Cheng-Ming Chuong

List of Publications by Year in Descending Order

127 papers	6,115 citations	47 h-index	76 g-index
133 ext. papers	6,969 ext. citations	8.8 avg, IF	5.61 L-index

#	Paper	IF	Citations
127	Symmetry breaking of tissue mechanics in wound induced hair follicle regeneration of laboratory and spiny mice. *Nature Communications*, **2021**, 12, 2595	17.4	7
126	The feather pattern autosomal barring in chicken is strongly associated with segregation at the MC1R locus. *Pigment Cell and Melanoma Research*, **2021**, 34, 1015-1028	4.5	0
125	The global regulatory logic of organ regeneration: circuitry lessons from skin and its appendages. *Biological Reviews*, **2021**, 96, 2573-2583	13.5	0
124	Global feather orientations changed by electric current. *IScience*, **2021**, 24, 102671	6.1	2
123	Evo-Devo of Scales, Feathers, and Hairs **2021**, 921-937		
122	Tissue Mechanics in Haired Murine Skin: Potential Implications for Skin Aging. *Frontiers in Cell and Developmental Biology*, **2021**, 9, 635340	5.7	0
121	Regional specific differentiation of integumentary organs: SATB2 is involved in □and □keratin gene cluster switching in the chicken. *Developmental Dynamics*, **2021**,	2.9	3
120	Regional Specific Differentiation of Integumentary Organs: Regulation of Gene Clusters within the Avian Epidermal Differentiation Complex and Impacts of SATB2 Overexpression. *Genes*, **2021**, 12,	4.2	2
119	Making region-specific integumentary organs in birds: evolution and modifications. *Current Opinion in Genetics and Development*, **2021**, 69, 103-111	4.9	2
118	A quantitative image-based protocol for morphological characterization of cellular solids in feather shafts. *STAR Protocols*, **2021**, 2, 100661	1.4	
117	The crest phenotype in domestic chicken is caused by a 197 bp duplication in the intron of HOXC10. *G3: Genes, Genomes, Genetics*, **2021**, 11,	3.2	2
116	Human Fetal Scalp Dermal Papilla Enriched Genes and the Role of R-Spondin-1 in the Restoration of Hair Neogenesis in Adult Mouse Cells. *Frontiers in Cell and Developmental Biology*, **2020**, 8, 583434	5.7	2
115	Connectivity between nidopallium caudolateral and visual pathways in color perception of zebra finches. *Scientific Reports*, **2020**, 10, 19382	4.9	1
114	Integrating Bioelectrical Currents and Ca Signaling with Biochemical Signaling in Development and Pathogenesis. *Bioelectricity*, **2020**, 2, 210-220	2	3
113	Folding Keratin Gene Clusters during Skin Regional Specification. *Developmental Cell*, **2020**, 53, 561-576.e9	10.2	9
112	Variations of Mesozoic feathers: Insights from the morphogenesis of extant feather rachises. *Evolution; International Journal of Organic Evolution*, **2020**, 74, 2121-2133	3.8	1
111	The genetic basis for pigmentation phenotypes in poultry. *Burleigh Dodds Series in Agricultural Science*, **2020**, 67-106	2	2

110	Evo-Devo of Scales, Feathers, and Hairs **2020**, 1-17		
109	The Effects of Premature Tooth Extraction and Damage on Replacement Timing in the Green Iguana. *Integrative and Comparative Biology*, **2020**, 60, 581-593	2.8	3
108	Avian Pigment Pattern Formation: Developmental Control of Macro- (Across the Body) and Micro- (Within a Feather) Level of Pigment Patterns. *Frontiers in Cell and Developmental Biology*, **2020**, 8, 620	5.7	7
107	Skin Cyst: A Pathological Dead-End With a New Twist of Morphogenetic Potentials in Organoid Cultures. *Frontiers in Cell and Developmental Biology*, **2020**, 8, 628114	5.7	1
106	Niche Modulation of IGF-1R Signaling: Its Role in Stem Cell Pluripotency, Cancer Reprogramming, and Therapeutic Applications. *Frontiers in Cell and Developmental Biology*, **2020**, 8, 625943	5.7	6
105	Self-organizing hair peg-like structures from dissociated skin progenitor cells: New insights for human hair follicle organoid engineering and Turing patterning in an asymmetric morphogenetic field. *Experimental Dermatology*, **2019**, 28, 355-366	4	12
104	Self-assembly of biological networks via adaptive patterning revealed by avian intradermal muscle network formation. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 10858-10867	11.5	1
103	Instructive role of melanocytes during pigment pattern formation of the avian skin. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 6884-6890	11.5	21
102	Turing patterning with and without a global wave. *PLoS Biology*, **2019**, 17, e3000195	9.7	8
101	Comparative regenerative biology of spiny (Acomys cahirinus) and laboratory (Mus musculus) mouse skin. *Experimental Dermatology*, **2019**, 28, 442-449	4	21
100	The Making of a Flight Feather: Bio-architectural Principles and Adaptation. *Cell*, **2019**, 179, 1409-1423.e17	36.2	16
99	Morpho-regulation in diverse chicken feather formation: Integrating branching modules and sex hormone-dependent morpho-regulatory modules. *Development Growth and Differentiation*, **2019**, 61, 124-138	3	6
98	Regulation of melanocyte stem cells in the pigmentation of skin and its appendages: Biological patterning and therapeutic potentials. *Experimental Dermatology*, **2019**, 28, 395-405	4	22
97	The tension biology of wound healing. *Experimental Dermatology*, **2019**, 28, 464-471	4	56
96	Msx2 Supports Epidermal Competency during Wound-Induced Hair Follicle Neogenesis. *Journal of Investigative Dermatology*, **2018**, 138, 2041-2050	4.3	14
95	Contraction of basal filopodia controls periodic feather branching via Notch and FGF signaling. *Nature Communications*, **2018**, 9, 1345	17.4	20
94	Multiple Regulatory Modules Are Required for Scale-to-Feather Conversion. *Molecular Biology and Evolution*, **2018**, 35, 417-430	8.3	26
93	Spatial and temporal variations in hemodynamic forces initiate cardiac trabeculation. *JCI Insight*, **2018**, 3,	9.9	27

92	Transcriptome analyses of reprogrammed feather / scale chimeric explants revealed co-expressed epithelial gene networks during organ specification. *BMC Genomics*, **2018**, 19, 780	4.5	4
91	Calcium oscillations coordinate feather mesenchymal cell movement by SHH dependent modulation of gap junction networks. *Nature Communications*, **2018**, 9, 5377	17.4	21
90	Comprehensive molecular and cellular studies suggest avian scutate scales are secondarily derived from feathers, and more distant from reptilian scales. *Scientific Reports*, **2018**, 8, 16766	4.9	12
89	Epidermal Darwinism and Competitive Equilibrium within the Epidermis. *Cell Stem Cell*, **2018**, 23, 627-629	18	5
88	Comparative genomics and transcriptomics of Chrysolophus provide insights into the evolution of complex plumage coloration. *GigaScience*, **2018**, 7,	7.6	9
87	Diverse feather shape evolution enabled by coupling anisotropic signalling modules with self-organizing branching programme. *Nature Communications*, **2017**, 8, ncomms14139	17.4	29
86	Genetic Mapping and Biochemical Basis of Yellow Feather Pigmentation in Budgerigars. *Cell*, **2017**, 171, 427-439.e21	56.2	70
85	Heterochronic truncation of odontogenesis in theropod dinosaurs provides insight into the macroevolution of avian beaks. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 10930-10935	11.5	32
84	Getting to the Core of the Dermal Papilla. *Journal of Investigative Dermatology*, **2017**, 137, 2250-2253	4.3	14
83	Self-organization process in newborn skin organoid formation inspires strategy to restore hair regeneration of adult cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E7101-E7110	11.5	69
82	MicroCT Imaging on Living Alligator Teeth Reveals Natural Tooth Cycling. *Methods in Molecular Biology*, **2017**, 1650, 355-362	1.4	0
81	STEM CELLS. Aging, alopecia, and stem cells. *Science*, **2016**, 351, 559-60	33.3	36
80	The "tao" of integuments. *Science*, **2016**, 354, 1533-1534	33.3	19
79	Regulatory Differences in Natal Down Development between Altricial Zebra Finch and Precocial Chicken. *Molecular Biology and Evolution*, **2016**, 33, 2030-43	8.3	10
78	Quorum sensing and other collective regenerative behavior in organ populations. *Current Opinion in Genetics and Development*, **2016**, 40, 138-143	4.9	10
77	Emergence of differentially regulated pathways associated with the development of regional specificity in chicken skin. *BMC Genomics*, **2015**, 16, 22	4.5	9
76	Dynamic imaging of the growth plate cartilage reveals multiple contributors to skeletal morphogenesis. *Nature Communications*, **2015**, 6, 6798	17.4	33
75	Proper BMP Signaling Levels Are Essential for 3D Assembly of Hepatic Cords from Hepatoblasts and Mesenchymal Cells. *Digestive Diseases and Sciences*, **2015**, 60, 3669-80	4	3

74	Topographical mapping of □and □keratins on developing chicken skin integuments: Functional interaction and evolutionary perspectives. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, E6770-9	11.5	53
73	Epigenetic and Environmental Regulation of Skin Appendage Regeneration **2015**, 163-184		
72	Transcriptomic analyses of regenerating adult feathers in chicken. *BMC Genomics*, **2015**, 16, 756	4.5	24
71	Roles of GasderminA3 in Catagen-Telogen Transition During Hair Cycling. *Journal of Investigative Dermatology*, **2015**, 135, 2162-2172	4.3	21
70	Regeneration of reptilian scales after wounding: neogenesis, regional difference, and molecular modules. *Regeneration (Oxford, England)*, **2014**, 1, 15-26		25
69	Macroenvironmental regulation of hair cycling and collective regenerative behavior. *Cold Spring Harbor Perspectives in Medicine*, **2014**, 4, a015198	5.4	36
68	SnapShot: Branching Morphogenesis. *Cell*, **2014**, 158, 1212-1212.e1	56.2	19
67	Regenerative hair waves in aging mice and extra-follicular modulators follistatin, dkk1, and sfrp4. *Journal of Investigative Dermatology*, **2014**, 134, 2086-2096	4.3	55
66	Dkk2/Frzb in the dermal papillae regulates feather regeneration. *Developmental Biology*, **2014**, 387, 167-78	3.8	24
65	Genomic organization, transcriptomic analysis, and functional characterization of avian □and □keratins in diverse feather forms. *Genome Biology and Evolution*, **2014**, 6, 2258-73	3.9	44
64	An integrative approach to understanding bird origins. *Science*, **2014**, 346, 1253293	33.3	178
63	Module-based complexity formation: periodic patterning in feathers and hairs. *Wiley Interdisciplinary Reviews: Developmental Biology*, **2013**, 2, 97-112	5.9	38
62	Local circadian clock gates cell cycle progression of transient amplifying cells during regenerative hair cycling. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, E2106-15	11.5	99
61	Specialized stem cell niche enables repetitive renewal of alligator teeth. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, E2009-18	11.5	80
60	Feather regeneration as a model for organogenesis. *Development Growth and Differentiation*, **2013**, 55, 139-48	3	33
59	Shaping organs by a wingless-int/Notch/nonmuscle myosin module which orients feather bud elongation. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, E1452-61	11.5	25
58	Competitive balance of intrabulge BMP/Wnt signaling reveals a robust gene network ruling stem cell homeostasis and cyclic activation. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 1351-6	11.5	122
57	Physiological regeneration of skin appendages and implications for regenerative medicine. *Physiology*, **2012**, 27, 61-72	9.8	54

56	Progressive alopecia reveals decreasing stem cell activation probability during aging of mice with epidermal deletion of DNA methyltransferase 1. *Journal of Investigative Dermatology*, **2012**, 132, 2681-90	4.3	59
55	Homology and Potential Cellular and Molecular Mechanisms for the Development of Unique Feather Morphologies in Early Birds. *Geosciences (Switzerland)*, **2012**, 2, 157-177	2.7	48
54	Roles of EphB3/ephrin-B1 in feather morphogenesis. *International Journal of Developmental Biology* , **2012**, 56, 719-28	1.9	11
53	From buds to follicles: matrix metalloproteinases in developmental tissue remodeling during feather morphogenesis. *Differentiation*, **2011**, 81, 307-14	3.5	22
52	The cycling hair follicle as an ideal systems biology research model. *Experimental Dermatology*, **2010**, 19, 707-13	4	63
51	Reptile scale paradigm: Evo-Devo, pattern formation and regeneration. *International Journal of Developmental Biology*, **2009**, 53, 813-26	1.9	101
50	Analyses of regenerative wave patterns in adult hair follicle populations reveal macro-environmental regulation of stem cell activity. *International Journal of Developmental Biology*, **2009**, 53, 857-68	1.9	49
49	The river of stem cells. *Cell Stem Cell*, **2009**, 4, 100-2	18	14
48	Spots and stripes: pleomorphic patterning of stem cells via p-ERK-dependent cell chemotaxis shown by feather morphogenesis and mathematical simulation. *Developmental Biology*, **2009**, 334, 369-82	3.1	50
47	Pattern formation today. *International Journal of Developmental Biology*, **2009**, 53, 653-8	1.9	20
46	026Altered Skin Wound Healing in Homeobox Gene Msx-2 Knockout Mice. *Wound Repair and Regeneration*, **2008**, 13, A4-A27	3.6	
45	Cyclic dermal BMP signalling regulates stem cell activation during hair regeneration. *Nature*, **2008**, 451, 340-4	50.4	507
44	Defining hair follicles in the age of stem cell bioengineering. *Journal of Investigative Dermatology*, **2007**, 127, 2098-100	4.3	43
43	Molecular signaling in feather morphogenesis. *Current Opinion in Cell Biology*, **2006**, 18, 730-41	9	76
42	Wnt3a gradient converts radial to bilateral feather symmetry via topological arrangement of epithelia. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 951-5	11.5	75
41	Developmental biology. The Turing model comes of molecular age. *Science*, **2006**, 314, 1397-8	33.3	143
40	Engineering stem cells into organs: topobiological transformations demonstrated by beak, feather, and other ectodermal organ morphogenesis. *Current Topics in Developmental Biology*, **2006**, 72, 237-74	5.3	30
39	Mapping stem cell activities in the feather follicle. *Nature*, **2005**, 438, 1026-9	50.4	104

38	Evo-Devo of amniote integuments and appendages.. *International Journal of Developmental Biology* , **2004**, 48, 249-270	1.9	151
37	The biology of feather follicles.. *International Journal of Developmental Biology*, **2004**, 48, 181-191	1.9	117
36	Integument pattern formation involves genetic and epigenetic controls: feather arrays simulated by digital hormone models.. *International Journal of Developmental Biology*, **2004**, 48, 117-135	1.9	97
35	Sculpting skin appendages out of epidermal layers via temporally and spatially regulated apoptotic events. *Journal of Investigative Dermatology*, **2004**, 122, 1348-55	4.3	37
34	Rooster feathering, androgenic alopecia, and hormone-dependent tumor growth: what is in common?. *Differentiation*, **2004**, 72, 474-88	3.5	26
33	Distinct Wnt members regulate the hierarchical morphogenesis of skin regions (spinal tract) and individual feathers. *Mechanisms of Development*, **2004**, 121, 157-71	1.7	87
32	Molecular shaping of the beak. *Science*, **2004**, 305, 1465-6	33.3	202
31	Morpho-regulation of ectodermal organs: integument pathology and phenotypic variations in K14-Noggin engineered mice through modulation of bone morphogenic protein pathway. *American Journal of Pathology*, **2004**, 164, 1099-114	5.8	109
30	The biology of feather follicles. *International Journal of Developmental Biology*, **2004**, 48, 181-91	1.9	60
29	Evo-Devo of amniote integuments and appendages. *International Journal of Developmental Biology*, **2004**, 48, 249-70	1.9	73
28	Integument pattern formation involves genetic and epigenetic controls: feather arrays simulated by digital hormone models. *International Journal of Developmental Biology*, **2004**, 48, 117-35	1.9	41
27	Development and evolution of the amniote integument: current landscape and future horizon. *The Journal of Experimental Zoology*, **2003**, 298, 1-11		25
26	Adaptation to the sky: Defining the feather with integument fossils from mesozoic China and experimental evidence from molecular laboratories. *The Journal of Experimental Zoology*, **2003**, 298, 42-56		61
25	Molecular biology of feather morphogenesis: a testable model for evo-devo research. *The Journal of Experimental Zoology*, **2003**, 298, 109-22		59
24	Shift of localized growth zones contributes to skin appendage morphogenesis: role of the Wnt/beta-catenin pathway. *Journal of Investigative Dermatology*, **2003**, 120, 20-6	4.3	59
23	The morphogenesis of feathers. *Nature*, **2002**, 420, 308-12	50.4	178
22	Synergistic coactivator function by coactivator-associated arginine methyltransferase (CARM) 1 and beta-catenin with two different classes of DNA-binding transcriptional activators. *Journal of Biological Chemistry*, **2002**, 277, 26031-5	5.4	103
21	Skin morphogenesis. Embryonic chicken skin explant cultures. *Methods in Molecular Biology*, **2000**, 136, 101-6	1.4	7

20	beta-catenin in epithelial morphogenesis: conversion of part of avian foot scales into feather buds with a mutated beta-catenin. *Developmental Biology*, **2000**, 219, 98-114	3.1	133
19	Evo-devo of feathers and scales: building complex epithelial appendages. *Current Opinion in Genetics and Development*, **2000**, 10, 449-56	4.9	113
18	Generation of full-length cDNA library from single human prostate cancer cells. *BioTechniques*, **1999**, 27, 410-2, 414	2.5	16
17	Successive formative stages of precartilaginous mesenchymal condensations in vitro: modulation of cell adhesion by Wnt-7A and BMP-2. *Journal of Cellular Physiology*, **1999**, 180, 314-24	7	75
16	Local inhibitory action of BMPs and their relationships with activators in feather formation: implications for periodic patterning. *Developmental Biology*, **1998**, 196, 11-23	3.1	305
15	Asymmetric expression of Notch/Delta/Serrate is associated with the anterior-posterior axis of feather buds. *Developmental Biology*, **1997**, 188, 181-7	3.1	64
14	Molecular histology in skin appendage morphogenesis. *Microscopy Research and Technique*, **1997**, 38, 452-65	2.8	40
13	Activation of protein kinase A is a pivotal step involved in both BMP-2- and cyclic AMP-induced chondrogenesis. *Journal of Cellular Physiology*, **1997**, 170, 153-65	7	67
12	Local delivery of TGF beta2 can substitute for placode epithelium to induce mesenchymal condensation during skin appendage morphogenesis. *Developmental Biology*, **1996**, 179, 347-59	3.1	46
11	Sonic Hedgehog in feather morphogenesis: induction of mesenchymal condensation and association with cell death. *Developmental Dynamics*, **1996**, 207, 157-70	2.9	118
10	Early events during avian skin appendage regeneration: dependence on epithelial-mesenchymal interaction and order of molecular reappearance. *Journal of Investigative Dermatology*, **1996**, 107, 639-46	4.3	104
9	Sonic hedgehog in feather morphogenesis: Induction of mesenchymal condensation and association with cell death **1996**, 207, 157		2
8	Effect of in ovo retinoic acid exposure on forebrain neural crest: in vitro analysis reveals up-regulation of N-CAM and loss of mesenchymal phenotype. *Developmental Dynamics*, **1994**, 200, 89-102	2.9	10
7	The making of a feather: homeoproteins, retinoids and adhesion molecules. *BioEssays*, **1993**, 15, 513-21	4.1	107
6	Tenascin is associated with articular cartilage development. *Developmental Dynamics*, **1993**, 198, 123-34	2.9	68
5	Adhesion molecules in skeletogenesis: II. Neural cell adhesion molecules mediate precartilaginous mesenchymal condensations and enhance chondrogenesis. *Journal of Cellular Physiology*, **1993**, 156, 399-411	7	137
4	Adhesion molecules in skeletogenesis: I. Transient expression of neural cell adhesion molecules (NCAM) in osteoblasts during endochondral and intramembranous ossification. *Journal of Bone and Mineral Research*, **1992**, 7, 1435-46	6.3	47
3	Mechanism of skin morphogenesis. I. Analyses with antibodies to adhesion molecules tenascin, N-CAM, and integrin. *Developmental Biology*, **1992**, 150, 82-98	3.1	86

2	Adhesion molecules in skin development: morphogenesis of feather and hair. *Annals of the New York Academy of Sciences*, **1991**, 642, 263-80	6.5	39
1	Simulating self-organization for multi-robot systems		10