

Ive De Smet

List of Publications by Year in descending order

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116
papers

11,983
citations

28274

55
h-index

29157

104
g-index

130
all docs

130
docs citations

130
times ranked

11189
citing authors

#	ARTICLE	IF	CITATIONS
1	The auxin influx carrier LAX3 promotes lateral root emergence. <i>Nature Cell Biology</i> , 2008, 10, 946-954.	10.3	715
2	Auxin-dependent regulation of lateral root positioning in the basal meristem of <i>Arabidopsis</i> . <i>Development (Cambridge)</i> , 2007, 134, 681-690.	2.5	540
3	Lateral root development in <i>Arabidopsis</i> : fifty shades of auxin. <i>Trends in Plant Science</i> , 2013, 18, 450-458.	8.8	536
4	An abscisic acid-sensitive checkpoint in lateral root development of <i>Arabidopsis</i> . <i>Plant Journal</i> , 2003, 33, 543-555.	5.7	402
5	The roots of a new green revolution. <i>Trends in Plant Science</i> , 2010, 15, 600-607.	8.8	390
6	Root system architecture: insights from <i>Arabidopsis</i> and cereal crops. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2012, 367, 1441-1452.	4.0	366
7	ABA plays a central role in mediating the regulatory effects of nitrate on root branching in <i>Arabidopsis</i> . <i>Plant Journal</i> , 2002, 28, 655-662.	5.7	347
8	Receptor-Like Kinase ACR4 Restricts Formative Cell Divisions in the <i>Arabidopsis</i> Root. <i>Science</i> , 2008, 322, 594-597.	12.6	342
9	Cell Cycle Progression in the Pericycle Is Not Sufficient for SOLITARY ROOT/IAA14-Mediated Lateral Root Initiation in <i>Arabidopsis thaliana</i> . <i>Plant Cell</i> , 2005, 17, 3035-3050.	6.6	309
10	The Plant Peptidome: An Expanding Repertoire of Structural Features and Biological Functions. <i>Plant Cell</i> , 2015, 27, 2095-2118.	6.6	292
11	Bimodular auxin response controls organogenesis in <i>Arabidopsis</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 2705-2710.	7.1	271
12	Receptor-like kinases shape the plant. <i>Nature Cell Biology</i> , 2009, 11, 1166-1173.	10.3	261
13	Lateral Root Initiation or the Birth of a New Meristem. <i>Plant Molecular Biology</i> , 2006, 60, 871-887.	3.9	248
14	A secreted peptide acts on BIN2-mediated phosphorylation of ARFs to potentiate auxin response during lateral root development. <i>Nature Cell Biology</i> , 2014, 16, 66-76.	10.3	245
15	A novel role for abscisic acid emerges from underground. <i>Trends in Plant Science</i> , 2006, 11, 434-439.	8.8	241
16	Lateral root morphogenesis is dependent on the mechanical properties of the overlaying tissues. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 5229-5234.	7.1	233
17	Small Signaling Peptides in <i>Arabidopsis</i> Development: How Cells Communicate Over a Short Distance. <i>Plant Cell</i> , 2012, 24, 3198-3217.	6.6	229
18	Capturing the phosphorylation and protein interaction landscape of the plant TOR kinase. <i>Nature Plants</i> , 2019, 5, 316-327.	9.3	205

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19	Protein Language: Post-Translational Modifications Talking to Each Other. Trends in Plant Science, 2018, 23, 1068-1080.	8.8	199
20	Transcription factor WRKY23 assists auxin distribution patterns during <i>Arabidopsis</i> root development through local control on flavonol biosynthesis. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 1554-1559.	7.1	184
21	ABA promotes quiescence of the quiescent centre and suppresses stem cell differentiation in the <i>Arabidopsis</i> primary root meristem. Plant Journal, 2010, 64, 764-774.	5.7	182
22	Shaping a root system: regulating lateral versus primary root growth. Trends in Plant Science, 2014, 19, 426-431.	8.8	172
23	Asymmetric cell division in land plants and algae: the driving force for differentiation. Nature Reviews Molecular Cell Biology, 2011, 12, 177-188.	37.0	165
24	Diarch Symmetry of the Vascular Bundle in <i>Arabidopsis</i> Root Encompasses the Pericycle and Is Reflected in Distich Lateral Root Initiation. Plant Physiology, 2008, 146, 140-148.	4.8	163
25	Tackling Drought Stress: RECEPTOR-LIKE KINASES Present New Approaches. Plant Cell, 2012, 24, 2262-2278.	6.6	155
26	Receptor Kinase THESEUS1 Is a Rapid Alkalinization Factor 34 Receptor in <i>Arabidopsis</i> . Current Biology, 2018, 28, 2452-2458.e4.	3.9	146
27	The Evolving Complexity of the Auxin Pathway. Plant Cell, 2008, 20, 1738-1746.	6.6	141
28	Unraveling the Evolution of Auxin Signaling. Plant Physiology, 2011, 155, 209-221.	4.8	140
29	Lateral root initiation: one step at a time. New Phytologist, 2012, 193, 867-873.	7.3	139
30	Microbial Reduction and Precipitation of Vanadium by <i>Shewanella oneidensis</i> . Applied and Environmental Microbiology, 2003, 69, 3636-3639.	3.1	135
31	Patterning the axis in plants – auxin in control. Current Opinion in Genetics and Development, 2007, 17, 337-343.	3.3	133
32	Embryogenesis – the humble beginnings of plant life. Plant Journal, 2010, 61, 959-970.	5.7	132
33	Extensive expression regulation and lack of heterologous enzymatic activity of the Class II trehalose metabolism proteins from <i>Arabidopsis thaliana</i> . Plant, Cell and Environment, 2009, 32, 1015-1032.	5.7	131
34	Understanding the RALF family: a tale of many species. Trends in Plant Science, 2014, 19, 664-671.	8.8	131
35	Analyzing Lateral Root Development: How to Move Forward. Plant Cell, 2012, 24, 15-20.	6.6	125
36	Auxin signaling in algal lineages: fact or myth?. Trends in Plant Science, 2009, 14, 182-188.	8.8	121

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37	Look Closely, the Beautiful May Be Small: Precursor-Derived Peptides in Plants. <i>Annual Review of Plant Biology</i> , 2019, 70, 153-186.	18.7	119
38	Transcriptional integration of paternal and maternal factors in the <i>Arabidopsis</i> zygote. <i>Genes and Development</i> , 2017, 31, 617-627.	5.9	114
39	The Auxin-Regulated CrRLK1L Kinase ERULLUS Controls Cell Wall Composition during Root Hair Tip Growth. <i>Current Biology</i> , 2018, 28, 722-732.e6.	3.9	113
40	Auxin triggers a genetic switch. <i>Nature Cell Biology</i> , 2011, 13, 611-615.	10.3	108
41	Message in a bottle: small signalling peptide outputs during growth and development. <i>Journal of Experimental Botany</i> , 2013, 64, 5281-5296.	4.8	104
42	Sequential induction of auxin efflux and influx carriers regulates lateral root emergence. <i>Molecular Systems Biology</i> , 2013, 9, 699.	7.2	104
43	<i>Arabidopsis</i> Aurora Kinases Function in Formative Cell Division Plane Orientation. <i>Plant Cell</i> , 2011, 23, 4013-4024.	6.6	97
44	The Plant PTM Viewer, a central resource for exploring plant protein modifications. <i>Plant Journal</i> , 2019, 99, 752-762.	5.7	97
45	Systems Analysis of Plant Functional, Transcriptional, Physical Interaction, and Metabolic Networks. <i>Plant Cell</i> , 2012, 24, 3859-3875.	6.6	96
46	The Xerobranching Response Represses Lateral Root Formation When Roots Are Not in Contact with Water. <i>Current Biology</i> , 2018, 28, 3165-3173.e5.	3.9	94
47	The CEP family in land plants: evolutionary analyses, expression studies, and role in <i>Arabidopsis</i> shoot development. <i>Journal of Experimental Botany</i> , 2013, 64, 5371-5381.	4.8	92
48	Feeling the Heat: Searching for Plant Thermosensors. <i>Trends in Plant Science</i> , 2019, 24, 210-219.	8.8	89
49	It's Time for Some "Seeing": Novel Tools to Monitor the Ubiquitin Landscape in <i>Arabidopsis thaliana</i> . <i>Plant Cell</i> , 2016, 28, 6-16.	6.6	84
50	CEP5 and XIP1/CEPR1 regulate lateral root initiation in <i>Arabidopsis</i> . <i>Journal of Experimental Botany</i> , 2016, 67, 4889-4899.	4.8	81
51	Synergistic action of auxin and cytokinin mediates aluminum-induced root growth inhibition in <i>Arabidopsis</i> . <i>EMBO Reports</i> , 2017, 18, 1213-1230.	4.5	80
52	EXPANSIN A1-mediated radial swelling of pericycle cells positions anticlinal cell divisions during lateral root initiation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 8597-8602.	7.1	71
53	Developmental Programming of Thermonastic Leaf Movement. <i>Plant Physiology</i> , 2019, 180, 1185-1197.	4.8	70
54	Cell type-specific transcriptome analysis in the early <i>Arabidopsis thaliana</i> embryo. <i>Development (Cambridge)</i> , 2014, 141, 4831-4840.	2.5	69

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55	Designer crops: optimal root system architecture for nutrient acquisition. Trends in Biotechnology, 2014, 32, 597-598.	9.3	66
56	RALFL34 regulates formative cell divisions in Arabidopsis pericycle during lateral root initiation. Journal of Experimental Botany, 2016, 67, 4863-4875.	4.8	66
57	Modulation of <i>Arabidopsis</i> and monocot root architecture by CLAVATA3/EMBRYO SURROUNDING REGION 26 peptide. Journal of Experimental Botany, 2015, 66, 5229-5243.	4.8	62
58	Non-canonical <i>AUX</i> / <i>IAA</i> protein <i>IAA</i> 33 competes with canonical <i>AUX</i> / <i>IAA</i> repressor <i>IAA</i> 5 to negatively regulate auxin signaling. EMBO Journal, 2020, 39, e101515.	7.8	62
59	Tightly controlled WRKY23 expression mediates Arabidopsis embryo development. EMBO Reports, 2013, 14, 1136-1142.	4.5	61
60	A COFRADIC Protocol To Study Protein Ubiquitination. Journal of Proteome Research, 2014, 13, 3107-3113.	3.7	57
61	Developmental Plasticity at High Temperature. Plant Physiology, 2019, 181, 399-411.	4.8	55
62	Up-to-Date Workflow for Plant (Phospho)proteomics Identifies Differential Drought-Responsive Phosphorylation Events in Maize Leaves. Journal of Proteome Research, 2016, 15, 4304-4317.	3.7	50
63	An easy and versatile embedding method for transverse sections. Journal of Microscopy, 2004, 213, 76-80.	1.8	45
64	PP2A-3 interacts with ACR4 and regulates formative cell division in the <i>Arabidopsis</i> root. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1447-1452.	7.1	43
65	Localised ABA signalling mediates root growth plasticity. Trends in Plant Science, 2013, 18, 533-535.	8.8	42
66	Auxin regulation of cell cycle and its role during lateral root initiation. Physiologia Plantarum, 2005, 123, 139-146.	5.2	40
67	Omics and modelling approaches for understanding regulation of asymmetric cell divisions in arabidopsis and other angiosperm plants. Annals of Botany, 2014, 113, 1083-1105.	2.9	38
68	Transcriptional repression of BODENLOS by HD-ZIP transcription factor HB5 in Arabidopsis thaliana. Journal of Experimental Botany, 2013, 64, 3009-3019.	4.8	35
69	The CEP5 Peptide Promotes Abiotic Stress Tolerance, As Revealed by Quantitative Proteomics, and Attenuates the AUX/IAA Equilibrium in Arabidopsis. Molecular and Cellular Proteomics, 2020, 19, 1248-1262.	3.8	35
70	Pericycle. Current Biology, 2014, 24, R378-R379.	3.9	32
71	Early mannitol-triggered changes in the Arabidopsis leaf (phospho)proteome reveal growth regulators. Journal of Experimental Botany, 2018, 69, 4591-4607.	4.8	31
72	Stress granule-associated TaMBF1c confers thermotolerance through regulating specific mRNA translation in wheat (<i>Triticum aestivum</i>). New Phytologist, 2022, 233, 1719-1731.	7.3	31

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73	Temperature-induced changes in the wheat phosphoproteome reveal temperature-regulated interconversion of phosphoforms. <i>Journal of Experimental Botany</i> , 2018, 69, 4609-4624.	4.8	30
74	The membrane-localized protein kinase MAP4K4/TOT3 regulates thermomorphogenesis. <i>Nature Communications</i> , 2021, 12, 2842.	12.8	30
75	A phylogenetic approach to study the origin and evolution of the CRINKLY4 family. <i>Frontiers in Plant Science</i> , 2015, 6, 880.	3.6	28
76	<i>In silico</i> analyses of pericycle cell populations reinforce their relation with associated vasculature in <i>Arabidopsis</i> . <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2012, 367, 1479-1488.	4.0	27
77	Antagonistic peptide technology for functional dissection of CLE peptides revisited. <i>Journal of Experimental Botany</i> , 2015, 66, 5367-5374.	4.8	27
78	Multimodular auxin response controls lateral root development in <i>Arabidopsis</i> . <i>Plant Signaling and Behavior</i> , 2010, 5, 580-582.	2.4	25
79	Plant peptides “taking them to the next level. <i>Journal of Experimental Botany</i> , 2016, 67, 4791-4795.	4.8	24
80	From early farmers to Norman Borlaug “the making of modern wheat. <i>Current Biology</i> , 2017, 27, R858-R862.	3.9	24
81	ROP GAP-dependent interaction between brassinosteroid and ROP2-GTPase signaling controls pavement cell shape in <i>Arabidopsis</i> . <i>Current Biology</i> , 2022, 32, 518-531.e6.	3.9	24
82	Getting to the root of belowground high temperature responses in plants. <i>Journal of Experimental Botany</i> , 2021, , .	4.8	23
83	The Cyclin CYCA3;4 Is a Postprophase Target of the APC/C ^{CCS52A2} E3-Ligase Controlling Formative Cell Divisions in <i>Arabidopsis</i> . <i>Plant Cell</i> , 2020, 32, 2979-2996.	6.6	22
84	The heat is on: how crop growth, development, and yield respond to high temperature. <i>Journal of Experimental Botany</i> , 2021, , .	4.8	21
85	The growing story of (ARABIDOPSIS) CRINKLY 4. <i>Journal of Experimental Botany</i> , 2016, 67, 4835-4847.	4.8	20
86	Warm temperature triggers JOX and ST2A-mediated jasmonate catabolism to promote plant growth. <i>Nature Communications</i> , 2021, 12, 4804.	12.8	20
87	Synthetic molecules: helping to unravel plant signal transduction. <i>Journal of Chemical Biology</i> , 2013, 6, 43-50.	2.2	16
88	Proteome Profiling of Wheat Shoots from Different Cultivars. <i>Frontiers in Plant Science</i> , 2017, 8, 332.	3.6	16
89	Proteome-wide cellular thermal shift assay reveals unexpected cross-talk between brassinosteroid and auxin signaling. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2118220119.	7.1	15
90	Local regulation of auxin transport in root apex transition zone mediates aluminium-induced <i>Arabidopsis</i> root growth inhibition. <i>Plant Journal</i> , 2021, 108, 55-66.	5.7	14

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91	Plant hormone signalling through the eye of the mass spectrometer. <i>Proteomics</i> , 2015, 15, 1113-1126.	2.2	13
92	Fine-Tuning Development Through Antagonistic Peptides: An Emerging Theme. <i>Trends in Plant Science</i> , 2016, 21, 991-993.	8.8	12
93	Unraveling the MAX2 Protein Network in <i>Arabidopsis thaliana</i> : Identification of the Protein Phosphatase PAPP5 as a Novel MAX2 Interactor. <i>Molecular and Cellular Proteomics</i> , 2021, 20, 100040.	3.8	11
94	The Strawberry Tales: Size Matters. <i>Trends in Plant Science</i> , 2019, 24, 1-3.	8.8	10
95	Phosphoproteomics-based peptide ligand-receptor kinase pairing. Commentary on: "A peptide hormone and its receptor protein kinase regulate plant cell expansion". <i>Frontiers in Plant Science</i> , 2015, 6, 224.	3.6	9
96	<i>Arabidopsis</i> research requires a critical re-evaluation of genetic tools. <i>Journal of Experimental Botany</i> , 2018, 69, 3541-3544.	4.8	9
97	The <i>Arabidopsis thaliana</i> CLAVATA3/EMBRYO-SURROUNDING REGION 26 (CLE26) peptide is able to alter root architecture of <i>Solanum lycopersicum</i> and <i>Brassica napus</i> . <i>Plant Signaling and Behavior</i> , 2016, 11, e1118598.	2.4	8
98	The <i>Arabidopsis</i> Root Tip (Phospho)Proteomes at Growth-Promoting versus Growth-Repressing Conditions Reveal Novel Root Growth Regulators. <i>Cells</i> , 2021, 10, 1665.	4.1	8
99	Wandering between hot and cold: temperature dose-dependent responses. <i>Trends in Plant Science</i> , 2022, 27, 1124-1133.	8.8	8
100	Development: CLAVATA1 Joins the Club of Root Stem Cell Regulators. <i>Current Biology</i> , 2013, 23, R245-R247.	3.9	7
101	Peanut Stunt Virus and Its Satellite RNA Trigger Changes in Phosphorylation in <i>N. benthamiana</i> Infected Plants at the Early Stage of the Infection. <i>International Journal of Molecular Sciences</i> , 2018, 19, 3223.	4.1	7
102	Expanding the Mitogen-Activated Protein Kinase (MAPK) Universe: An Update on MAP4Ks. <i>Frontiers in Plant Science</i> , 2020, 11, 1220.	3.6	7
103	Inference of the Genetic Network Regulating Lateral Root Initiation in <i>Arabidopsis thaliana</i> . <i>IEEE/ACM Transactions on Computational Biology and Bioinformatics</i> , 2013, 10, 50-60.	3.0	6
104	Protein kinase and phosphatase control of plant temperature responses. <i>Journal of Experimental Botany</i> , 2021, , .	4.8	6
105	Down the Rabbit Hole – Carrots, Genetics and Art. <i>Trends in Plant Science</i> , 2016, 21, 895-898.	8.8	5
106	Auxin-Responsive (Phospho)proteome Analysis Reveals Key Biological Processes and Signaling Associated with Shoot-Borne Crown Root Development in Rice. <i>Plant and Cell Physiology</i> , 2023, 63, 1968-1979.	3.1	5
107	Evolutionary Aspects of Auxin Signalling. , 2014, , 265-290.		4
108	Watermelons versus Melons: A Matter of Taste. <i>Trends in Plant Science</i> , 2019, 24, 973-976.	8.8	4

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109	Multiple cellular compartments engagement in <i>Nicotiana benthamiana</i> -peanut stunt virus-satRNA interactions revealed by systems biology approach. <i>Plant Cell Reports</i> , 2021, 40, 1247-1267.	5.6	4
110	Auxin analog-induced Ca ²⁺ signaling is independent of inhibition of endosomal aggregation in <i>Arabidopsis</i> roots. <i>Journal of Experimental Botany</i> , 2022, , .	4.8	4
111	Proteome Analysis of <i>Arabidopsis</i> Roots. <i>Methods in Molecular Biology</i> , 2018, 1761, 263-274.	0.9	2
112	Genomes on Canvas: Artist's Perspective on Evolution of Plant-Based Foods. <i>Trends in Plant Science</i> , 2020, 25, 717-719.	8.8	2
113	The Collaboration Between Art History and Genetics – An Unlikely Marriage of Disciplines. <i>Frontiers in Plant Science</i> , 2021, 12, 757439.	3.6	2
114	A Comprehensive Phylogenetic Analysis of the MAP4K Family in the Green Lineage. <i>Frontiers in Plant Science</i> , 2021, 12, 650171.	3.6	1
115	Tips and Tricks for Exogenous Application of Synthetic Post-translationally Modified Peptides to Plants. <i>Methods in Molecular Biology</i> , 2017, 1497, 19-28.	0.9	1
116	The Xerobranching Response Represses Lateral Root Formation When Roots Are Not in Contact With Water. <i>SSRN Electronic Journal</i> , 0, , .	0.4	1