Artur Zdunek

List of Publications by Year
in descending order

105	4,036	35	59
papers	citations	h-index (109137)	g-index (133063)

106	106	106	3904
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Use of FT-IR Spectra and PCA to the Bulk Characterization of Cell Wall Residues of Fruits and Vegetables Along a Fraction Process. Food Biophysics, 2013, 8, 29-42.	1.4	295
2	Structure-Related Gelling of Pectins and Linking with Other Natural Compounds: A Review. Polymers, 2018, 10, 762.	2.0	242
3	Isolation and Characterization of Cellulose from Different Fruit and Vegetable Pomaces. Polymers, 2017, 9, 495.	2.0	178
4	FT-IR and FT-Raman characterization of non-cellulosic polysaccharides fractions isolated from plant cell wall. Carbohydrate Polymers, 2016, 154, 48-54.	5.1	157
5	Sensing the Structural Differences in Cellulose from Apple and Bacterial Cell Wall Materials by Raman and FT-IR Spectroscopy. Sensors, 2011, 11, 5543-5560.	2.1	143
6	The primary, secondary, and structures of higher levels of pectin polysaccharides. Comprehensive Reviews in Food Science and Food Safety, 2021, 20, 1101-1117.	5.9	126
7	The biospeckle method for the investigation of agricultural crops: A review. Optics and Lasers in Engineering, 2014, 52, 276-285.	2.0	108
8	Raman imaging of changes in the polysaccharides distribution in the cell wall during apple fruit development and senescence. Planta, 2016, 243, 935-945.	1.6	101
9	Combining FT-IR spectroscopy and multivariate analysis for qualitative and quantitative analysis of the cell wall composition changes during apples development. Carbohydrate Polymers, 2015, 115, 93-103.	5.1	100
10	The self-assembled network and physiological degradation of pectins in carrot cell walls. Food Hydrocolloids, 2015, 43, 41-50.	5.6	98
11	Imaging of polysaccharides in the tomato cell wall with Raman microspectroscopy. Plant Methods, 2014, 10, 14.	1.9	92
12	Evaluation of the Nanostructure of Pectin, Hemicellulose and Cellulose in the Cell Walls of Pears of Different Texture and Firmness. Food and Bioprocess Technology, 2014, 7, 3525-3535.	2.6	84
13	The relation of apple texture with cell wall nanostructure studied using an atomic force microscope. Carbohydrate Polymers, 2013, 92, 128-137.	5.1	66
14	Calcium effect on mechanical properties of model cell walls and apple tissue. Journal of Food Engineering, 2011, 102, 217-223.	2.7	64
15	Determination of the Elastic Properties of Tomato Fruit Cells with an Atomic Force Microscope. Sensors, 2013, 13, 12175-12191.	2.1	62
16	Changes of pectin nanostructure and cell wall stiffness induced in vitro by pectinase. Carbohydrate Polymers, 2017, 161, 197-207.	5.1	59
17	Recent advances in interactions between polyphenols and plant cell wall polysaccharides as studied using an adsorption technique. Food Chemistry, 2022, 373, 131487.	4.2	57
18	INFLUENCE OF CELL SIZE AND CELL WALL VOLUME FRACTION ON FAILURE PROPERTIES OF POTATO AND CARROT TISSUE. Journal of Texture Studies, 2005, 36, 25-43.	1.1	56

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19	The stiffening of the cell walls observed during physiological softening of pears. Planta, 2016, 243, 519-529.	1.6	55
20	Structural, mechanical and enzymatic study of pectin and cellulose during mango ripening. Carbohydrate Polymers, 2018, 196, 313-321.	5.1	53
21	CRISPNESS AND CRUNCHINESS JUDGMENT OF APPLES BASED ON CONTACT ACOUSTIC EMISSION. Journal of Texture Studies, 2010, 41, 75-91.	1.1	51
22	Study on dietary fibre by Fourier transform-infrared spectroscopy and chemometric methods. Food Chemistry, 2016, 196, 114-122.	4.2	51
23	Structure and functionality of Rhamnogalacturonan I in the cell wall and in solution: A review. Carbohydrate Polymers, 2022, 278, 118909.	5.1	50
24	Mechanical characteristics of artificial cell walls. Journal of Food Engineering, 2010, 96, 287-294.	2.7	48
25	New contact acoustic emission detector for texture evaluation of apples. Journal of Food Engineering, 2010, 99, 83-91.	2.7	48
26	Changes in cell wall stiffness and microstructure in ultrasonically treated apple. Journal of Food Engineering, 2017, 197, 1-8.	2.7	48
27	Rheological and chemical properties of pectin enriched fractions from different sources extracted with citric acid. Carbohydrate Polymers, 2017, 156, 443-451.	5.1	48
28	Relation of Biospeckle Activity with Quality Attributes of Apples. Sensors, 2011, 11, 6317-6327.	2.1	47
29	Effect of Ca2+, Fe2+ and Mg2+ on rheological properties of new food matrix made of modified cell wall polysaccharides from apple. Carbohydrate Polymers, 2015, 133, 547-555.	5.1	46
30	Evaluation of Structure and Assembly of Xyloglucan from Tamarind Seed (Tamarindus indica L.) with Atomic Force Microscopy. Food Biophysics, 2015, 10, 396-402.	1.4	46
31	Influence of chitosan addition on the mechanical and antibacterial properties of carrot cellulose nanofibre film. Cellulose, 2019, 26, 9613-9629.	2.4	44
32	Early detection of fungal infection of stored apple fruit with optical sensors â€“ Comparison of biospeckle, hyperspectral imaging and chlorophyll fluorescence. Food Control, 2018, 85, 327-338.	2.8	43
33	Evaluation of pectin nanostructure by atomic force microscopy in blanched carrot. LWT - Food Science and Technology, 2017, 84, 658-667.	2.5	42
34	Prediction of the nanomechanical properties of apple tissue during its ripening process from its firmness, color and microstructural parameters. Innovative Food Science and Emerging Technologies, 2017, 39, 79-87.	2.7	42
35	Effect of Storage on Rheology of Water-Soluble, Chelate-Soluble and Diluted Alkali-Soluble Pectin in Carrot Cell Walls. Food and Bioprocess Technology, 2015, 8, 171-180.	2.6	39
36	Application of the Biospeckle Method for Monitoring Bullâ€™s Eye Rot Development and Quality Changes of Apples Subjected to Various Storage Methodsâ€"Preliminary Studies. Sensors, 2012, 12, 3215-3227.	2.1	36

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37	Temperature effect on apple biospeckle activity evaluated with different indices. Postharvest Biology and Technology, 2012, 67, 118-123.	2.9	36
38	Finite element modelling of the mechanical behaviour of onion epidermis with incorporation of nonlinear properties of cell walls and real tissue geometry. Journal of Food Engineering, 2014, 123, 50-59.	2.7	36
39	Changing of biochemical parameters and cell wall polysaccharides distribution during physiological development of tomato fruit. Plant Physiology and Biochemistry, 2017, 119, 328-337.	2.8	36
40	EFFECT OF MANNITOL TREATMENT ON ULTRASOUND EMISSION DURING TEXTURE PROFILE ANALYSIS OF POTATO AND APPLE TISSUE. Journal of Texture Studies, 2006, 37, 339-359.	1.1	35
41	Evaluation of apple texture with contact acoustic emission detector: A study on performance of calibration models. Journal of Food Engineering, 2011, 106, 80-87.	2.7	35
42	Relation of biospeckle activity with chlorophyll content in apples. Postharvest Biology and Technology, 2012, 64, 58-63.	2.9	34
43	Simultaneous influence of pectin and xyloglucan on structure and mechanical properties of bacterial cellulose composites. Carbohydrate Polymers, 2017, 174, 970-979.	5.1	34
44	Effect of ultrasonication on physicochemical properties of apple based nanocellulose-calcium carbonate composites. Cellulose, 2018, 25, 4603-4621.	2.4	33
45	Tailored nanocellulose structure depending on the origin. Example of apple parenchyma and carrot root celluloses. Carbohydrate Polymers, 2019, 210, 186-195.	5.1	33
46	The effect of Ca2+ and cellular structure on apple firmness and acoustic emission. European Food Research and Technology, 2012, 235, 119-128.	1.6	31
47	Resolving the nanostructure of sodium carbonate extracted pectins (DASP) from apple cell walls with atomic force microscopy and molecular dynamics. Food Hydrocolloids, 2020, 104, 105726.	5.6	31
48	The role of arabinogalactan proteins (AGPs) in fruit ripeningâ€"a review. Horticulture Research, 2020, 7, 176.	2.9	30
49	Determination of the Optimum Harvest Window for Apples Using the Non-Destructive Biospeckle Method. Sensors, 2016, 16, 661.	2.1	29
50	Pre-harvest monitoring of apple fruits development with the use of biospeckle method. Scientia Horticulturae, 2012, 145, 23-28.	1.7	27
51	Automatic classification of cells and intercellular spaces of apple tissue. Computers and Electronics in Agriculture, 2012, 81, 72-78.	3.7	26
52	Arabinogalactan proteins: Distribution during the development of male and female gametophytes. Plant Physiology and Biochemistry, 2019, 135, 9-18.	2.8	26
53	Structural network of arabinogalactan proteins (AGPs) and pectins in apple fruit during ripening and senescence processes. Plant Science, 2018, 275, 36-48.	1.7	25
54	Evaluation of Nanocomposite Made of Polylactic Acid and Nanocellulose from Carrot Pomace Modified with Silver Nanoparticles. Polymers, 2020, 12, 812.	2.0	25

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55	Cross-linking of diluted alkali-soluble pectin from apple (Malus domestica fruit) in different acid-base conditions. Food Hydrocolloids, 2019, 92, 285-292.	5.6	24
56	Three-point bending and acoustic emission study of adult rat femora after immobilization and free remobilization. Journal of Biomechanics, 2006, 39, 237-245.	0.9	22
57	Cross-linking of sodium carbonate-soluble pectins from apple by zinc ions. Carbohydrate Polymers, 2018, 196, 1-7.	5.1	22
58	Analysis of AGP contribution to the dynamic assembly and mechanical properties of cell wall during pollen tube growth. Plant Science, 2019, 281, 9-18.	1.7	22
59	Hyperspectral image analysis of Raman maps of plant cell walls for blind spectra characterization by nonnegative matrix factorization algorithm. Chemometrics and Intelligent Laboratory Systems, 2016, 151, 136-145.	1.8	21
60	Effect of Cytochalasin B, Lantrunculin B, Colchicine, Cycloheximid, Dimethyl Sulfoxide and Ion Channel Inhibitors on Biospeckle Activity in Apple Tissue. Food Biophysics, 2013, 8, 290-296.	1.4	20
61	VIS/NIR spectroscopy, chlorophyll fluorescence, biospeckle and backscattering to evaluate changes in apples subjected to hydrostatic pressures. Postharvest Biology and Technology, 2014, 96, 88-98.	2.9	19
62	Study on parameterisation of plant tissue microstructure by confocal microscopy for finite elements modelling. Computers and Electronics in Agriculture, 2011, 78, 98-105.	3.7	18
63	The combined effect of ultrasound and enzymatic treatment on the nanostructure, carotenoid retention and sensory properties of ready-to-eat carrot chips. LWT - Food Science and Technology, 2017, 85, 427-433.	2.5	18
64	Dissipative particle dynamics model of homogalacturonan based on molecular dynamics simulations. Scientific Reports, 2020, 10, 14691.	1.6	17
65	Simulation of Force Spectroscopy Experiments on Galacturonic Acid Oligomers. PLoS ONE, 2014, 9, e107896.	1.1	17
66	Revision of adsorption models of xyloglucan on microcrystalline cellulose. Cellulose, 2016, 23, 2819-2829.	2.4	16
67	Changes in arabinogalactan proteins (AGPs) distribution in apple (Malus x domestica) fruit during senescence. Postharvest Biology and Technology, 2018, 138, 99-106.	2.9	16
68	Immunocytochemical studies on the distribution of arabinogalactan proteins (AGPs) as a response to fungal infection in Malus x domestica fruit. Scientific Reports, 2019, 9, 17428.	1.6	16
69	Structural Morphology and Rheological Properties of Pectin Fractions Extracted from Okra Pods Subjected to Cold Plasma Treatment. Food and Bioprocess Technology, 2022, 15, 1168-1181.	2.6	16
70	Compression simulations of plant tissue in 3D using a mass-spring system approach and discrete element method. Soft Matter, 2017, 13, 7318-7331.	1.2	15
71	Properties of Arabinogalactan Proteins (AGPs) in Apple (Malus Ã— Domestica) Fruit at Different Stages of Ripening. Biology, 2020, 9, 225.	1.3	15
72	The Effect of Cultivation Method of Strawberry (Fragaria x ananassa Duch.) cv. Honeoye on Structure and Degradation Dynamics of Pectin during Cold Storage. Molecules, 2020, 25, 4325.	1.7	15

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73	Postharvest Monitoring of Tomato Ripening Using the Dynamic Laser Speckle. Sensors, 2018, 18, 1093.	2.1	14
74	Distribution of arabinogalactan proteins and pectins in the cells of apple (<i>Malus</i>Ã—<i>domestica</i>) fruit during post-harvest storage. Annals of Botany, 2019, 123, 47-55.	1.4	14
75	Changes of pectin structure and microbial community composition in strawberry fruit (FragariaÂÃ—Âananassa Duch.) during cold storage. Food Chemistry, 2022, 381, 132151.	4.2	14
76	Extension and Fracture of Cell Walls after Parenchyma Tissue Deformation. Biosystems Engineering, 2006, 93, 269-278.	1.9	13
77	Effect of different conditions of synthesis on properties of silver nanoparticles stabilized by nanocellulose from carrot pomace. Carbohydrate Polymers, 2020, 245, 116513.	5.1	13
78	Aggregation and weak gel formation by pectic polysaccharide homogalacturonan. Carbohydrate Polymers, 2021, 256, 117566.	5.1	13
79	The Effect of Concentration on the Cross-Linking and Gelling of Sodium Carbonate-Soluble Apple Pectins. Molecules, 2019, 24, 1635.	1.7	12
80	Investigations of changes in the arabinogalactan proteins (AGPs) structure, size and composition during the fruit ripening process. Scientific Reports, 2020, 10, 20621.	1.6	11
81	Plasmodiophora brassicae-Triggered Cell Enlargement and Loss of Cellular Integrity in Root Systems Are Mediated by Pectin Demethylation. Frontiers in Plant Science, 2021, 12, 711838.	1.7	10
82	Modification of the cell wall polysaccharides and phytochemicals of okra pods by cold plasma treatment. Food Hydrocolloids, 2022, 131, 107763.	5.6	10
83	Enzymes and vitamin C as factors influencing the presence of arabinogalactan proteins (AGPs) in Solanum lycopersicum fruit. Plant Physiology and Biochemistry, 2019, 139, 681-690.	2.8	8
84	Effect of Low Temperature on Changes in AGP Distribution during Development of Bellis perennis Ovules and Anthers. Cells, 2021, 10, 1880.	1.8	8
85	The effect of high humidity hot air impingement blanching on the changes in molecular and rheological characteristics of pectin fractions extracted from okra pods. Food Hydrocolloids, 2022, 123, 107199.	5.6	8
86	Effects of fatigue on microstructure and mechanical properties of bone organic matrix under compression. Australasian Physical and Engineering Sciences in Medicine, 2013, 36, 43-54.	1.4	7
87	Exponentially smoothed Fujii index for online imaging of biospeckle spatial activity. Computers and Electronics in Agriculture, 2017, 142, 70-78.	3.7	7
88	An Atomic Force Microscopy Study on the Effect of Î²-Galactosidase, Î±-l-Rhamnosidase and Î±-l-Arabinofuranosidase on the Structure of Pectin Extracted from Apple Fruit Using Sodium Carbonate. International Journal of Molecular Sciences, 2020, 21, 4064.	1.8	7
89	The concentration-modified physicochemical surface properties of sodium carbonate-soluble pectin from pears (Pyrus communis L.). Food Hydrocolloids, 2021, 113, 106524.	5.6	7
90	Electrical potential oscillations â€“ movement relations in circumnutating sunflower stem and effect of ion channel and proton pump inhibitors on circumnutation. Physiologia Plantarum, 2015, 153, 307-317.	2.6	6

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91	Tailor-Made Biosystems - Bacterial Cellulose-Based Films with Plant Cell Wall Polysaccharides. Polymer Reviews, 2023, 63, 40-66.	5.3	6
92	Application of Acoustic Emission for Quality Evaluation of Fruits and Vegetables. , 2013, , .		4
93	The Use of Interactions Between Microorganisms in Strawberry Cultivation (Fragaria x ananassa) Tj ETQq1 1 0.784314 rgBT /Overlock 1	1.7	4
94	Chemical Changes in the Broccoli Volatilome Depending on the Tissue Treatment. Molecules, 2022, 27, 500.	1.7	4
95	Effects of nonenzymatic glycation on mechanical properties of demineralized bone matrix under compression. Journal of Applied Biomaterials and Biomechanics, 2011, 9, 144-149.	0.4	3
96	Biospeckle Technique for Assessing Quality of Fruits and Vegetables. Contemporary Food Engineering, 2016, , 361-385.	0.2	3
97	Structural properties of diluted alkali-soluble pectin from Pyrus communis L. in water and salt solutions. Carbohydrate Polymers, 2021, 273, 118598.	5.1	3
98	The Influence of High-Intensity Ultrasonication on Properties of Cellulose Produced from the Hop Stems, the Byproduct of the Hop Cones Production. Molecules, 2022, 27, 2624.	1.7	3
99	New image analysis method for the estimation of global and spatial changes in fruit microstructure. International Agrophysics, 2016, 30, 219-229.	0.7	2
100	The effect of high humidity hot air impingement blanching on the changes in cell wall polysaccharides and phytochemicals of okra pods. Journal of the Science of Food and Agriculture, 2022, 102, 5965-5973.	1.7	2
101	Microencapsulated Red Powders from Cornflower Extractâ€"Spectral (FT-IR and FT-Raman) and Antioxidant Characteristics. Molecules, 2022, 27, 3094.	1.7	2
102	EFFECT OF DIVALENT METAL IONS ON RHEOLOGICAL PROPERTIES OF POLYSACCHARIDE MATRIX FROM APPLE POMACE. Zywnosc Nauka Technologia Jakosc/Food Science Technology Quality, 2015, 21, .	0.1	1
103	Anisotropy of demineralized bone matrix under compressive load. Acta of Bioengineering and Biomechanics, 2011, 13, 71-6.	0.2	1
104	Effect of Glucose on Fatigue-Induced Changes in the Microstructure and Mechanical Properties of Demineralized Bovine Cortical Bone. Journal of Applied Biomaterials and Functional Materials, 2015, 13, 220-227.	0.7	0
105	Biospeckle. Encyclopedia of Earth Sciences Series, 2011, , 88-89.	0.1	0