D Cephalometry and Orthodontia. Computer Aided Surgery, 2000, 5, 156-165.	1.8	37
22	Orbital and maxillofacial computer aided surgery: patient-specific finite element models to predict surgical outcomes. Computer Methods in Biomechanics and Biomedical Engineering, 2005, 8, 259-265.	0.9	37
23	Simulations of the consequences of tongue surgery on tongue mobility: implications for speech production in postâ€surgery conditions. International Journal of Medical Robotics and Computer Assisted Surgery, 2007, 3, 252-261.	1.2	37
24	A Biomechanical Modeling Study of the Effects of the Orbicularis Oris Muscle and Jaw Posture on Lip Shape. Journal of Speech, Language, and Hearing Research, 2013, 56, 878-890.	0.7	37
25	Linear Elastic Properties of the Facial Soft Tissues Using an Aspiration Device: Towards Patient Specific Characterization. Annals of Biomedical Engineering, 2014, 42, 2369-2378.	1.3	34
26	Shaping by Stiffening: A Modeling Study for Lips. Motor Control, 2011, 15, 141-168.	0.3	33
27	Control of tongue movements in speech: the Equilibrium Point Hypothesis perspective. Journal of Phonetics, 1996, 24, 53-75.	0.6	32
28	Tongue-placed tactile biofeedback suppresses the deleterious effects of muscle fatigue on joint position sense at the ankle. Experimental Brain Research, 2007, 183, 235-240.	0.7	31
29	A wireless embedded tongue tactile biofeedback system for balance control. Pervasive and Mobile Computing, 2009, 5, 268-275.	2.1	31
30	3D Semi-Landmarks Based Statistical Face Reconstruction. Journal of Computing and Information Technology, 2006, 14, 31.	0.2	30
31	Comparison of Linear and Non-linear Soft Tissue Models with Post-operative CT Scan in Maxillofacial Surgery. Lecture Notes in Computer Science, 2004, , 19-27.	1.0	29
32	Rigid Registration of Freehand 3D Ultrasound and CT-Scan Kidney Images. Lecture Notes in Computer Science, 2004, , 837-844.	1.0	28
33	TexiCare: An innovative embedded device for pressure ulcer prevention. Preliminary results with a paraplegic volunteer. Journal of Tissue Viability, 2013, 22, 83-90.	0.9	28
34	Clinical workflow for personalized foot pressure ulcer prevention. Medical Engineering and Physics, 2016, 38, 845-853.	0.8	28
35	Inter-individual variability in sensory weighting of a plantar pressure-based, tongue-placed tactile biofeedback for controlling posture. Neuroscience Letters, 2007, 421, 173-177.	1.0	25
36	Effectiveness of an electro-tactile vestibular substitution system in improving upright postural control in unilateral vestibular-defective patients. Gait and Posture, 2008, 28, 711-715.	0.6	25

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37	Influence of the Calcaneus Shape on the Risk of Posterior Heel Ulcer Using 3D Patient-Specific Biomechanical Modeling. Annals of Biomedical Engineering, 2015, 43, 325-335.	1.3	25
38	A biomechanical breast model evaluated with respect to MRI data collected in three different positions. Clinical Biomechanics, 2018, 60, 191-199.	0.5	25
39	Improving human ankle joint position sense using an artificial tongue-placed tactile biofeedback. Neuroscience Letters, 2006, 405, 19-23.	1.0	24
40	Guiding the Surgical Gesture Using an Electro-Tactile Stimulus Array on the Tongue: A Feasibility Study. IEEE Transactions on Biomedical Engineering, 2007, 54, 711-717.	2.5	23
41	A visco-hyperelastic constitutive model and its application in bovine tongue tissue. Journal of Biomechanics, 2018, 71, 190-198.	0.9	23
42	Personalized modeling for real-time pressure ulcer prevention in sitting posture. Journal of Tissue Viability, 2018, 27, 54-58.	0.9	23
43	Finite element speaker-specific face model generation for the study of speech production. Computer Methods in Biomechanics and Biomedical Engineering, 2010, 13, 459-467.	0.9	21
44	Computer-assisted access to the kidney. International Journal of Medical Robotics and Computer Assisted Surgery, 2005, 1, 58-66.	1.2	20
45	Biomechanical models to simulate consequences of maxillofacial surgery. Comptes Rendus - Biologies, 2002, 325, 407-417.	0.1	19
46	Jacobian-based repair method for finite element meshes after registration. Engineering With Computers, 2011, 27, 285-297.	3.5	19
47	Postural destabilization induced by trunk extensor muscles fatigue is suppressed by use of a plantar pressure-based electro-tactile biofeedback. European Journal of Applied Physiology, 2008, 104, 119-125.	1.2	18
48	LASTIC: A Light Aspiration Device for in vivo Soft TIssue Characterization. Lecture Notes in Computer Science, 2010, , 1-10.	1.0	18
49	Atlas-Based Automatic Generation of Subject-Specific Finite Element Tongue Meshes. Annals of Biomedical Engineering, 2016, 44, 16-34.	1.3	17
50	A Wireless Lingual Feedback Device to Reduce Overpressures in Seated Posture: A Feasibility Study. PLoS ONE, 2009, 4, e7550.	1.1	17
51	A 3D Finite Element Model of the Face for Simulation in Plastic and Maxillo-Facial Surgery. Lecture Notes in Computer Science, 2000, , 1068-1075.	1.0	16
52	Prediction of tissue decompression in orbital surgery. Clinical Biomechanics, 2004, 19, 202-208.	0.5	16
53	3D statistical facial reconstruction. Proc Int Symp Image Signal Process Anal, 2005, , .	0.0	16
54	How a plantar pressure-based, tongue-placed tactile biofeedback modifies postural control mechanisms during quiet standing. Experimental Brain Research, 2007, 181, 547-554.	0.7	16

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55	Medical Image Computing and Computer-Aided Medical Interventions Applied to Soft Tissues: Work in Progress in Urology. Proceedings of the IEEE, 2006, 94, 1665-1677.	16.4	15
56	Modelling the human pharyngeal airway: validation of numerical simulations using in vitro experiments. Medical and Biological Engineering and Computing, 2009, 47, 49-58.	1.6	14
57	Machine-Learning based model order reduction of a biomechanical model of the human tongue. Computer Methods and Programs in Biomedicine, 2021, 198, 105786.	2.6	14
58	A biomechanical model of the human tongue and its clinical implications. Lecture Notes in Computer Science, 1998, , 688-695.	1.0	13
59	Efficient 3D Finite Element Modeling of a Muscle-Activated Tongue. Lecture Notes in Computer Science, 2006, , 19-28.	1.0	13
60	A simulator for maxillofacial surgery integrating 3D cephalometry and orthodontia. Computer Aided Surgery, 2000, 5, 156-165.	1.8	13
61	Computer-aided hepatic tumour ablation: requirements and preliminary results. Comptes Rendus - Biologies, 2002, 325, 309-319.	0.1	12
62	Noninvasive Continuous Monitoring of Adipocyte Differentiation: From Macro to Micro Scales. Microscopy and Microanalysis, 2019, 25, 119-128.	0.2	12
63	Clinically oriented real-time monitoring of the individualâ€™s risk for deep tissue injury. Medical and Biological Engineering and Computing, 2011, 49, 473-483.	1.6	11
64	Pressure Sores Prevention for Paraplegic People: Effects of Visual, Auditory and Tactile Supplementations on Overpressures Distribution in Seated Posture. Applied Bionics and Biomechanics, 2012, 9, 61-67.	0.5	11
65	Biomechanical Modeling of Brain Soft Tissues for Medical Applications. , 2017, , 127-146.		11
66	Computer assisted planning and orbital surgery: Patient-related prediction of osteotomy size in proptosis reduction. Clinical Biomechanics, 2005, 20, 900-905.	0.5	10
67	Pressure sensor-based tongue-placed electrotactile biofeedback for balance improvement - Biomedical application to prevent pressure sores formation and falls. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 6114-7.	0.5	10
68	Human Tongue Biomechanical Modeling. , 2017, , 395-411.		10
69	A new model of passive muscle tissue integrating Collagen Fibers: Consequences for muscle behavior analysis. Journal of the Mechanical Behavior of Biomedical Materials, 2018, 88, 29-40.	1.5	10
70	Evaluating soft tissue simulation in maxillofacial surgery using preoperative and postoperative CT scans. International Congress Series, 2004, 1268, 419-424.	0.2	9
71	Framework for a Low-Cost Intra-Operative Image-Guided Neuronavigator Including Brain Shift Compensation. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 872-5.	0.5	9
72	Tongue pressure recordings during speech using complete denture. Materials Science and Engineering C, 2008, 28, 835-841.	3.8	9

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73	Biomechanical models to study speech. Faits De Langues, 2011, 37, 155-171.	0.2	9
74	Can an electro-tactile vestibular substitution system improve balance in patients with unilateral vestibular loss under altered somatosensory conditions from the foot and ankle?. , 2011, 2011, 1323-6.		9
75	The Distributed Lambda (Î») Model (DLM): A 3-D, Finite-Element Muscle Model Based on Feldman's Î» Model; Assessment of Orofacial Gestures. Journal of Speech, Language, and Hearing Research, 2013, 56, 1909-1923.	0.7	9
76	Simulation of the Retroglossal Fluid-Structure Interaction During Obstructive Sleep Apnea. Lecture Notes in Computer Science, 2006, , 48-57.	1.0	9
77	Intra-operative quantification of the surgical gesture in orbital surgery: Application to the proptosis reduction. Clinical Biomechanics, 2007, 22, 298-303.	0.5	8
78	Vibrotactile guidance for trajectory following in computer aided surgery. , 2010, 2010, 2085-8.		8
79	Foot ulcer prevention using biomechanical modelling. Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization, 2014, 2, 189-196.	1.3	8
80	A hybrid, image-based and biomechanics-based registration approach to markerless intraoperative nodule localization during video-assisted thoracoscopic surgery. Medical Image Analysis, 2021, 69, 101983.	7.0	8
81	Physical Modeling of Airflow-Walls Interactions to Understand the Sleep Apnea Syndrome. Lecture Notes in Computer Science, 2003, , 261-269.	1.0	8
82	A light sterilizable pipette device for the in vivo estimation of human soft tissues constitutive laws. , 2008, 2008, 4298-301.		7
83	Coupled Biomechanical Modeling of the Face, Jaw, Skull, Tongue, and Hyoid Bone. , 2014, , 253-274.		7
84	Indentation for Estimating the Human Tongue Soft Tissues Constitutive Law: Application to a 3D Biomechanical Model. Lecture Notes in Computer Science, 2004, , 77-83.	1.0	7
85	Optimizing the Use of an Artificial Tongue-Placed Tactile Biofeedback for Improving Ankle Joint Position Sense in Humans. , 2006, 2006, 6029-32.		6
86	Finite element models of the human tongue: a mixed-element mesh approach. Computer Methods in Biomechanics and Biomedical Engineering: Imaging and Visualization, 2017, 5, 390-400.	1.3	6
87	DISPOSABLE SYSTEM FOR IN-VIVO MECHANICAL CHARACTERIZATION OF SOFT TISSUES BASED ON VOLUME MEASUREMENT. Journal of Mechanics in Medicine and Biology, 2018, 18, 1850037.	0.3	6
88	Models for Planning and Simulation in Computer Assisted Orthognatic Surgery. Lecture Notes in Computer Science, 2002, , 315-322.	1.0	6
89	New pressure ulcers dressings to alleviate human soft tissues: A finite element study. Journal of Tissue Viability, 2022, , .	0.9	6
90	Intensity-based registration of freehand 3D ultrasound and CT-scan images of the kidney. International Journal of Computer Assisted Radiology and Surgery, 2007, 2, 31-41.	1.7	5

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91	ACCURATE INTERACTIVE ANIMATION OF DEFORMABLE MODELS AT ARBITRARY RESOLUTION. International Journal of Image and Graphics, 2010, 10, 175-202.	1.2	5
92	Finite element modelling of nearly incompressible materials and volumetric locking: a case study. Computer Methods in Biomechanics and Biomedical Engineering, 2014, 17, 192-193.	0.9	5
93	Rest shape computation for highly deformable model of brain. Computer Methods in Biomechanics and Biomedical Engineering, 2015, 18, 2006-2007.	0.9	5
94	Biomechanical Modeling of the Foot. , 2017, , 545-563.		5
95	MR-compatible loading device for assessment of heel pad internal tissue displacements under shearing load.. Medical Engineering and Physics, 2021, 98, 125-132.	0.8	5
96	Dynamic biomechanical modelling for foot ulcer prevention. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 149-151.	0.9	4
97	Using CamiTK for rapid prototyping of interactive Computer Assisted Medical Intervention applications. , 2013, 2013, 4933-6.		4
98	Conception and evaluation of a 3D musculoskeletal finite element foot model. Computer Methods in Biomechanics and Biomedical Engineering, 2015, 18, 2024-2025.	0.9	4
99	3D musculoskeletal finite element analysis of the foot kinematics under muscle activation with and without ankle arthrodesis. Computer Methods in Biomechanics and Biomedical Engineering, 2015, 18, 2022-2023.	0.9	4
100	Biphasic Model Of Lung Deformations For Video-Assisted Thoracoscopic Surgery (VATS). , 2019, , .		4
101	Speech planning as an index of speech motor control maturity. , 0, , .		4
102	A Systematic Review on Selected Complications of Open-Wedge High Tibial Osteotomy from Clinical and Biomechanical Perspectives. Applied Bionics and Biomechanics, 2021, 2021, 1-14.	0.5	4
103	Computer aided planning for orthognatic surgery. , 2002, , 988-993.		3
104	Electrotactile vision substitution for 3D trajectory following. , 2013, 2013, 6413-6.		3
105	Principle and Experimental Validation of a new Apparatus Allowing Large Deformation in Pure Bending: Application to thin Wire. Experimental Mechanics, 2016, 56, 475-482.	1.1	3
106	Computational Modeling of the Passive and Active Components of the Face. , 2017, , 377-394.		3
107	New Techniques for Combined FEM-Multibody Anatomical Simulation. Lecture Notes in Computational Vision and Biomechanics, 2019, , 75-92.	0.5	3
108	Simulation of the Exophthalmia Reduction Using a Finite Element Model of the Orbital Soft Tissues. Lecture Notes in Computer Science, 2002, , 323-330.	1.0	3

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109	Lung deformation between preoperative CT and intraoperative CBCT for thoracoscopic surgery: a case study. , 2018, , .		3
110	Breast Biomechanical Modeling for Compression Optimization in Digital Breast Tomosynthesis. Lecture Notes in Bioengineering, 2018, , 29-35.	0.3	3
111	Reliability of B-mode ultrasound and shear wave elastography in evaluating sacral bone and soft tissue characteristics in young adults with clinical feasibility in elderly. Journal of Tissue Viability, 2022, 31, 245-254.	0.9	3
112	Biomechanical lower limb model to predict patellar position alteration after medial open wedge high tibial osteotomy. Journal of Biomechanics, 2022, 136, 111062.	0.9	3
113	Doppler Ultrasound Driven Biomechanical Model of the Brain for Intraoperative Brain-Shift Compensation: A Proof of Concept in Clinical Conditions. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2012, , 135-165.	0.7	2
114	Multi-modal framework for subject-specific finite element model generation aimed at pressure ulcer prevention. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 147-148.	0.9	2
115	Soft Tissue Finite Element Modeling and Calibration of the Material Properties in the Context of Computer-Assisted Medical Interventions. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2017, , 133-144.	0.3	2
116	Reduction of Prolonged Excessive Pressure in Seated Persons With Paraplegia Using Wireless Lingual Tactile Feedback: A Randomized Controlled Trial. IEEE Journal of Translational Engineering in Health and Medicine, 2018, 6, 1-11.	2.2	2
117	The Mesh-matching Algorithm: A New Automatic 3D Mesh Generator for Finite Element Analysis. Lecture Notes in Computer Science, 1999, , 1175-1182.	1.0	2
118	Mixed-Element Mesh for an Intra-Operative Modeling of the Brain Tumor Extraction. , 2008, , 387-404.		2
119	A new health strategy to prevent pressure ulcer formation in paraplegics using computer and sensory substitution via the tongue. Studies in Health Technology and Informatics, 2006, 124, 926-31.	0.2	2
120	Dynamic hard-soft tissue models for orofacial biomechanics. , 2010, , .		1
121	Biomechanics for computer-assisted surgery. Computer Methods in Biomechanics and Biomedical Engineering, 2012, 15, 8-9.	0.9	1
122	Using a 3D biomechanical model to improve a light aspiration device forin vivosoft tissue characterisation. Computer Methods in Biomechanics and Biomedical Engineering, 2012, 15, 41-43.	0.9	1
123	Effect of saccades in tongue electrotactile stimulation for vision substitution applications. , 2013, 2013, 3543-6.		1
124	Biomechanical breast modelling to improve patient positioning during breast cancer radiotherapy. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 278-279.	0.9	1
125	Computer-Aided Hepatic Tumour Ablation. Lecture Notes in Computer Science, 2001, , 1145-1146.	1.0	1
126	Missing Data Estimation Using Polynomial Kernels. Lecture Notes in Computer Science, 2005, , 390-399.	1.0	1

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127	Computational Biomechanics of the Brain in the Operating Theatre. Biological and Medical Physics Series, 2019, , 321-344.	0.3	1
128	Towards a generic framework for evaluation and comparison of soft tissue modeling. Studies in Health Technology and Informatics, 2012, 173, 116-22.	0.2	1
129	Statistical 3D Cranio-Facial Models. , 2006, , .		0
130	The Effects of a Plantar Pressure-Based, Tongue-Placed Tactile Biofeedback System on the Regulation of the Centre of Foot Pressure Displacements During Upright Quiet Standing: A Fractional Brownian Motion Analysis. , 2008, , .		0
131	NiTi based stent for the treatment of acute urinary retention due to benign prostatic hyperplasia: a preliminary study on NiTi wires and tubes under pure bending. Computer Methods in Biomechanics and Biomedical Engineering, 2014, 17, 190-191.	0.9	0
132	Using Sensory Substitution of Median Sensory Deficits in the Traumatized Hand to Develop an Innovative Home-Based Hand Rehabilitation System. Lecture Notes in Computer Science, 2015, , 53-63.	1.0	0
133	Techniques on mesh generation for the brain shift simulation. IFMBE Proceedings, 2007, , 642-645.	0.2	0
134	Simulation of breast compression using a new biomechanical model. , 2018, , .		0
135	Resection-induced brain-shift compensation using vessel-based methods. , 2018, , .		0
136	Facial Reconstruction as a Regression Problem. Advances in Digital Crime, Forensics, and Cyber Terrorism, 0, , 68-87.	0.4	0