

# Anja Geitmann

## List of Publications by Year in Descending Order

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**Version:** 2024-04-09

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

119 papers	4,873 citations	44 h-index	67 g-index
133 ext. papers	5,645 ext. citations	6.6 avg, IF	6.2 L-index

#	Paper	IF	Citations
119	Biomechanics of hair fibre growth: A multi-scale modeling approach. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2021</b> , 148, 104290	5	2
118	Cytoskeletal regulation of primary plant cell wall assembly. <i>Current Biology</i> , <b>2021</b> , 31, R681-R695	6.3	8
117	Microfluidics-Based Bioassays and Imaging of Plant Cells. <i>Plant and Cell Physiology</i> , <b>2021</b> , 62, 1239-1250	4.9	5
116	Mechanosensitive ion channels contribute to mechanically evoked rapid leaflet movement in <i>Mimosa pudica</i> . <i>Plant Physiology</i> , <b>2021</b> , 187, 1704-1712	6.6	1
115	Form Follows Function: How to Build a Deadly Trap. <i>Cell</i> , <b>2020</b> , 180, 826-828	56.2	
114	Plant biomechanics: An interdisciplinary lens on plant biology. <i>Botany</i> , <b>2020</b> , 98, vii-viii	1.3	1
113	Derotrophic Growth of Pollen Tubes. <i>Plant Physiology</i> , <b>2020</b> , 183, 558-569	6.6	12
112	Fluorescence visualization of cellulose and pectin in the primary plant cell wall. <i>Journal of Microscopy</i> , <b>2020</b> , 278, 164-181	1.9	16
111	Silicone Chambers for Pollen Tube Imaging in Microstructured In Vitro Environments. <i>Methods in Molecular Biology</i> , <b>2020</b> , 2160, 211-221	1.4	0
110	Assembly of a simple scalable device for micromechanical testing of plant tissues. <i>Methods in Cell Biology</i> , <b>2020</b> , 160, 327-348	1.8	
109	Galvanotropic Chamber for Controlled Reorientation of Pollen Tube Growth and Simultaneous Confocal Imaging of Intracellular Dynamics. <i>Methods in Molecular Biology</i> , <b>2020</b> , 2160, 191-200	1.4	
108	Travel Less. Make It Worthwhile. <i>Cell</i> , <b>2020</b> , 182, 790-793	56.2	5
107	Modeling the nonlinear elastic behavior of plant epidermis. <i>Botany</i> , <b>2020</b> , 98, 49-64	1.3	8
106	Plant AP180 N-Terminal Homolog Proteins Are Involved in Clathrin-Dependent Endocytosis during Pollen Tube Growth in <i>Arabidopsis thaliana</i> . <i>Plant and Cell Physiology</i> , <b>2019</b> , 60, 1316-1330	4.9	19
105	Pectin Chemistry and Cellulose Crystallinity Govern Pavement Cell Morphogenesis in a Multi-Step Mechanism. <i>Plant Physiology</i> , <b>2019</b> , 181, 127-141	6.6	53
104	Mechanical Stress Initiates and Sustains the Morphogenesis of Wavy Leaf Epidermal Cells. <i>Cell Reports</i> , <b>2019</b> , 28, 1237-1250.e6	10.6	44
103	Methods to quantify primary plant cell wall mechanics. <i>Journal of Experimental Botany</i> , <b>2019</b> , 70, 3615-3648	6.48	25

102	Plant biomechanics in the 21st century. <i>Journal of Experimental Botany</i> , <b>2019</b> , 70, 3435-3438	7	11
101	Geometrical Details Matter for Mechanical Modeling of Cell Morphogenesis. <i>Developmental Cell</i> , <b>2019</b> , 50, 117-125.e2	10.2	23
100	Finite Element Modeling of Shape Changes in Plant Cells. <i>Plant Physiology</i> , <b>2018</b> , 176, 41-56	6.6	50
99	Cell mechanics of pollen tube growth. <i>Current Opinion in Genetics and Development</i> , <b>2018</b> , 51, 11-17	4.9	19
98	FRAP Experiments Show Pectate Lyases Promote Pollen Germination and Lubricate the Path of the Pollen Tube in Arabidopsis thaliana.. <i>Microscopy and Microanalysis</i> , <b>2018</b> , 24, 1376-1377	0.5	4
97	Tensile Testing of Primary Plant Cells and Tissues <b>2018</b> , 321-347		4
96	Measuring the growth force of invasive plant cells using Flexure integrated Lab-on-a-Chip (FiLoC) <b>2018</b> , 06, 101-109		11
95	Bracing for Abscission. <i>Cell</i> , <b>2018</b> , 173, 1320-1322	56.2	3
94	Cellular growth in plants requires regulation of cell wall biochemistry. <i>Current Opinion in Cell Biology</i> , <b>2017</b> , 44, 28-35	9	75
93	Vesicle Dynamics during Plant Cell Cytokinesis Reveals Distinct Developmental Phases. <i>Plant Physiology</i> , <b>2017</b> , 174, 1544-1558	6.6	22
92	The middle lamella-more than a glue. <i>Physical Biology</i> , <b>2017</b> , 14, 015004	3	43
91	A mechanosensitive Ca channel activity is dependent on the developmental regulator DEK1. <i>Nature Communications</i> , <b>2017</b> , 8, 1009	17.4	47
90	Depletion of the mitotic kinase Cdc5p in Candida albicans results in the formation of elongated buds that switch to the hyphal fate over time in a Ume6p and Hgc1p-dependent manner. <i>Fungal Genetics and Biology</i> , <b>2017</b> , 107, 51-66	3.9	4
89	Pollen Tip Growth: Control of Cellular Morphogenesis Through Intracellular Trafficking <b>2017</b> , 129-148		1
88	Microfluidic- and Microelectromechanical System (MEMS)-Based Platforms for Experimental Analysis of Pollen Tube Growth Behavior and Quantification of Cell Mechanical Properties <b>2017</b> , 87-103		1
87	Probing cell behavior: Combining MEMS (microelectromechanical systems) technology with high resolution live cell imaging <b>2016</b> , 67-68		
86	Actuators Acting without Actin. <i>Cell</i> , <b>2016</b> , 166, 15-7	56.2	14
85	Relating the mechanics of the primary plant cell wall to morphogenesis. <i>Journal of Experimental Botany</i> , <b>2016</b> , 67, 449-61	7	129

84	Influence of Electric Fields and Conductivity on Pollen Tube Growth assessed via Electrical Lab-on-Chip. <i>Scientific Reports</i> , <b>2016</b> , 6, 19812	4.9	19
83	Live cell and immuno-labeling techniques to study gravitational effects on single plant cells. <i>Methods in Molecular Biology</i> , <b>2015</b> , 1309, 209-26	1.4	3
82	Understanding plant cell morphogenesis requires real-time monitoring of cell wall polymers. <i>Current Opinion in Plant Biology</i> , <b>2015</b> , 23, 76-82	9.9	28
81	Mechanics of Interdigitating Morphogenesis in Pavement Cells. <i>Microscopy and Microanalysis</i> , <b>2015</b> , 21, 201-202	0.5	1
80	Microfluidic positioning of pollen grains in lab-on-a-chip for single cell analysis. <i>Journal of Bioscience and Bioengineering</i> , <b>2014</b> , 117, 504-11	3.3	20
79	Optimization of flow assisted entrapment of pollen grains in a microfluidic platform for tip growth analysis. <i>Biomedical Microdevices</i> , <b>2014</b> , 16, 23-33	3.7	13
78	Applications of microfluidics for studying growth mechanisms of tip growing pollen tubes. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , <b>2014</b> , 2014, 6175-8	0.9	1
77	Dynamic, high precision targeting of growth modulating agents is able to trigger pollen tube growth reorientation. <i>Plant Journal</i> , <b>2014</b> , 80, 185-95	6.9	32
76	Live imaging of calcium spikes during double fertilization in Arabidopsis. <i>Nature Communications</i> , <b>2014</b> , 5, 4722	17.4	99
75	Matching Anatomies - Correlating Pollen Tube Anatomy With Pistillar Geometry. <i>Microscopy and Microanalysis</i> , <b>2014</b> , 20, 1278-1279	0.5	
74	Lab-on-a-chip for studying growing pollen tubes. <i>Methods in Molecular Biology</i> , <b>2014</b> , 1080, 237-48	1.4	1
73	Modeling of the Primary Plant Cell Wall in the Context of Plant Development <b>2014</b> , 1-17		1
72	In vitro study of oscillatory growth dynamics of Camellia pollen tubes in microfluidic environment. <i>IEEE Transactions on Biomedical Engineering</i> , <b>2013</b> , 60, 3185-93	5	11
71	Quantification of the Young's modulus of the primary plant cell wall using Bending-Lab-On-Chip (BLOC). <i>Lab on A Chip</i> , <b>2013</b> , 13, 2599-608	7.2	51
70	TipChip: a modular, MEMS-based platform for experimentation and phenotyping of tip-growing cells. <i>Plant Journal</i> , <b>2013</b> , 73, 1057-68	6.9	62
69	The cellular mechanics of an invasive lifestyle. <i>Journal of Experimental Botany</i> , <b>2013</b> , 64, 4709-28	7	49
68	Arabidopsis ASL11/LBD15 is involved in shoot apical meristem development and regulates WUS expression. <i>Planta</i> , <b>2013</b> , 237, 1367-78	4.7	24
67	Quantification of cellular penetrative forces using lab-on-a-chip technology and finite element modeling. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2013</b> , 110, 8093-8	11.5	69

66	Pollen Tubes With More Viscous Cell Walls Oscillate at Lower Frequencies. <i>Mathematical Modelling of Natural Phenomena</i> , <b>2013</b> , 8, 25-34	3	11
65	PDMS Microcantilever-Based Flow Sensor Integration for Lab-on-a-Chip. <i>IEEE Sensors Journal</i> , <b>2013</b> , 13, 601-609	4	46
64	Transport logistics in pollen tubes. <i>Molecular Plant</i> , <b>2013</b> , 6, 1037-52	14.4	69
63	Cell wall assembly and intracellular trafficking in plant cells are directly affected by changes in the magnitude of gravitational acceleration. <i>PLoS ONE</i> , <b>2013</b> , 8, e58246	3.7	17
62	Pollen tube growth: Getting a grip on cell biology through modeling. <i>Mechanics Research Communications</i> , <b>2012</b> , 42, 32-39	2.2	33
61	The role of pectin in plant morphogenesis. <i>BioSystems</i> , <b>2012</b> , 109, 397-402	1.9	130
60	A microfluidic platform for the investigation of elongation growth in pollen tubes. <i>Journal of Micromechanics and Microengineering</i> , <b>2012</b> , 22, 115009	2	21
59	The pollen tube paradigm revisited. <i>Current Opinion in Plant Biology</i> , <b>2012</b> , 15, 618-24	9.9	40
58	Reactive oxygen species are involved in pollen tube initiation in kiwifruit. <i>Plant Biology</i> , <b>2012</b> , 14, 64-76	3.7	57
57	Actin depolymerizing factors ADF7 and ADF10 play distinct roles during pollen development and pollen tube growth. <i>Plant Signaling and Behavior</i> , <b>2012</b> , 7, 879-81	2.5	13
56	The cell wall of the Arabidopsis pollen tube--spatial distribution, recycling, and network formation of polysaccharides. <i>Plant Physiology</i> , <b>2012</b> , 160, 1940-55	6.6	175
55	Persistent symmetry frustration in pollen tubes. <i>PLoS ONE</i> , <b>2012</b> , 7, e48087	3.7	5
54	Pollen tubes and the physical world. <i>Trends in Plant Science</i> , <b>2011</b> , 16, 353-5	13.1	57
53	Regulator or driving force? The role of turgor pressure in oscillatory plant cell growth. <i>PLoS ONE</i> , <b>2011</b> , 6, e18549	3.7	99
52	Gravity research on plants: use of single-cell experimental models. <i>Frontiers in Plant Science</i> , <b>2011</b> , 2, 56	6.2	14
51	A specific role for Arabidopsis TRAPP1 in post-Golgi trafficking that is crucial for cytokinesis and cell polarity. <i>Plant Journal</i> , <b>2011</b> , 68, 234-48	6.9	58
50	Actin is involved in pollen tube tropism through redefining the spatial targeting of secretory vesicles. <i>Traffic</i> , <b>2011</b> , 12, 1537-51	5.7	79
49	Cell wall accumulation of Cu ions and modulation of lignifying enzymes in primary leaves of bean seedlings exposed to excess copper. <i>Biological Trace Element Research</i> , <b>2011</b> , 139, 97-107	4.5	16

48	Modeling pollen tube growth: feeling the pressure to deliver testifiable predictions. <i>Plant Signaling and Behavior</i> , <b>2011</b> , 6, 1828-30	2.5	14
47	Spatial and temporal expression of actin depolymerizing factors ADF7 and ADF10 during male gametophyte development in <i>Arabidopsis thaliana</i> . <i>Plant and Cell Physiology</i> , <b>2011</b> , 52, 1177-92	4.9	32
46	Generating a Cellular Protuberance: Mechanics of Tip Growth. <i>Signaling and Communication in Plants</i> , <b>2011</b> , 117-132	1	4
45	Cupric stress induces oxidative damage marked by accumulation of H <sub>2</sub> O <sub>2</sub> and changes to chloroplast ultrastructure in primary leaves of beans ( <i>Phaseolus vulgaris</i> L.). <i>Acta Biologica Hungarica</i> , <b>2010</b> , 61, 191-203		5
44	Finite element model of polar growth in pollen tubes. <i>Plant Cell</i> , <b>2010</b> , 22, 2579-93	11.6	151
43	Copper toxicity in expanding leaves of <i>Phaseolus vulgaris</i> L.: antioxidant enzyme response and nutrient element uptake. <i>Ecotoxicology and Environmental Safety</i> , <b>2010</b> , 73, 1304-8	7	87
42	Under pressure, cell walls set the pace. <i>Trends in Plant Science</i> , <b>2010</b> , 15, 363-9	13.1	92
41	Morphogenesis of complex plant cell shapes: the mechanical role of crystalline cellulose in growing pollen tubes. <i>Sexual Plant Reproduction</i> , <b>2010</b> , 23, 15-27		58
40	How to shape a cylinder: pollen tube as a model system for the generation of complex cellular geometry. <i>Sexual Plant Reproduction</i> , <b>2010</b> , 23, 63-71		54
39	Structural changes of cell wall and lignifying enzymes modulations in bean roots in response to copper stress. <i>Biological Trace Element Research</i> , <b>2010</b> , 136, 232-40	4.5	16
38	Mechanical modeling and structural analysis of the primary plant cell wall. <i>Current Opinion in Plant Biology</i> , <b>2010</b> , 13, 693-9	9.9	57
37	Not-so-tip-growth. <i>Plant Signaling and Behavior</i> , <b>2009</b> , 4, 136-8	2.5	30
36	Optimization of conditions for germination of cold-stored <i>Arabidopsis thaliana</i> pollen. <i>Plant Cell Reports</i> , <b>2009</b> , 28, 347-57	5.1	43
35	Mechanics and modeling of plant cell growth. <i>Trends in Plant Science</i> , <b>2009</b> , 14, 467-78	13.1	228
34	Polar growth in pollen tubes is associated with spatially confined dynamic changes in cell mechanical properties. <i>Developmental Biology</i> , <b>2009</b> , 334, 437-46	3.1	132
33	Microfilament orientation constrains vesicle flow and spatial distribution in growing pollen tubes. <i>Biophysical Journal</i> , <b>2009</b> , 97, 1822-31	2.9	75
32	Magnitude and direction of vesicle dynamics in growing pollen tubes using spatiotemporal image correlation spectroscopy and fluorescence recovery after photobleaching. <i>Plant Physiology</i> , <b>2008</b> , 147, 1646-58	6.6	146
31	Effect of copper excess on H <sub>2</sub> O <sub>2</sub> accumulation and peroxidase activities in bean roots. <i>Acta Biologica Hungarica</i> , <b>2008</b> , 59, 233-45		12

30	Model for calcium dependent oscillatory growth in pollen tubes. <i>Journal of Theoretical Biology</i> , <b>2008</b> , 253, 363-74	2.3	76
29	Pollen tube growth: coping with mechanical obstacles involves the cytoskeleton. <i>Planta</i> , <b>2007</b> , 226, 405-16	1.7	68
28	Experimental approaches used to quantify physical parameters at cellular and subcellular levels. <i>American Journal of Botany</i> , <b>2006</b> , 93, 1380-90	2.7	68
27	Plant and fungal cytomechanics: quantifying and modeling cellular architectureThis review is one of a selection of papers published in the Special Issue on Plant Cell Biology.. <i>Canadian Journal of Botany</i> , <b>2006</b> , 84, 581-593		19
26	Visualization of the Pollen Tube Cytoskeleton using Structured Illumination Fluorescence Microscopy. <i>Microscopy and Microanalysis</i> , <b>2006</b> , 12, 438-439	0.5	
25	Finite-element analysis of geometrical factors in micro-indentation of pollen tubes. <i>Biomechanics and Modeling in Mechanobiology</i> , <b>2006</b> , 5, 227-36	3.8	47
24	Pectin and the role of the physical properties of the cell wall in pollen tube growth of <i>Solanum chacoense</i> . <i>Planta</i> , <b>2005</b> , 220, 582-92	4.7	221
23	More than a leak sealant. The mechanical properties of callose in pollen tubes. <i>Plant Physiology</i> , <b>2005</b> , 137, 274-86	6.6	132
22	The self-incompatibility response in <i>Papaver rhoeas</i> pollen causes early and striking alterations to organelles. <i>Cell Death and Differentiation</i> , <b>2004</b> , 11, 812-22	12.7	47
21	The local cytomechanical properties of growing pollen tubes correspond to the axial distribution of structural cellular elements. <i>Sexual Plant Reproduction</i> , <b>2004</b> , 17, 9-16		73
20	Cytomechanical properties of papaver pollen tubes are altered after self-incompatibility challenge. <i>Biophysical Journal</i> , <b>2004</b> , 86, 3314-23	2.9	20
19	Alterations in the Actin Cytoskeleton of Pollen Tubes Are Induced by the Self-Incompatibility Reaction in <i>Papaver rhoeas</i> . <i>Plant Cell</i> , <b>2000</b> , 12, 1239	11.6	4
18	The cytoskeleton in plant and fungal cell tip growth. <i>Journal of Microscopy</i> , <b>2000</b> , 198, 218-45	1.9	161
17	Cell Biology of Plant and Fungal Tip Growth -- Getting to the Point. <i>Plant Cell</i> , <b>2000</b> , 12, 1513	11.6	6
16	Alterations in the actin cytoskeleton of pollen tubes are induced by the self-incompatibility reaction in <i>Papaver rhoeas</i> . <i>Plant Cell</i> , <b>2000</b> , 12, 1239-51	11.6	138
15	Signalling and the Cytoskeleton of Pollen Tubes of <i>Papaver rhoeas</i> . <i>Annals of Botany</i> , <b>2000</b> , 85, 49-57	4.1	21
14	Actin Rearrangements in Pollen Tubes are Stimulated by the Self-Incompatibility (SI) Response in <i>Papaver Rhoeas</i> L. <b>2000</b> , 347-360		2
13	Cell Death of Self-Incompatible Pollen Tubes: Necrosis or Apoptosis? <b>1999</b> , 113-137		6

12	The Rheological Properties of the Pollen Tube Cell Wall <b>1999</b> , 283-302		17
11	Ca <sup>2+</sup> channels control the rapid expansions in pulsating growth of <i>Petunia hybrida</i> pollen tubes. <i>Journal of Plant Physiology</i> , <b>1998</b> , 152, 439-447	3.6	59
10	Inhibition of ethylene biosynthesis does not block microtubule re-orientation in wounded pea roots. <i>Protoplasma</i> , <b>1997</b> , 198, 135-142	3.4	12
9	Inhibition of Intracellular Pectin Transport in Pollen Tubes by Monensin, Brefeldin A and Cytochalasin D*. <i>Botanica Acta</i> , <b>1996</b> , 109, 373-381		30
8	The Role of the Cytoskeleton and Dictyosome Activity in the Pulsatory Growth of <i>Nicotiana tabacum</i> and <i>Petunia hybrida</i> Pollen Tubes. <i>Botanica Acta</i> , <b>1996</b> , 109, 102-109		58
7	Ultrastructural immunolocalization of periodic pectin depositions in the cell wall of <i>Nicotiana tabacum</i> pollen tubes. <i>Protoplasma</i> , <b>1995</b> , 187, 168-171	3.4	22
6	Immunogold localization of arabinogalactan proteins, unesterified and esterified pectins in pollen grains and pollen tubes of <i>Nicotiana tabacum</i> L.. <i>Protoplasma</i> , <b>1995</b> , 189, 26-36	3.4	74
5	Immunogold Localization of Pectin and Callose in Pollen Grains and Pollen Tubes of <i>Brugmansia suaveolens</i> [Implications for the Self-Incompatibility Reaction. <i>Journal of Plant Physiology</i> , <b>1995</b> , 147, 225-235	3.6	54
4	Nucleoside intermediates in blasticidin S biosynthesis identified by the in vivo use of enzyme inhibitors. <i>Canadian Journal of Chemistry</i> , <b>1994</b> , 72, 6-11	0.9	9
3	Immunocytochemical localization of pectin in stylar tissues. <i>Micron and Microscopica Acta</i> , <b>1992</b> , 23, 125-126		3
2	The Architecture and Properties of the Pollen Tube Cell Wall 177-200		49
1	Mechanical stress initiates and sustains the morphogenesis of wavy leaf epidermal cells		3