Ralph S Marcucio

List of Publications by Year
in descending order

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142 papers	8,267 citations	50276 46 h-index	51608 86 g-index
156 all docs	156 docs citations	156 times ranked	8616 citing authors

#	Article	IF	Citations
1	Downstream Branches of the Fibroblast Growth Factor Signaling Pathway Act Interdependently to Shape the Face. FASEB Journal, 2022, 36, .	0.5	0
2	Fgf8 dosage regulates jaw shape and symmetry through pharyngealâ€cardiac tissue relationships. Developmental Dynamics, 2022, 251, 1711-1727.	1.8	6
3	MusMorph, a database of standardized mouse morphology data for morphometric meta-analyses. Scientific Data, 2022, 9, .	5.3	3
4	Chondrocyteâ€toâ€osteoblast transformation in mandibular fracture repair. Journal of Orthopaedic Research, 2021, 39, 1622-1632.	2.3	18
5	Creating Avian Forebrain Chimeras to assess Facial Development. Journal of Visualized Experiments, 2021, , .	0.3	0
6	Wnt Signaling Drives Correlated Changes in Facial Morphology and Brain Shape. Frontiers in Cell and Developmental Biology, 2021, 9, 644099.	3.7	9
7	Systemic and local cardiac inflammation after experimental long bone fracture, traumatic brain injury and combined trauma in mice. Journal of Orthopaedic Translation, 2021, 28, 39-46.	3.9	7
8	Mapping the Multiâ€Modal Distribution of Craniofacial Phenotypes in NOSIP Mutants. FASEB Journal, 2021, 35, .	0.5	0
9	Relating multivariate shapes to genescapes using phenotype-biological process associations for craniofacial shape. ELife, 2021, 10, .	6.0	7
10	Pak1ip1 Loss-of-Function Leads to Cell Cycle Arrest, Loss of Neural Crest Cells, and Craniofacial Abnormalities. Frontiers in Cell and Developmental Biology, 2020, 8, 510063.	3.7	5
11	Local injections of Î²-NGF accelerates endochondral fracture repair by promoting cartilage to bone conversion. Scientific Reports, 2020, 10, 22241.	3.3	18
12	miR â€199 family contributes to regulation of sonic hedgehog expression during craniofacial development. Developmental Dynamics, 2020, 249, 1062-1076.	1.8	9
13	Facial shape and allometry quantitative trait locus intervals in the Diversity Outbred mouse are enriched for known skeletal and facial development genes. PLoS ONE, 2020, 15, e0233377.	2.5	19
14	Biomedical research models in the science of fracture healing - Pitfalls & promises. Injury, 2020, 51, 2118-2128.	1.7	3
15	Blocking Kv1.3 potassium channels prevents postoperative neuroinflammation and cognitive decline without impairing wound healing in mice. British Journal of Anaesthesia, 2020, 125, 298-307.	3.4	24
16	A Registration and Deep Learning Approach to Automated Landmark Detection for Geometric Morphometrics. Evolutionary Biology, 2020, 47, 246-259.	1.1	31
17	Ageâ€related changes to macrophages are detrimental to fracture healing in mice. Aging Cell, 2020, 19, e13112.	6.7	73
18	A novel mouse model to study fracture healing of the proximal femur. Journal of Orthopaedic Research, 2020, 38, 2131-2138.	2.3	8

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19	The developmental-genetics of canalization. Seminars in Cell and Developmental Biology, 2019, 88, 67-79.	5.0	63
20	Nonlinear gene expressionâ€phenotype relationships contribute to variation and clefting in the A/WySn mouse. Developmental Dynamics, 2019, 248, 1232-1242.	1.8	18
21	Differential fracture response to traumatic brain injury suggests dominance of neuroinflammatory response in polytrauma. Scientific Reports, 2019, 9, 12199.	3.3	28
22	Integration and the Developmental Genetics of Allometry. Integrative and Comparative Biology, 2019, 59, 1369-1381.	2.0	42
23	Chronic psychosocial stress compromises the immune response and endochondral ossification during bone fracture healing via Î²-AR signaling. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 8615-8622.	7.1	50
24	SATB1 establishes ameloblast cell polarity and regulates directional amelogenin secretion for enamel formation. BMC Biology, 2019, 17, 104.	3.8	20
25	Cellular biology of fracture healing. Journal of Orthopaedic Research, 2019, 37, 35-50.	2.3	304
26	The Silent Treatment: miR199 Family Silences Shh during Craniofacial Development. FASEB Journal, 2019, 33, 774.10.	0.5	0
27	Emergent Properties of Facial Morphogenesis Regulated by Fgf Signaling. FASEB Journal, 2019, 33, 774.18.	0.5	0
28	Integration and the genetics of variation in facial shape. FASEB Journal, 2019, 33, 330.2.	0.5	0
29	Modeling the Development of Cleft Lip and Palate in Variable Clefting Mouse Strains. FASEB Journal, 2019, 33, .	0.5	0
30	Living tissues are more than cell clusters: The extracellular matrix as a driving force in morphogenesis. Progress in Biophysics and Molecular Biology, 2018, 137, 46-51.	2.9	13
31	Developmental constraint through negative pleiotropy in the zygomatic arch. EvoDevo, 2018, 9, 3.	3.2	6
32	Microenvironmental Regulation of Chondrocyte Plasticity in Endochondral Repairâ€"A New Frontier for Developmental Engineering. Frontiers in Bioengineering and Biotechnology, 2018, 6, 58.	4.1	30
33	Simulation enabled search for explanatory mechanisms of the fracture healing process. PLoS Computational Biology, 2018, 14, e1005980.	3.2	3
34	Quantifying the Genotype to Phenotype Map in Developing Mice. FASEB Journal, 2018, 32, lb529.	0.5	0
35	Cartilage to bone transformation during fracture healing is coordinated by the invading vasculature and induction of the core pluripotency genes. Development (Cambridge), 2017, 144, 221-234.	2.5	171
36	Quantifying threeâ€dimensional morphology and RNA from individual embryos. Developmental Dynamics, 2017, 246, 431-436.	1.8	7

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37	Craniofacial diversification in the domestic pigeon and the evolution of the avian skull. Nature Ecology and Evolution, 2017, 1, 95.	7.8	29
38	Reverse engineering development: Crosstalk opportunities between developmental biology and tissue engineering. Journal of Orthopaedic Research, 2017, 35, 2356-2368.	2.3	20
39	Developmental nonlinearity drives phenotypic robustness. Nature Communications, 2017, 8, 1970.	12.8	81
40	Effects of Aging on Fracture Healing. Current Osteoporosis Reports, 2017, 15, 601-608.	3.6	157
41	Stimulating Fracture Healing in Ischemic Environments: Does Oxygen Direct Stem Cell Fate during Fracture Healing?. Frontiers in Cell and Developmental Biology, 2017, 5, 45.	3.7	26
42	Shaping the sound of voice. ELife, 2017, 6, .	6.0	0
43	Genetic structure of phenotypic robustness in the collaborative cross mouse diallel panel. Journal of Evolutionary Biology, 2016, 29, 1737-1751.	1.7	19
44	Development Shapes a Consistent Inbreeding Effect in Mouse Crania of Different Line Crosses. Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, 2016, 326, 474-488.	1.3	11
45	FGFRâ€associated craniosynostosis syndromes and gastrointestinal defects. American Journal of Medical Genetics, Part A, 2016, 170, 3215-3221.	1.2	13
46	Genetics of murine craniofacial morphology: diallel analysis of the eight founders of the Collaborative Cross. Journal of Anatomy, 2016, 228, 96-112.	1.5	29
47	Future Treatment Strategies for Delayed Bone Healing. Journal of the American Academy of Orthopaedic Surgeons, The, 2016, 24, e134-e135.	2.5	7
48	Facial surface morphology predicts variation inÂinternal skeletal shape. American Journal of Orthodontics and Dentofacial Orthopedics, 2016, 149, 501-508.	1.7	28
49	Beyond cell proliferation in avian facial morphogenesis. Developmental Dynamics, 2016, 245, 190-196.	1.8	3
50	Promoting Endochondral Bone Repair Using Human Osteoarthritic Articular Chondrocytes. Tissue Engineering - Part A, 2016, 22, 427-435.	3.1	13
51	Tissue engineering strategies for promoting vascularized bone regeneration. Bone, 2016, 83, 197-209.	2.9	145
52	Tfap2a-dependent changes in facial morphology result in clefting that can be ameliorated by a reduction in Fgf8 gene dosage. DMM Disease Models and Mechanisms, 2015, 8, 31-43.	2.4	40
53	Impact of retinoic acid exposure on midfacial shape variation and manifestation of holoprosencephaly inTwisted gastrulationmutant mice. DMM Disease Models and Mechanisms, 2015, 8, 139-46.	2.4	19
54	Facial Morphogenesis. Current Topics in Developmental Biology, 2015, 115, 299-320.	2.2	83

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55	Morphometrics, 3D Imaging, and Craniofacial Development. Current Topics in Developmental Biology, 2015, 115, 561-597.	2.2	61
56	Stem Cell Therapies in Orthopaedic Trauma. Journal of Orthopaedic Trauma, 2015, 29, S24-S27.	1.4	43
57	Signals from the brain induce variation in avian facial shape. Developmental Dynamics, 2015, 244, 1133-1143.	1.8	52
58	Correlations Between the Morphology of Sonic Hedgehog Expression Domains and Embryonic Craniofacial Shape. Evolutionary Biology, 2015, 42, 379-386.	1.1	22
59	A dynamic Shh expression pattern, regulated by SHH and BMP signaling, coordinates fusion of primordia in the amniote face. Development (Cambridge), 2015, 142, 567-574.	2.5	59
60	Role of Muscle Stem Cells During Skeletal Regeneration. Stem Cells, 2015, 33, 1501-1511.	3.2	65
61	Divergence of craniofacial developmental trajectories among avian embryos. Developmental Dynamics, 2015, 244, 1158-1167.	1.8	33
62	The synergistic effect of micro-topography and biochemical culture environment to promote angiogenesis and osteogenic differentiation of human mesenchymal stem cells. Acta Biomaterialia, 2015, 18, 100-111.	8.3	35
63	The Multifaceted Role of the Vasculature in Endochondral Fracture Repair. Frontiers in Endocrinology, 2015, 6, 4.	3.5	104
64	A comparative examination of odontogenic gene expression in both toothed and toothless amniotes. Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, 2015, 324, 255-269.	1.3	20
65	Holoprosencephaly: signaling interactions between the brain and the face, the environment and the genes, and the phenotypic variability in animal models and humans. Wiley Interdisciplinary Reviews: Developmental Biology, 2015, 4, 17-32.	5.9	79
66	Facial development and alterations in FGF signaling in a mouse model of Crouzon Syndrome. FASEB Journal, 2015, 29, 872.11.	0.5	0
67	Mechanisms of FGFâ€Mediated Morphogenesis. FASEB Journal, 2015, 29, 495.3.	0.5	0
68	Let's Face Itâ€"Complex Traits Are Just Not That Simple. PLoS Genetics, 2014, 10, e1004724.	3.5	68
69	Surface landmark quantification of embryonic mouse craniofacial morphogenesis. BMC Developmental Biology, 2014, 14, 31.	2.1	19
70	Modulation of Macrophage Activity During Fracture Repair Has Differential Effects in Young Adult and Elderly Mice. Journal of Orthopaedic Trauma, 2014, 28, S10-S14.	1.4	48
71	Selective estrogen receptor modulation prevents scoliotic curve progression: radiologic and histomorphometric study on a bipedal C57Bl6 mice model. European Spine Journal, 2014, 23, 455-462.	2.2	12
72	Stem Cellâ€"Derived Endochondral Cartilage Stimulates Bone Healing by Tissue Transformation. Journal of Bone and Mineral Research, 2014, 29, 1269-1282.	2.8	159

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73	Delayed Bone Regeneration Is Linked to Chronic Inflammation in Murine Muscular Dystrophy. Journal of Bone and Mineral Research, 2014, 29, 304-315.	2.8	50
74	Embryonic bauplans and the developmental origins of facial diversity and constraint. Development (Cambridge), 2014, 141, 1059-1063.	2.5	112
75	Beneficial effects of oxygen- and lactate-production in scaffold designs. Bone, 2013, 57, 324.	2.9	0
76	Fgf8 dosage determines midfacial integration and polarity within the nasal and optic capsules. Developmental Biology, 2013, 374, 185-197.	2.0	50
77	Disruption of thrombospondinâ€2 accelerates ischemic fracture healing. Journal of Orthopaedic Research, 2013, 31, 935-943.	2.3	21
78	MMP9 regulates the cellular response to inflammation after skeletal injury. Bone, 2013, 52, 111-119.	2.9	84
79	The role of oxygen during fracture healing. Bone, 2013, 52, 220-229.	2.9	90
80	Quantification of shape and cell polarity reveals a novel mechanism underlying malformations resulting from related FGF mutations during facial morphogenesis. Human Molecular Genetics, 2013, 22, 5160-5172.	2.9	30
81	The effect of hypoxia on facial shape variation and disease phenotypes in chicken embryos. DMM Disease Models and Mechanisms, 2013, 6, 915-24.	2.4	21
82	Embryonic origins of novelty and constraint in the amniote upper jaw. FASEB Journal, 2013, 27, 319.3.	0.5	0
83	Creating Rigidly Stabilized Fractures for Assessing Intramembranous Ossification, Distraction Osteogenesis, or Healing of Critical Sized Defects. Journal of Visualized Experiments, 2012, , .	0.3	15
84	The Generation of Variation and the Developmental Basis for Evolutionary Novelty. Journal of Experimental Zoology Part B: Molecular and Developmental Evolution, 2012, 318, 501-517.	1.3	93
85	Neural crest cells pattern the surface cephalic ectoderm during FEZ formation. Developmental Dynamics, 2012, 241, 732-740.	1.8	32
86	Anti-inflammatory treatment increases angiogenesis during early fracture healing. Archives of Orthopaedic and Trauma Surgery, 2012, 132, 1205-1213.	2.4	15
87	The metabolic basis of adolescent idiopathic scoliosis: 2011 report of the â€œmetabolicâ€•workgroup of the Fondation Yves Cotrel. European Spine Journal, 2012, 21, 1033-1042.	2.2	17
88	Signaling by SHH rescues facial defects following blockade in the brain. Developmental Dynamics, 2012, 241, 247-256.	1.8	43
89	The Phenogenomics of Craniofacial Shape. FASEB Journal, 2012, 26, 337.4.	0.5	1
90	A Novel Gene Crispld2 may Contribute to Facial Dysmophology in a Chicken Model of Crouzon's Syndrome. FASEB Journal, 2012, 26, 907.15.	0.5	0

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91	Tissue engineering bone by recapitulating developmental and repair programs offers improved biological outcomes. FASEB Journal, 2012, 26, 917.7.	0.5	0
92	Tissue Interactions that Regulate Facial Morphogenesis. FASEB Journal, 2012, 26, 337.2.	0.5	0
93	Vascular endothelial growth factor improves bone repair in a murine nonunion model. Iowa orthopaedic journal, The, 2012, 32, 90-4.	0.5	19
94	Assessing Signaling Properties of Ectodermal Epithelia During Craniofacial Development. Journal of Visualized Experiments, 2011, , .	0.3	4
95	Mechanical Stability Affects Angiogenesis During Early Fracture Healing. Journal of Orthopaedic Trauma, 2011, 25, 494-499.	1.4	38
96	Impaired remodeling phase of fracture repair in the absence of matrix metalloproteinase-2. DMM Disease Models and Mechanisms, 2011, 4, 203-211.	2.4	59
97	Structured three-dimensional co-culture of mesenchymal stem cells with chondrocytes promotes chondrogenic differentiation without hypertrophy. Osteoarthritis and Cartilage, 2011, 19, 1210-1218.	1.3	121
98	Is decreased bone mineral density associated with development of scoliosis? A bipedal osteopenic rat model. Scoliosis, 2011, 6, 24.	0.4	12
99	Epigenetic integration of the developing brain and face. Developmental Dynamics, 2011, 240, 2233-2244.	1.8	63
100	Mechanisms that underlie coâ€variation of the brain and face. Genesis, 2011, 49, 177-189.	1.6	141
101	Absence of beta3 integrin accelerates early skeletal repair. Journal of Orthopaedic Research, 2010, 28, 32-37.	2.3	11
102	Trauma-Induced Inflammation and Fracture Healing. Journal of Orthopaedic Trauma, 2010, 24, 522-525.	1.4	91
103	Recombinant human bone morphogenetic proteinâ€7 enhances fracture healing in an ischemic environment. Journal of Orthopaedic Research, 2010, 28, 687-696.	2.3	17
104	Action of ILâ€1Î² during fracture healing. Journal of Orthopaedic Research, 2010, 28, 778-784.	2.3	112
105	Rejuvenation of the inflammatory system stimulates fracture repair in aged mice. Journal of Orthopaedic Research, 2010, 28, 1000-1006.	2.3	84
106	Quantitative analyses link modulation of sonic hedgehog signaling to continuous variation in facial growth and shape. Development (Cambridge), 2010, 137, 3405-3409.	2.5	122
107	Multiple roles for CCR2 during fracture healing. DMM Disease Models and Mechanisms, 2010, 3, 451-458.	2.4	152
108	Immunolocalization of BMPs, BMP antagonists, receptors, and effectors during fracture repair. Bone, 2010, 46, 841-851.	2.9	100

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109	A craniosynostosisâ€syndrome related Fgfr2 mutation promotes early craniofacial defects in chick. FASEB Journal, 2010, 24, 452.3.	0.5	0
110	Basic research in orthopedic surgery: Current trends and future directions. Indian Journal of Orthopaedics, 2009, 43, 318.	1.1	8
111	A SHH-responsive signaling center in the forebrain regulates craniofacial morphogenesis via the facial ectoderm. Development (Cambridge), 2009, 136, 107-116.	2.5	162
112	The effect of calmodulin antagonists on scoliosis: bipedal C57BL/6 mice model. European Spine Journal, 2009, 18, 499-505.	2.2	30
113	Deciphering the Palimpsest: Studying the Relationship Between Morphological Integration and Phenotypic Covariation. Evolutionary Biology, 2009, 36, 355-376.	1.1	373
114	Unique organization of the frontonasal ectodermal zone in birds and mammals. Developmental Biology, 2009, 325, 200-210.	2.0	95
115	Comparison of the Melatonin and Calmodulin in Paravertebral Muscle and Platelets of Patients With or Without Adolescent Idiopathic Scoliosis. Spine, 2009, 34, E659-E663.	2.0	43
116	The Effect of Calmodulin Antagonists on Experimental Scoliosis. Spine, 2009, 34, 533-538.	2.0	26
117	Rescuing craniofacial development in an avian model of holoprosencephaly. FASEB Journal, 2009, 23, 472.1.	0.5	0
118	The relationship between variable SHH signaling and the severity of structural defects in the face and brain. FASEB Journal, 2009, 23, 180.5.	0.5	0
119	The effect of early Bone Morphogenetic Protein (BMP) activation on craniofacial development. FASEB Journal, 2009, 23, 472.2.	0.5	0
120	Hypoxia as an Environmental Cause of Holoprosencephaly. FASEB Journal, 2009, 23, 472.3.	0.5	0
121	Effect of age on vascularization during fracture repair. Journal of Orthopaedic Research, 2008, 26, 1384-1389.	2.3	123
122	Effect of bone morphogenetic protein signaling on development of the jaw skeleton. Developmental Dynamics, 2008, 237, 3727-3737.	1.8	23
123	Epithelialâ€Mesenchymal Interactions during Facial Development in Mice. FASEB Journal, 2008, 22, 85.5.	0.5	0
124	Tibial fracture decreases oxygen levels at the site of injury. Iowa orthopaedic journal, The, 2008, 28, 14-21.	0.5	25
125	Signaling by bone morphogenetic proteins directs formation of an ectodermal signaling center that regulates craniofacial development. Developmental Biology, 2007, 312, 103-114.	2.0	83
126	Ischemia leads to delayed union during fracture healing: A mouse model. Journal of Orthopaedic Research, 2007, 25, 51-61.	2.3	162

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127	Effects of delayed stabilization on fracture healing. Journal of Orthopaedic Research, 2007, 25, 1552-1558.	2.3	52
128	Role of Matrix Metalloproteinase 13 in Both Endochondral and Intramembranous Ossification during Skeletal Regeneration. PLoS ONE, 2007, 2, e1150.	2.5	141
129	Patterns of Infantile Hemangiomas: New Clues to Hemangioma Pathogenesis and Embryonic Facial Development. Pediatrics, 2006, 117, 698-703.	2.1	278
130	Assessing angiogenesis during fracture healing. Iowa orthopaedic journal, The, 2006, 26, 17-26.	0.5	48
131	Cellular basis for age-related changes in fracture repair. Journal of Orthopaedic Research, 2005, 23, 1300-1307.	2.3	191
132	Cellular basis for age-related changes in fracture repair. Journal of Orthopaedic Research, 2005, 23, 1300-1307.	2.3	21
133	Molecular interactions coordinating the development of the forebrain and face. Developmental Biology, 2005, 284, 48-61.	2.0	215
134	The Collaborative Cross, a community resource for the genetic analysis of complex traits. Nature Genetics, 2004, 36, 1133-1137.	21.4	1,034
135	Temporal perturbations in sonic hedgehog signaling elicit the spectrum of holoprosencephaly phenotypes. Journal of Clinical Investigation, 2004, 114, 485-494.	8.2	92
136	Temporal perturbations in sonic hedgehog signaling elicit the spectrum of holoprosencephaly phenotypes. Journal of Clinical Investigation, 2004, 114, 485-494.	8.2	150
137	Morphogenesis of blood vessels in the head muscles of avian embryo: Spatial, temporal, and VEGF expression analyses. Developmental Dynamics, 2003, 227, 470-483.	1.8	19
138	A zone of frontonasal ectoderm regulates patterning and growth in the face. Development (Cambridge), 2003, 130, 1749-1758.	2.5	236
139	Prenatal morphogenesis of the human mental foramen. European Journal of Oral Sciences, 2002, 110, 452-459.	1.5	14
140	Myotube heterogeneity in developing chick craniofacial skeletal muscles. Developmental Dynamics, 1999, 214, 178-194.	1.8	36
141	Differentiation of avian craniofacial muscles: I. Patterns of early regulatory gene expression and myosin heavy chain synthesis. Developmental Dynamics, 1999, 216, 96-112.	1.8	152
142	Differentiation of avian craniofacial muscles: I. Patterns of early regulatory gene expression and myosin heavy chain synthesis. , 0, .		2