Diego Garzn-Alvarado

List of Publications by Year in Descending Order

76 papers	708 citations	13 h-index	23 g-index
80 ext. papers	856 ext. citations	3.2 avg, IF	4.45 L-index

#	Paper	IF	Citations
76	Turing Pattern Formation Under Heterogeneous Distributions of Parameters for an Activator-Depleted Reaction Model. *Journal of Nonlinear Science*, **2021**, 31, 1	2.8	0
75	A dynamical system for the IGF1-AKT signaling pathway in skeletal muscle adaptation. *BioSystems*, **2021**, 202, 104355	1.9	2
74	Biomechanical behavior of an alveolar graft under maxillary therapies. *Biomechanics and Modeling in Mechanobiology*, **2021**, 20, 1519-1532	3.8	
73	A simple and effective 1D-element discrete-based method for computational bone remodeling. *Computer Methods in Biomechanics and Biomedical Engineering*, **2021**, 1-17	2.1	1
72	Effect of umbilical cord length on early fetal biomechanics. *Computer Methods in Biomechanics and Biomedical Engineering*, **2021**, 24, 91-100	2.1	
71	A dynamical model for the calcineurin-NFATc signaling pathway and muscle fiber shifting. *Proceedings in Applied Mathematics and Mechanics*, **2021**, 20, e202000274	0.2	
70	Growth Plate Pathology in the Mucopolysaccharidosis Type VI Rat Model-An Experimental and Computational Approach. *Diagnostics*, **2020**, 10,	3.8	2
69	Effect of magnetic and electric fields on plasma membrane of single cells: A computational approach. *Engineering Reports*, **2020**, 2, e12125	1.2	3
68	Stress and strain propagation on infant skull from impact loads during falls: a finite element analysis. *International Biomechanics*, **2020**, 7, 19-34	0.6	3
67	Effect of electrical stimulation on chondrogenic differentiation of mesenchymal stem cells cultured in hyaluronic acid - Gelatin injectable hydrogels. *Bioelectrochemistry*, **2020**, 134, 107536	5.6	6
66	Computational model of a synovial joint morphogenesis. *Biomechanics and Modeling in Mechanobiology*, **2020**, 19, 1389-1402	3.8	0
65	In Vitro Evaluation of the Effect of Stimulation with Magnetic Fields on Chondrocytes. *Bioelectromagnetics*, **2020**, 41, 41-51	1.6	6
64	Computational Morphogenesis of Embryonic Bone Development: Past, Present, and Future **2020**, 197-219		2
63	Influence of interdigitation and expander type in the mechanical response of the midpalatal suture during maxillary expansion. *Computer Methods and Programs in Biomedicine*, **2019**, 176, 195-209	6.9	5
62	Morphological changes of physeal cartilage and secondary ossification centres in the developing femur of the house mouse (Mus musculus): A micro-CT based study. *Journal of Veterinary Medicine Series C: Anatomia Histologia Embryologia*, **2019**, 48, 117-124	1.1	3
61	Capacitively coupled electrical stimulation of rat chondroepiphysis explants: A histomorphometric analysis. *Bioelectrochemistry*, **2019**, 126, 1-11	5.6	8
60	Biophysical Stimuli: A Review of Electrical and Mechanical Stimulation in Hyaline Cartilage. *Cartilage* , **2019**, 10, 157-172	3	28

59	A computational model for the joint onset and development. *Journal of Theoretical Biology*, **2018**, 454, 345-356	2.3	2
58	Mechanobiological modeling of endochondral ossification: an experimental and computational analysis. *Biomechanics and Modeling in Mechanobiology*, **2018**, 17, 853-875	3.8	5
57	A Simplified Scheme for Piezoelectric Anisotropic Analysis in Human Vertebrae Using Integral Methods. *Mathematical Problems in Engineering*, **2018**, 2018, 1-8	1.1	3
56	Computational model for the patella onset. *PLoS ONE*, **2018**, 13, e0207770	3.7	3
55	Cellular scale model of growth plate: An in silico model of chondrocyte hypertrophy. *Journal of Theoretical Biology*, **2017**, 428, 87-97	2.3	2
54	Cellular automata model for human articular chondrocytes migration, proliferation and cell death: An in vitro validation. *In Silico Biology*, **2017**, 12, 83-93	2	5
53	Analysis of Bone Remodeling Under Piezoelectricity Effects Using Boundary Elements. *Journal of Bionic Engineering*, **2017**, 14, 659-671	2.7	17
52	An In Vitro Chondrocyte Electrical Stimulation Framework: A Methodology to Calculate Electric Fields and Modulate Proliferation, Cell Death and Glycosaminoglycan Synthesis. *Cellular and Molecular Bioengineering*, **2016**, 9, 116-126	3.9	18
51	Geometric and mechanical properties evaluation of scaffolds for bone tissue applications designing by a reaction-diffusion models and manufactured with a material jetting system. *Journal of Computational Design and Engineering*, **2016**, 3, 385-397	4.6	23
50	Load distribution on the radio-carpal joint for carpal arthrodesis. *Computer Methods and Programs in Biomedicine*, **2016**, 127, 204-15	6.9	4
49	Flat bones and sutures formation in the human cranial vault during prenatal development and infancy: A computational model. *Journal of Theoretical Biology*, **2016**, 393, 127-44	2.3	6
48	A Comparison of the Contact Force Distributions on the Acetabular Surface Due to Orthopedic Treatments for Developmental Hip Dysplasia. *Journal of Biomechanical Engineering*, **2016**, 138,	2.1	2
47	A QUANTITATIVE AND QUALITATIVE GROWTH PLATE DESCRIPTION A SIMPLE FRAMEWORK FOR CHONDROCYTES COLUMNAR ARRANGEMENT EVALUATION. *Journal of Mechanics in Medicine and Biology*, **2016**, 16, 1650054	0.7	2
46	DEVELOPMENTAL SCENARIOS OF THE EPIPHYSIS AND GROWTH PLATE UPON MECHANICAL LOADING: A COMPUTATIONAL MODEL. *Journal of Mechanics in Medicine and Biology*, **2016**, 16, 1650098	0.7	1
45	Proximal femoral growth plate mechanical behavior: Comparison between different developmental stages. *Computers in Biology and Medicine*, **2016**, 76, 192-201	7	5
44	Theoretical distribution of load in the radius and ulna carpal joint. *Computers in Biology and Medicine*, **2015**, 60, 100-6	7	13
43	Growth plate stress distribution implications during bone development: a simple framework computational approach. *Computer Methods and Programs in Biomedicine*, **2015**, 118, 59-68	6.9	19
42	Turing pattern formation on periodic geometrical figures with continuous growing: numerical experiments. *Computational and Applied Mathematics*, **2015**, 34, 197-213		

41	Geometrical and mechanical factors that influence slipped capital femoral epiphysis: a finite element study. *Journal of Pediatric Orthopaedics Part B*, **2015**, 24, 418-24	1.4	10
40	A Histological Study of Postnatal Development of Clavicle Articular Ends. *Universitas Scientiarum*, **2015**, 20, 361	0.6	3
39	Design, materials, and mechanobiology of biodegradable scaffolds for bone tissue engineering. *BioMed Research International*, **2015**, 2015, 729076	3	196
38	A computational model of clavicle bone formation: a mechano-biochemical hypothesis. *Bone*, **2014**, 61, 132-7	4.7	11
37	Numerical simulation of electrically stimulated osteogenesis in dental implants. *Bioelectrochemistry* , **2014**, 96, 21-36	5.6	4
36	A biochemical strategy for simulation of endochondral and intramembranous ossification. *Computer Methods in Biomechanics and Biomedical Engineering*, **2014**, 17, 1237-47	2.1	3
35	Biological modelling and computational implementation using the finite elements method. *Computational and Applied Mathematics*, **2014**, 33, 621-640		4
34	Growth of the flat bones of the membranous neurocranium: a computational model. *Computer Methods and Programs in Biomedicine*, **2013**, 112, 655-64	6.9	15
33	Numerical investigation into blood clotting at the bone-dental implant interface in the presence of an electrical stimulus. *Computers in Biology and Medicine*, **2013**, 43, 2079-88	7	3
32	A hypothesis on the formation of the primary ossification centers in the membranous neurocranium: a mathematical and computational model. *Journal of Theoretical Biology*, **2013**, 317, 366-76	2.3	4
31	A theoretical model of dentinogenesis: dentin and dentinal tubule formation. *Computer Methods and Programs in Biomedicine*, **2013**, 112, 219-27	6.9	5
30	Aggrecan catabolism during mesenchymal stromal cell in vitro chondrogenesis. *Animal Cells and Systems*, **2013**, 17, 243-249	2.3	3
29	Bone tissue formation under ideal conditions in a scaffold generated by a reaction-diffusion system. *MCB Molecular and Cellular Biomechanics*, **2013**, 10, 137-57	1.2	
28	A mathematical model of the process of ligament repair: effect of cold therapy and mechanical stress. *Journal of Theoretical Biology*, **2012**, 302, 53-61	2.3	2
27	Appearance and formation of seed and pericarp may be explained by a reaction–diffusion mechanism? A mathematical modeling. *Mathematical and Computer Modelling*, **2012**, 55, 853-860		3
26	Mathematical model of electrotaxis in osteoblastic cells. *Bioelectrochemistry*, **2012**, 88, 134-43	5.6	9
25	Computational examples of reaction–convection–diffusion equations solution under the influence of fluid flow: First example. *Applied Mathematical Modelling*, **2012**, 36, 5029-5045	4.5	10
24	Modeling porous scaffold microstructure by a reaction-diffusion system and its degradation by hydrolysis. *Computers in Biology and Medicine*, **2012**, 42, 147-55	7	8

23	Numerical test concerning bone mass apposition under electrical and mechanical stimulus. *Theoretical Biology and Medical Modelling*, **2012**, 9, 14	2.3	6
22	Computational modeling of the mechanical modulation of the growth plate by sustained loading. *Theoretical Biology and Medical Modelling*, **2012**, 9, 41	2.3	8
21	Does the geometric location of odontoblast differentiation and dentinal tubules depend on a reaction-diffusion system between BMP2 and Noggin? A mathematical model. *Journal of Endodontics*, **2012**, 38, 1635-8	4.7	5
20	A mathematical model of medial collateral ligament repair: migration, fibroblast proliferation and collagen formation. *Computer Methods in Biomechanics and Biomedical Engineering*, **2012**, 15, 571-83	2.1	4
19	A MODEL OF THE FORMATION OF THE CEREBRAL CORTEX THROUGH A MIXED APPROACH OF REACTION DIFFUSION EQUATIONS AND MECHANICAL STRAIN. *Journal of Mechanics in Medicine and Biology*, **2012**, 12, 1250090	0.7	
18	EXAMPLES OF THE EFFECT OF GROWTH AND STRAIN ON TURING PATTERN FORMATION DYNAMICS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2012**, 22, 1250039	2	1
17	A mathematical model for describing the metastasis of cancer in bone tissue. *Computer Methods in Biomechanics and Biomedical Engineering*, **2012**, 15, 333-46	2.1	9
16	Comparative analysis of numerical integration schemes of density equation for a computational model of bone remodelling. *Computer Methods in Biomechanics and Biomedical Engineering*, **2012**, 15, 1189-96	2.1	3
15	Spongiosa primary development: a biochemical hypothesis by Turing patterns formations. *Computational and Mathematical Methods in Medicine*, **2012**, 2012, 748302	2.8	3
14	A mechanobiological model of epiphysis structures formation. *Journal of Theoretical Biology*, **2011**, 287, 13-25	2.3	12
13	A finite element method approach for the mechanobiological modeling of the osseointegration of a dental implant. *Computer Methods and Programs in Biomedicine*, **2011**, 101, 297-314	6.9	24
12	A phenomenological mathematical model of the articular cartilage damage. *Computer Methods and Programs in Biomedicine*, **2011**, 104, e58-74	6.9	13
11	A model of cerebral cortex formation during fetal development using reaction-diffusion-convection equations with Turing space parameters. *Computer Methods and Programs in Biomedicine*, **2011**, 104, 489-97	6.9	8
10	A biochemical hypothesis on the formation of fingerprints using a turing patterns approach. *Theoretical Biology and Medical Modelling*, **2011**, 8, 24	2.3	13
9	Turing pattern formation for reaction-convection-diffusion systems in fixed domains submitted to toroidal velocity fields. *Applied Mathematical Modelling*, **2011**, 35, 4913-4925	4.5	16
8	A mathematical model of epiphyseal development: hypothesis of growth pattern of the secondary ossification centre. *Computer Methods in Biomechanics and Biomedical Engineering*, **2011**, 14, 23-32	2.1	8
7	SELF-ASSEMBLED SCAFFOLDS USING REACTION-DIFFUSION SYSTEMS: A HYPOTHESIS FOR BONE REGENERATION. *Journal of Mechanics in Medicine and Biology*, **2011**, 11, 231-272	0.7	7
6	A MATHEMATICAL MODEL OF THE GROWTH PLATE. *Journal of Mechanics in Medicine and Biology*, **2011**, 11, 1213-1240	0.7	5

5	Can the size of the epiphysis determine the number of secondary ossification centers? A mathematical approach. *Computer Methods in Biomechanics and Biomedical Engineering*, **2011**, 14, 819-26	2.1	2
4	A mathematical model of epiphyseal development: hypothesis on the cartilage canals growth. *Computer Methods in Biomechanics and Biomedical Engineering*, **2010**, 13, 765-72	2.1	2
3	Mathematical model of the coagulation in the bone-dental implant interface. *Computers in Biology and Medicine*, **2010**, 40, 791-801	7	10
2	A reaction-diffusion model for long bones growth. *Biomechanics and Modeling in Mechanobiology*, **2009**, 8, 381-95	3.8	27
1	Appearance and location of secondary ossification centres may be explained by a reaction-diffusion mechanism. *Computers in Biology and Medicine*, **2009**, 39, 554-61	7	30