Durgesh K Tripathi

List of Publications by Year
in descending order

130 papers	10,498 citations	50276 46 h-index	38395 95 g-index
179 all docs	179 docs citations	179 times ranked	9362 citing authors

#	Article	IF	Citations
1	Nitric Oxide Ameliorates Zinc Oxide Nanoparticles Phytotoxicity in Wheat Seedlings: Implication of the Ascorbateâ€"Glutathione Cycle. Frontiers in Plant Science, 2017, 8, 1.	3.6	1,394
2	An overview on manufactured nanoparticles in plants: Uptake, translocation, accumulation and phytotoxicity. Plant Physiology and Biochemistry, 2017, 110, 2-12.	5.8	579
3	Silicon nanoparticles more effectively alleviated UV-B stress than silicon in wheat (Triticum aestivum) seedlings. Plant Physiology and Biochemistry, 2017, 110, 70-81.	5.8	411
4	Silicon nanoparticles (SiNp) alleviate chromium (VI) phytotoxicity in Pisum sativum (L.) seedlings. Plant Physiology and Biochemistry, 2015, 96, 189-198.	5.8	407
5	Toxicity of aluminium on various levels of plant cells and organism: A review. Environmental and Experimental Botany, 2017, 137, 177-193.	4.2	343
6	Application of silicon nanoparticles in agriculture. 3 Biotech, 2019, 9, 90.	2.2	328
7	Nitric oxide alleviates silver nanoparticles (AgNps)-induced phytotoxicity in Pisum sativum seedlings. Plant Physiology and Biochemistry, 2017, 110, 167-177.	5.8	291
8	Reactive Oxygen Species (ROS): Beneficial Companions of Plantsâ€™ Developmental Processes. Frontiers in Plant Science, 2016, 7, 1299.	3.6	261
9	Role of Silicon in Mitigation of Heavy Metal Stresses in Crop Plants. Plants, 2019, 8, 71.	3.5	256
10	Uptake, Accumulation and Toxicity of Silver Nanoparticle in Autotrophic Plants, and Heterotrophic Microbes: A Concentric Review. Frontiers in Microbiology, 2017, 08, 07.	3.5	254
11	Silicon Nanoparticles More Efficiently Alleviate Arsenate Toxicity than Silicon in Maize Cultiver and Hybrid Differing in Arsenate Tolerance. Frontiers in Environmental Science, 2016, 4, .	3.3	253
12	Influence of High and Low Levels of Plant-Beneficial Heavy Metal Ions on Plant Growth and Development. Frontiers in Environmental Science, 2016, 4, .	3.3	224
13	The Role of Salicylic Acid in Plants Exposed to Heavy Metals. Molecules, 2020, 25, 540.	3.8	213
14	Impact of exogenous silicon addition on chromium uptake, growth, mineral elements, oxidative stress, antioxidant capacity, and leaf and root structures in rice seedlings exposed to hexavalent chromium. Acta Physiologiae Plantarum, 2012, 34, 279-289.	2.1	196
15	Paradigms of climate change impacts on some major food sources of the world: A review on current knowledge and future prospects. Agriculture, Ecosystems and Environment, 2016, 216, 356-373.	5.3	181
16	Micronutrients and their diverse role in agricultural crops: advances and future prospective. Acta Physiologiae Plantarum, 2015, 37, 1.	2.1	160
17	Silicon-mediated alleviation of Cr(VI) toxicity in wheat seedlings as evidenced by chlorophyll florescence, laser induced breakdown spectroscopy and anatomical changes. Ecotoxicology and Environmental Safety, 2015, 113, 133-144.	6.0	152
18	Differential Phytotoxic Impact of Plant Mediated Silver Nanoparticles (AgNPs) and Silver Nitrate (AgNO3) on Brassica sp.. Frontiers in Plant Science, 2017, 8, 1501.	3.6	137

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19	Revisiting the role of ROS and RNS in plants under changing environment. Environmental and Experimental Botany, 2019, 161, 1-3.	4.2	136
20	Rice seedlings under cadmium stress: effect of silicon on growth, cadmium uptake, oxidative stress, antioxidant capacity and root and leaf structures. Chemistry and Ecology, 2012, 28, 281-291.	1.6	129
21	Acquisition and Homeostasis of Iron in Higher Plants and Their Probable Role in Abiotic Stress Tolerance. Frontiers in Environmental Science, 0, 5, .	3.3	128
22	Significance of silicon uptake, transport, and deposition in plants. Journal of Experimental Botany, 2020, 71, 6703-6718.	4.8	126
23	Morpho-anatomical and biochemical adapting strategies of maize (Zea mays L.) seedlings against lead and chromium stresses. Biocatalysis and Agricultural Biotechnology, 2015, 4, 286-295.	3.1	121
24	Crosstalk between nitric oxide (NO) and abscisic acid (ABA) signalling molecules in higher plants. Environmental and Experimental Botany, 2019, 161, 41-49.	4.2	109
25	Phytotoxic effect of silver nanoparticles in Triticum aestivum: Improper regulation of photosystem I activity as the reason for oxidative damage in the chloroplast. Photosynthetica, 2019, 57, 209-216.	1.7	102
26	Hydrogen sulphide trapeze: Environmental stress amelioration and phytohormone crosstalk. Plant Physiology and Biochemistry, 2018, 132, 46-53.	5.8	97
27	Tolerance and Reduction of Chromium(VI) by Bacillus sp. MNU16 Isolated from Contaminated Coal Mining Soil. Frontiers in Plant Science, 2017, 8, 778.	3.6	96
28	Understanding the plant and nanoparticle interface at transcriptomic and proteomic level: A concentric overview. Plant Gene, 2017, 11, 265-272.	2.3	95
29	Influence of Exogenous Silicon Addition on Aluminium Tolerance in Rice Seedlings. Biological Trace Element Research, 2011, 144, 1260-1274.	3.5	94
30	Alleviation mechanisms of metal(loid) stress in plants by silicon: a review. Journal of Experimental Botany, 2020, 71, 6744-6757.	4.8	93
31	Nitric oxide and hydrogen sulfide: an indispensable combination for plant functioning. Trends in Plant Science, 2021, 26, 1270-1285.	8.8	90
32	New adventitious root formation and primary root biomass accumulation are regulated by nitric oxide and reactive oxygen species in rice seedlings under arsenate stress. Journal of Hazardous Materials, 2019, 361, 134-140.	12.4	87
33	Impact of Nanoparticles on Photosynthesis: Challenges and Opportunities. Materials Focus, 2016, 5, 405-411.	0.4	81
34	Effects of Nano-Materials on Seed Germination and Seedling Growth: Striking the Slight Balance Between the Concepts and Controversies. Materials Focus, 2016, 5, 195-201.	0.4	80
35	LIB spectroscopic and biochemical analysis to characterize lead toxicity alleviative nature of silicon in wheat (Triticum aestivum L.) seedlings. Journal of Photochemistry and Photobiology B: Biology, 2016, 154, 89-98.	3.8	75
36	Differential phytotoxic responses of silver nitrate (AgNO3) and silver nanoparticle (AgNps) in Cucumis sativus L.. Plant Gene, 2017, 11, 255-264.	2.3	74

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37	Understanding Heavy Metal Stress in a Rice Crop: Toxicity, Tolerance Mechanisms, and Amelioration Strategies. Journal of Plant Biology, 2019, 62, 239-253.	2.1	73
38	Aluminum toxicity and aluminum stress-induced physiological tolerance responses in higher plants. Critical Reviews in Biotechnology, 2021, 41, 715-730.	9.0	73
39	Fascinating role of silicon to combat salinity stress in plants: An updated overview. Plant Physiology and Biochemistry, 2021, 162, 110-123.	5.8	70
40	Nanomaterials and microbesâ€™ interactions: a contemporary overview. 3 Biotech, 2019, 9, 68.	2.2	60
41	Regulation of ascorbate-glutathione cycle by exogenous nitric oxide and hydrogen peroxide in soybean roots under arsenate stress. Journal of Hazardous Materials, 2021, 409, 123686.	12.4	59
42	Hydrogen sulfide and nitric oxide signal integration and plant development under stressed/nonâ€stressed conditions. Physiologia Plantarum, 2020, 168, 239-240.	5.2	58
43	Interactive Effect of Silicon (Si) and Salicylic Acid (SA) in Maize Seedlings and Their Mechanisms of Cadmium (Cd) Toxicity Alleviation. Journal of Plant Growth Regulation, 2019, 38, 1587-1597.	5.1	55
44	Silicon crosstalk with reactive oxygen species, phytohormones and other signaling molecules. Journal of Hazardous Materials, 2021, 408, 124820.	12.4	55
45	Regulation of cadmium toxicity in roots of tomato by indole acetic acid with special emphasis on reactive oxygen species production and their scavenging. Plant Physiology and Biochemistry, 2019, 142, 193-201.	5.8	54
46	Avenues of the membrane transport system in adaptation of plants to abiotic stresses. Critical Reviews in Biotechnology, 2019, 39, 861-883.	9.0	53
47	Silicon induces adventitious root formation in rice under arsenate stress with involvement of nitric oxide and indole-3-acetic acid. Journal of Experimental Botany, 2021, 72, 4457-4471.	4.8	53
48	Nitric oxide (NO) and salicylic acid (SA): A framework for their relationship in plant development under abiotic stress. Plant Biology, 2021, 23, 39-49.	3.8	51
49	Synergistic action of silicon nanoparticles and indole acetic acid in alleviation of chromium (CrVI) toxicity in Oryza sativa seedlings. Journal of Biotechnology, 2022, 343, 71-82.	3.8	47
50	Silicon and plant growth promoting rhizobacteria differentially regulate AgNP-induced toxicity in Brassica juncea: Implication of nitric oxide. Journal of Hazardous Materials, 2020, 390, 121806.	12.4	46
51	Structural modifications of plant organs and tissues by metals and metalloids in the environment: A review. Plant Physiology and Biochemistry, 2021, 159, 100-112.	5.8	46
52	Involvement of nitrate reductaseâ€dependent nitric oxide production in magnetoprimingâ€induced salt tolerance in soybean. Physiologia Plantarum, 2020, 168, 422-436.	5.2	44
53	Application of zinc oxide nanoparticles as fertilizer boosts growth in rice plant and alleviates chromium stress by regulating genes involved in oxidative stress. Chemosphere, 2022, 303, 134554.	8.2	44
54	Role of Macronutrients in Plant Growth and Acclimation: Recent Advances and Future Prospective. , 2014, , 197-216.		42

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55	Detection of Biogenic Silica in Leaf Blade, Leaf Sheath, and Stem of Bermuda Grass (Cynodon dactylon) Using LIBS and Phytolith Analysis. Food Biophysics, 2011, 6, 416-423.	3.0	41
56	Plant Responses to Metal Stress. , 2014, , 215-248.		41
57	Assessment of Antioxidant Potential of Plants in Response to Heavy Metals. , 2016, , 97-125.		41
58	Nanoparticles as potential hallmarks of drought stress tolerance in plants. Physiologia Plantarum, 2022, 174, e13665.	5.2	40
59	Silicon and nitric oxideâ€mediated mechanisms of cadmium toxicity alleviation in wheat seedlings. Physiologia Plantarum, 2022, 174, .	5.2	39
60	Chromium (VI)-induced phytotoxicity in river catchment agriculture: evidence from physiological, biochemical and anatomical alterations in <i>Cucumis sativus</i> (L.) used as model species. Chemistry and Ecology, 2016, 32, 12-33.	1.6	38
61	Pongamia pinnata (L.) Pierre tree seedlings offer a model species for arsenic phytoremediation. Plant Gene, 2017, 11, 238-246.	2.3	37
62	Tracing the role of plant proteins in the response to metal toxicity: a comprehensive review. Plant Signaling and Behavior, 2018, 13, e1507401.	2.4	37
63	Heavy metal induced regulation of plant biology: Recent insights. Physiologia Plantarum, 2022, 174, e13688.	5.2	35
64	Recent insights into the impact, fate and transport of cerium oxide nanoparticles in the plant-soil continuum. Ecotoxicology and Environmental Safety, 2021, 221, 112403.	6.0	34
65	Auxin-mediated molecular mechanisms of heavy metal and metalloid stress regulation in plants. Environmental and Experimental Botany, 2022, 196, 104796.	4.2	34
66	Effect of Arsenic on Growth, Arsenic Uptake, Distribution of Nutrient Elements and Thiols in Seedlings of<i>Wrightia arborea</i>(Dennst.) Mabb.. International Journal of Phytoremediation, 2015, 17, 128-134.	3.1	33
67	Liquid assisted pulsed laser ablation synthesized copper oxide nanoparticles (CuO-NPs) and their differential impact on rice seedlings. Ecotoxicology and Environmental Safety, 2019, 176, 321-329.	6.0	33
68	Role of Nanoparticles on Photosynthesis. , 2019, , 103-127.		31
69	Role of Silicon in Enrichment of Plant Nutrients and Protection from Biotic and Abiotic Stresses. , 2014, , 39-56.		30
70	The karrikin â€˜calisthenicsâ€™: Can compounds derived from smoke help in stress tolerance?. Physiologia Plantarum, 2019, 165, 290-302.	5.2	30
71	Phytoremediation Potential and Nutrient Status of Barringtonia acutangula Gaerth. Tree Seedlings Grown Under Different Chromium (CrVI) Treatments. Biological Trace Element Research, 2014, 157, 164-174.	3.5	29
72	Hydrogen sulfide (H2S) underpins the beneficial silicon effects against the copper oxide nanoparticles (CuO NPs) phytotoxicity in Oryza sativa seedlings. Journal of Hazardous Materials, 2021, 415, 124907.	12.4	29

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73	Outstanding Questions on the Beneficial Role of Silicon in Crop Plants. Plant and Cell Physiology, 2022, 63, 4-18.	3.1	29
74	<i>In-Situ</i>Monitoring of Chromium Uptake in Different Parts of the Wheat Seedling (<i>Triticum) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.0	28
75	Laser-Induced Breakdown Spectroscopy and Phytolith Analysis: An Approach to Study the Deposition and Distribution Pattern of Silicon in Different Parts of Wheat (Triticum aestivum L.) Plant. Agricultural Research, 2012, 1, 352-361.	1.7	27
76	Silicon tackles butachlor toxicity in rice seedlings by regulating anatomical characteristics, ascorbate-glutathione cycle, proline metabolism and levels of nutrients. Scientific Reports, 2020, 10, 14078.	3.3	27
77	Dynamic role of iron supply in amelioration of cadmium stress by modulating antioxidative pathways and peroxidase enzymes in mungbean. AoB PLANTS, 2019, 11, plz005.	2.3	26
78	NO and ROS implications in the organization of root system architecture. Physiologia Plantarum, 2020, 168, 473-489.	5.2	26
79	Silicon nanoforms in crop improvement and stress management. Chemosphere, 2022, 305, 135165.	8.2	25
80	Silicon in plant biology: from past to present, and future challenges. Journal of Experimental Botany, 2020, 71, 6699-6702.	4.8	24
81	LASER-INDUCED BREAKDOWN SPECTROSCOPY FOR THE STUDY OF THE PATTERN OF SILICON DEPOSITION IN LEAVES OF<i>SACCHARUM</i>SPECIES. Instrumentation Science and Technology, 2011, 39, 510-521.	1.8	23
82	Nanoparticles as a potential protective agent for arsenic toxicity alleviation in plants. Environmental Pollution, 2022, 300, 118887.	7.5	23
83	Targeting aquaporins to alleviate hazardous metal(loid)s imposed stress in plants. Journal of Hazardous Materials, 2021, 408, 124910.	12.4	22
84	Significance of solute specificity, expression, and gating mechanism of tonoplast intrinsic protein during development and stress response in plants. Physiologia Plantarum, 2021, 172, 258-274.	5.2	22
85	Characterization of rhizobacterial isolates from Brassica juncea for multitrait plant growth promotion and their viability studies on carriers. Environmental Sustainability, 2018, 1, 253-265.	2.8	21
86	Exogenous Mineral Regulation Under Heavy Metal Stress: Advances and Prospects. Biochemistry & Pharmacology: Open Access, 2016, 5, .	0.2	19
87	Differentiating Thamnocalamus Munro from Fargesia Franchet emend. Yi (Bambusoideae, Poaceae): novel evidence from morphological and neural-network analyses. Scientific Reports, 2017, 7, 4192.	3.3	19
88	Role of PGPR in Sustainable Agriculture: Molecular Approach Toward Disease Suppression and Growth Promotion. , 2018, , 259-290.		19
89	Potential Applications and Avenues of Nanotechnology in Sustainable Agriculture. , 2018, , 473-500.		17
90	Interaction of Copper Oxide Nanoparticles With Plants. , 2018, , 297-310.		17

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91	Microprojectile based particle bombardment in development of transgenic indica rice involving AmSOD gene to impart tolerance to salinity. Plant Gene, 2019, 19, 100183.	2.3	16
92	Silica nanoparticles: the rising star in plant disease protection. Trends in Plant Science, 2022, 27, 7-9.	8.8	16
93	Nano-priming: Impression on the beginner of plant life. Plant Stress, 2022, 5, 100091.	5.5	16
94	Spectroscopic investigation of wheat grains (Triticum aestivum) infected by wheat seed gall nematodes (Anguina tritici). Biocatalysis and Agricultural Biotechnology, 2017, 9, 58-66.	3.1	15
95	Typological and Frequency Based Study of Opaline Silica (Phytolith) Deposition in Two Common Indian Sorghum L. Species. Proceedings of the National Academy of Sciences India Section B - Biological Sciences, 2013, 83, 97-104.	1.0	14
96	Elemental Mapping of Lithium Diffusion in Doped Plant Leaves Using Laser-Induced Breakdown Spectroscopy (LIBS). Applied Spectroscopy, 2019, 73, 387-394.	2.2	14
97	Microscopic, elemental and molecular spectroscopic investigations of root-knot nematode infested okra plant roots. Vacuum, 2018, 158, 126-135.	3.5	13
98	Photoreceptors mapping from past history till date. Journal of Photochemistry and Photobiology B: Biology, 2016, 162, 223-231.	3.8	12
99	Plants and Carbon Nanotubes (CNTs) Interface: Present Status and Future Prospects. , 2017, , 317-340.		12
100	Magnetopriming effects on arsenic stressâ€induced morphological and physiological variations in soybean involving synchrotron imaging. Physiologia Plantarum, 2021, 173, 88-99.	5.2	12
101	Silicon and nitric oxide interplay alleviates copper induced toxicity in mung bean seedlings. Plant Physiology and Biochemistry, 2021, 167, 713-722.	5.8	12
102	Heavy metal stress and plant life: uptake mechanisms, toxicity, and alleviation. , 2020, , 271-287.		11
103	Current Scenario of Root Exudateâ€"Mediated Plant-Microbe Interaction and Promotion of Plant Growth. , 2017, , 349-369.		10
104	Versatile role of silicon in cereals: Health benefits, uptake mechanism, and evolution. Plant Physiology and Biochemistry, 2021, 165, 173-186.	5.8	10
105	Iron oxide nanoparticles impart cross tolerance to arsenate stress in rice roots through involvement of nitric oxide. Environmental Pollution, 2022, 307, 119320.	7.5	10
106	Morphology, Diversity and Frequency Based Exploration of Phytoliths in Pennisetum typhoides Rich. The National Academy of Sciences, India, 2012, 35, 285-289.	1.3	9
107	Glutathione and Phytochelatins Mediated Redox Homeostasis and Stress Signal Transduction in Plants. , 2016, , 285-310.		9
108	Exploring the Role of Plant-Microbe Interactions in Improving Soil Structure and Function Through Root Exudation: A Key to Sustainable Agriculture. , 2017, , 467-487.		9

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109	Exogenous addition of silicon alleviates metsulfuron methyl induced stress in wheat seedlings. Plant Physiology and Biochemistry, 2021, 167, 705-712.	5.8	9
110	An efficient approach of Laser Induced Breakdown Spectroscopy (LIBS) and ICAP-AES to detect the elemental profile of Ocimum L. species. Biocatalysis and Agricultural Biotechnology, 2015, 4, 471-479.	3.1	8
111	Current Trends of Engineered Nanoparticles (ENPs) in Sustainable Agriculture: An Overview. , 2016, 6, .		8
112	Availability and Risk Assessment of Nanoparticles in Living Systems. , 2018, , 1-31.		8
113	Histochemical Techniques in Plant Science: More Than Meets the Eye. Plant and Cell Physiology, 2021, 62, 1509-1527.	3.1	7
114	Silicon bioavailability in exocarp of Cucumis sativus Linn.. 3 Biotech, 2017, 7, 386.	2.2	6
115	Emerging Significance of Rhizospheric Probiotics and Its Impact on Plant Health: Current Perspective Towards Sustainable Agriculture. , 2017, , 233-251.		6
116	Exploring Plant-Mediated Copper, Iron, Titanium, and Cerium Oxide Nanoparticles and Their Impacts. , 2018, , 175-194.		6
117	Metalloids in plants: A systematic discussion beyond description. Annals of Applied Biology, 2022, 180, 7-25.	2.5	5
118	Endogenous indoleâ€3â€acetic acid and nitric oxide are required for calciumâ€mediated alleviation of copper oxide nanoparticles toxicity in wheat seedlings. Physiologia Plantarum, 2021, 173, 2262-2275.	5.2	5
119	Ca2+ sensor-mediated ROS homeostasis: defense without yield penalty. Trends in Plant Science, 2022, 27, 834-836.	8.8	5
120	Arsenite: the umpire of arsenate perception and responses in plants. Trends in Plant Science, 2022, 27, 420-422.	8.8	4
121	Comparative Study of Silicified Trichomes of Some Luffa Mill. Species. The National Academy of Sciences, India, 2014, 37, 181-186.	1.3	3
122	A potential contribution of achene micromorphology and phytolith analysis in describing the systematics of genus Bolboschoenus from India. Plant Systematics and Evolution, 2015, 301, 955-966.	0.9	3
123	Metalloids in plant biology: New avenues in their research. Journal of Hazardous Materials, 2022, 422, 126738.	12.4	3
124	HPCA1 and HSL3: two plasma membrane proteins that probably cooperate to modulate H2O2 signalling under drought conditions. Plant Growth Regulation, 2022, 98, 1-3.	3.4	3
125	Plant-Microbe-Soil Interactions for Reclamation of Degraded Soils: Potential and Challenges. Microorganisms for Sustainability, 2019, , 147-173.	0.7	2
126	Green Synthesis of Silver Nanoparticles from Bark Extract of <i>Terminalia arjuna</i> and their Application as Next Generation Antibacterial Agents. Current Nanoscience, 2022, 18, 743-757.	1.2	2

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127	Recent biotechnological avenues in crop improvement and stress management. Journal of Biotechnology, 2022, 349, 21-24.	3.8	1
128	Data on optimization of microprojectile bombardment parameters in development of salinity tolerant transgenic lines. Data in Brief, 2020, 29, 105305.	1.0	0
129	New avenues of silicon research in plant biology. Plant Physiology and Biochemistry, 2021, 167, 955-957.	5.8	0
130	Chapter 4 Silicon: A Potential Element to Impart Resistance to Photosynthetic Machinery under Different Abiotic Stresses. , 2016, , 67-82.		0