Oliver E Jensen

List of Publications by Year
in descending order

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152 papers	6,207 citations	61857 43 h-index	85405 71 g-index
166 all docs	166 docs citations	166 times ranked	5990 citing authors

#	Article	IF	Citations
1	BIOFLUID MECHANICS IN FLEXIBLE TUBES. Annual Review of Fluid Mechanics, 2004, 36, 121-147.	10.8	379
2	Auxin regulates aquaporin function to facilitate lateral root emergence. Nature Cell Biology, 2012, 14, 991-998.	4.6	323
3	Insoluble surfactant spreading on a thin viscous film: shock evolution and film rupture. Journal of Fluid Mechanics, 1992, 240, 259.	1.4	258
4	Root hydrotropism is controlled via a cortex-specific growth mechanism. Nature Plants, 2017, 3, 17057.	4.7	183
5	The spreading of heat or soluble surfactant along a thin liquid film. Physics of Fluids A, Fluid Dynamics, 1993, 5, 58-68.	1.6	178
6	A theoretical study of surfactant and liquid delivery into the lung. Journal of Applied Physiology, 1998, 85, 333-352.	1.2	161
7	The motion of a viscous drop through a cylindrical tube. Journal of Fluid Mechanics, 2004, 501, 279-301.	1.4	157
8	An integrative computational model for intestinal tissue renewal. Cell Proliferation, 2009, 42, 617-636.	2.4	142
9	A Mechanosensitive RhoA Pathway that Protects Epithelia against Acute Tensile Stress. Developmental Cell, 2018, 47, 439-452.e6.	3.1	131
10	Circadian control of the secretory pathway maintains collagen homeostasis. Nature Cell Biology, 2020, 22, 74-86.	4.6	130
11	The steady motion of a semi-infinite bubble through a flexible-walled channel. Journal of Fluid Mechanics, 1996, 319, 25.	1.4	120
12	Mathematical modelling of engineered tissue growth using a multiphase porous flow mixture theory. Journal of Mathematical Biology, 2006, 52, 571-594.	0.8	110
13	A hybrid approach to multi-scale modelling of cancer. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2010, 368, 5013-5028.	1.6	103
14	Growth-induced hormone dilution can explain the dynamics of plant root cell elongation. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 7577-7582.	3.3	95
15	Crypt dynamics and colorectal cancer: advances in mathematical modelling. Cell Proliferation, 2006, 39, 157-181.	2.4	87
16	Instabilities of flow in a collapsed tube. Journal of Fluid Mechanics, 1990, 220, 623-659.	1.4	81
17	The spreading of insoluble surfactant at the free surface of a deep fluid layer. Journal of Fluid Mechanics, 1995, 293, 349-378.	1.4	78
18	Exploiting heterogeneous environments: does photosynthetic acclimation optimize carbon gain in fluctuating light?. Journal of Experimental Botany, 2015, 66, 2437-2447.	2.4	78

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19	Theory and measurements of snores. Journal of Applied Physiology, 1993, 74, 2828-2837.	1.2	76
20	High-frequency self-excited oscillations in a collapsible-channel flow. Journal of Fluid Mechanics, 2003, 481, 235-268.	1.4	74
21	Sliding, slipping and rolling: the sedimentation of a viscous drop down a gently inclined plane. Journal of Fluid Mechanics, 2004, 512, .	1.4	72
22	A model of carbon dioxide dissolution andÂmineralÂcarbonationÂkinetics. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 1265-1290.	1.0	70
23	A Mathematical Model of Intervillous Blood Flow in the Human Placentone. Placenta, 2010, 31, 44-52.	0.7	67
24	The existence of steady flow in a collapsed tube. Journal of Fluid Mechanics, 1989, 206, 339-374.	1.4	65
25	A fibre-reinforced fluid model of anisotropic plant cell growth. Journal of Fluid Mechanics, 2010, 655, 472-503.	1.4	65
26	On the role of stress anisotropy in the growth of stems. Journal of Experimental Botany, 2013, 64, 4697-4707.	2.4	65
27	Multiscale Systems Analysis of Root Growth and Development: Modeling Beyond the Network and Cellular Scales. Plant Cell, 2012, 24, 3892-3906.	3.1	64
28	Interaction of exogenous and endogenous surfactant: spreading-rate effects. Journal of Applied Physiology, 1995, 78, 750-756.	1.2	62
29	Continuum approximations of individual-based models for epithelial monolayers. Mathematical Medicine and Biology, 2010, 27, 39-74.	0.8	62
30	Theoretical models for coronary vascular biomechanics: Progress & challenges. Progress in Biophysics and Molecular Biology, 2011, 104, 49-76.	1.4	62
31	The 4-Dimensional Plant: Effects of Wind-Induced Canopy Movement on Light Fluctuations and Photosynthesis. Frontiers in Plant Science, 2016, 7, 1392.	1.7	62
32	High-Resolution Three-Dimensional Structural Data Quantify the Impact of Photoinhibition on Long-Term Carbon Gain in Wheat Canopies in the Field. Plant Physiology, 2015, 169, 1192-1204.	2.3	61
33	Decoupling the Roles of Cell Shape and Mechanical Stress in Orienting and Cueing Epithelial Mitosis. Cell Reports, 2019, 26, 2088-2100.e4.	2.9	61
34	The thin liquid lining of a weakly curved cylindrical tube. Journal of Fluid Mechanics, 1997, 331, 373-403.	1.4	58
35	Elucidating the interactions between the adhesive and transcriptional functions of -catenin in normal and cancerous cells. Journal of Theoretical Biology, 2007, 247, 77-102.	0.8	56
36	The steady propagation of a bubble in a flexible-walled channel: Asymptotic and computational models. Physics of Fluids, 2002, 14, 443-457.	1.6	55

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37	The drag on a microcantilever oscillating near a wall. Journal of Fluid Mechanics, 2005, 545, 397.	1.4	55
38	Capillary drainage of an annular film: the dynamics of collars and lobes. Journal of Fluid Mechanics, 2006, 552, 311.	1.4	54
39	A model of crosslink kinetics in the expanding plant cell wall: Yield stress and enzyme action. Journal of Theoretical Biology, 2012, 307, 125-136.	0.8	53
40	Mechanical modelling quantifies the functional importance of outer tissue layers during root elongation and bending. New Phytologist, 2014, 202, 1212-1222.	3.5	53
41	Local and global instabilities of flow in a flexible-walled channel. European Journal of Mechanics, B/Fluids, 2009, 28, 541-557.	1.2	52
42	Spreading and peeling dynamics in a model of cell adhesion. Journal of Fluid Mechanics, 2002, 460, 381-409.	1.4	51
43	Chaotic Oscillations in a Simple Collapsible-Tube Model. Journal of Biomechanical Engineering, 1992, 114, 55-59.	0.6	49
44	Photocatalytic conversion of CO2 to hydrocarbons by light-harvesting complex assisted Rh-doped TiO2 photocatalyst. Journal of CO2 Utilization, 2014, 5, 33-40.	3.3	49
45	Buckling as an origin of ordered cuticular patterns in flower petals. Journal of the Royal Society Interface, 2013, 10, 20120847.	1.5	46
46	Selfâ€similar, surfactantâ€driven flows. Physics of Fluids, 1994, 6, 1084-1094.	1.6	44
47	Human placental oxygenation in late gestation: experimental and theoretical approaches. Journal of Physiology, 2018, 596, 5523-5534.	1.3	44
48	Relating cell shape and mechanical stress in a spatially disordered epithelium using a vertex-based model. Mathematical Medicine and Biology, 2018, 35, i1-i27.	0.8	44
49	A biomechanical model of anther opening reveals the roles of dehydration and secondary thickening. New Phytologist, 2012, 196, 1030-1037.	3.5	42
50	Vertex-element models for anisotropic growth of elongated plant organs. Frontiers in Plant Science, 2013, 4, 233.	1.7	42
51	Three-dimensional flow due to a microcantilever oscillating near a wall: an unsteady slender-body analysis. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2006, 462, 913-933.	1.0	40
52	Stochastic Elastohydrodynamics of a Microcantilever Oscillating Near a Wall. Physical Review Letters, 2006, 96, 050801.	2.9	39
53	Flows in Deformable Tubes and Channels. Fluid Mechanics and Its Applications, 2003, , 15-49.	0.1	39
54	Transport of a passive solute by surfactant-driven flows. Chemical Engineering Science, 1994, 49, 1107-1117.	1.9	38

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55	Collagen fibril assembly: New approaches to unanswered questions. Matrix Biology Plus, 2021, 12, 100079.	1.9	38
56	A biomechanical model of agonist-initiated contraction in the asthmatic airway. Respiratory Physiology and Neurobiology, 2010, 170, 44-58.	0.7	37
57	A Rational Derivation of a Tube Law from Shell Theory. Quarterly Journal of Mechanics and Applied Mathematics, 2010, 63, 465-496.	0.5	37
58	Predicting the onset of high-frequency self-excited oscillations in elastic-walled tubes. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 3635-3657.	1.0	37
59	Dissolution-driven porous-medium convection in the presence of chemical reaction. Journal of Fluid Mechanics, 2014, 747, 316-349.	1.4	37
60	Blood Flow and Transport in the Human Placenta. Annual Review of Fluid Mechanics, 2019, 51, 25-47.	10.8	36
61	Image-Based Modeling of Blood Flow and Oxygen Transfer in Feto-Placental Capillaries. PLoS ONE, 2016, 11, e0165369.	1.1	35
62	Intracellular Flow in Optic Nerve Axons: A Mechanism for Cell Death in Glaucoma. , 2009, 50, 3750.		34
63	Growth-induced buckling of an epithelial layer. Biomechanics and Modeling in Mechanobiology, 2011, 10, 883-900.	1.4	33
64	Nonlinear Compliance Modulates Dynamic Bronchoconstriction in a Multiscale Airway Model. Biophysical Journal, 2014, 107, 3030-3042.	0.2	33
65	The spreading and stability of a surfactant-laden drop on a prewetted substrate. Journal of Fluid Mechanics, 2006, 554, 5.	1.4	32
66	Transport in the placenta: homogenizing haemodynamics in a disordered medium. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 4162-4182.	1.6	32
67	Draining Collars and Lenses in Liquid-Lined Vertical Tubes. Journal of Colloid and Interface Science, 2000, 221, 38-49.	5.0	31
68	Multiscale Models in the Biomechanics of Plant Growth. Physiology, 2015, 30, 159-166.	1.6	30
69	A study of the bifurcation behaviour of a model of flow through a collapsible tube. Bulletin of Mathematical Biology, 1996, 58, 611-641.	0.9	28
70	Unsteady bubble propagation in a flexible channel: predictions of a viscous stick-slip instability. Journal of Fluid Mechanics, 2005, 528, 53-86.	1.4	28
71	Sloshing and slamming oscillations in a collapsible channel flow. Journal of Fluid Mechanics, 2010, 662, 288-319.	1.4	28
72	The stress singularity in surfactant-driven thin-film flows. Part 1. Viscous effects. Journal of Fluid Mechanics, 1998, 372, 273-300.	1.4	27

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73	The energetics of flow through a rapidly oscillating tube. Part 1. General theory. Journal of Fluid Mechanics, 2010, 648, 83-121.	1.4	27
74	Physical and geometric determinants of transport in fetoplacental microvascular networks. Science Advances, 2019, 5, eaav6326.	4.7	27
75	Transient elastohydrodynamic drag on a particle moving near a deformable wall. Quarterly Journal of Mechanics and Applied Mathematics, 2006, 59, 277-300.	0.5	26
76	T-cell motility in the early stages of the immune response modeled as a random walk amongst targets. Physical Review E, 2006, 74, 011910.	0.8	26
77	Mechanical characterization of disordered and anisotropic cellular monolayers. Physical Review E, 2018, 97, 052409.	0.8	26
78	Bond tilting and sliding friction in a model of cell adhesion. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2008, 464, 447-467.	1.0	25
79	Buckling of a growing tissue and the emergence of two-dimensional patterns. Mathematical Biosciences, 2013, 246, 229-241.	0.9	24
80	Prediction and measurement of the area-distance profile of collapsed tubes during self-excited oscillation. Journal of Fluids and Structures, 1994, 8, 637-660.	1.5	21
81	Epithelial cell deformation during surfactant-mediated airway reopening: a theoretical model. Journal of Applied Physiology, 2005, 99, 458-471.	1.2	21
82	The Role of Inflammation Resolution Speed in Airway Smooth Muscle Mass Accumulation in Asthma: Insight from a Theoretical Model. PLoS ONE, 2014, 9, e90162.	1.1	21
83	Airway and Parenchymal Strains during Bronchoconstriction in the Precision Cut Lung Slice. Frontiers in Physiology, 2016, 7, 309.	1.3	21
84	Capillary-elastic Instabilities of Liquid-lined Lung Airways. Journal of Biomechanical Engineering, 2002, 124, 650-655.	0.6	20
85	Three-dimensional plant architecture and sunlitâ€“shaded patterns: a stochastic model of light dynamics in canopies. Annals of Botany, 2018, 122, 291-302.	1.4	19
86	Weakly Nonlinear Deformation of a Thin Poroelastic Layer With a Free Surface. Journal of Applied Mechanics, Transactions ASME, 1994, 61, 729-731.	1.1	18
87	Thin-film flows near isolated humps and interior corners. Journal of Engineering Mathematics, 2004, 50, 289-309.	0.6	18
88	On a biophysical and mathematical model of Pgp-mediated multidrug resistance: understanding the â€œspaceâ€“timeâ€•dimension of MDR. European Biophysics Journal, 2010, 39, 201-211.	1.2	18
89	High-Rayleigh-number convection of a reactive solute in a porous medium. Journal of Fluid Mechanics, 2014, 760, 95-126.	1.4	18
90	Patterns of recruitment and injury in a heterogeneous airway network model. Journal of the Royal Society Interface, 2015, 12, 20150523.	1.5	18

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91	Experimental and theoretical modelling of blind-ended vessels within a developing angiogenic plexus. Microvascular Research, 2008, 76, 161-168.	1.1	17
92	Divergence-driven oscillations in a flexible-channel flow with fixed upstream flux. Journal of Fluid Mechanics, 2013, 723, 706-733.	1.4	17
93	The energetics of flow through a rapidly oscillating tube. Part 2. Application to an elliptical tube. Journal of Fluid Mechanics, 2010, 648, 123-153.	1.4	16
94	Hybrid vertex-midline modelling of elongated plant organs. Interface Focus, 2016, 6, 20160043.	1.5	16
95	The stress singularity in surfactant-driven thin-film flows. Part 2. Inertial effects. Journal of Fluid Mechanics, 1998, 372, 301-322.	1.4	15
96	Buckling of an axisymmetric vesicle under compression: the effects of resistance to shear. Quarterly Journal of Mechanics and Applied Mathematics, 2007, 61, 1-24.	0.5	15
97	A Theoretical Model to Allow Prediction of the CSF Pressure From Observations of the Retinal Venous Pulse. , 2014, 55, 6319.		15
98	A semi-infinite bubble advancing into a planar tapered channel. Physics of Fluids, 2002, 14, 431-442.	1.6	14
99	Resonance-driven oscillations in a flexible-channel flow with fixed upstream flux and a long downstream rigid segment. Journal of Fluid Mechanics, 2014, 746, 368-404.	1.4	14
100	Shock formation and non-linear dispersion in a microvascular capillary network. Mathematical Medicine and Biology, 2007, 24, 379-400.	0.8	13
101	Three-dimensional elastohydrodynamics of a thin plate oscillating above a wall. Physical Review E, 2008, 78, 056310.	0.8	13
102	The role of contractile unit reorganization in force generation in airway smooth muscle. Mathematical Medicine and Biology, 2014, 31, 99-124.	0.8	13
103	Ribbon curling via stress relaxation in thin polymer films. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1719-1724.	3.3	13
104	Osmotic and electroosmotic fluid transport across the retinal pigment epithelium: A mathematical model. Journal of Theoretical Biology, 2018, 456, 233-248.	0.8	12
105	Spectral graph theory efficiently characterizes ventilation heterogeneity in lung airway networks. Journal of the Royal Society Interface, 2020, 17, 20200253.	1.5	12
106	Static and dynamic stress heterogeneity in a multiscale model of the asthmatic airway wall. Journal of Applied Physiology, 2016, 121, 233-247.	1.2	11
107	Surfactant and Airway Liquid Flows. Lung Biology in Health and Disease, 2005, , 191-227.	0.1	11
108	Linear Flow and Deformation in a Poroelastic Disk With a Free Surface. Journal of Applied Mechanics, Transactions ASME, 1994, 61, 726-728.	1.1	10

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109	An Asymptotic Model of Unsteady Airway Reopening. Journal of Biomechanical Engineering, 2003, 125, 823-831.	0.6	10
110	Local instabilities of flow in a flexible channel: Asymmetric flutter driven by a weak critical layer. Physics of Fluids, 2010, 22, 031902.	1.6	10
111	Curvature-Sensitive Kinesin Binding Can Explain Microtubule Ring Formation and Reveals Chaotic Dynamics in a Mathematical Model. Bulletin of Mathematical Biology, 2018, 80, 3002-3022.	0.9	10
112	Quantifying the impact of tissue metabolism on solute transport in feto-placental microvascular networks. Interface Focus, 2019, 9, 20190021.	1.5	10
113	Liquid film dynamics in horizontal and tilted tubes: Dry spots and sliding drops. Physics of Fluids, 2007, 19, 042102.	1.6	9
114	A multi-scale model for solute transport in a wavy-walled channel. Journal of Engineering Mathematics, 2009, 64, 25-48.	0.6	9
115	Surfactant Transport Over Airway Liquid Lining of Nonuniform Depth. Journal of Biomechanical Engineering, 2000, 122, 159-165.	0.6	8
116	Techniques for analysing pattern formation in populations of stem cells and their progeny. BMC Bioinformatics, 2011, 12, 396.	1.2	8
117	Modelling structural determinants of ventilation heterogeneity: A perturbative approach. PLoS ONE, 2018, 13, e0208049.	1.1	8
118	An Asymptotic Model of Viscous Flow Limitation in a Highly Collapsed Channel. Journal of Biomechanical Engineering, 1998, 120, 544-546.	0.6	7
119	Two-dimensional nonlinear advection-diffusion in a model of surfactant spreading on a thin liquid film. IMA Journal of Applied Mathematics, 2001, 66, 55-82.	0.8	7
120	Substrate degradation in high-Rayleigh-number reactive convection. Physics of Fluids, 2015, 27, .	1.6	7
121	Trapping and displacement of liquid collars and plugs in rough-walled tubes. Physical Review Fluids, 2017, 2, .	1.0	6
122	Surface-tension-driven evolution of a viscoplastic liquid coating the interior of a cylindrical tube. Journal of Fluid Mechanics, 2022, 944, .	1.4	6
123	Characterizing the multiscale structure of fluctuations of transported quantities in a disordered medium. IMA Journal of Applied Mathematics, 2012, 77, 697-725.	0.8	5
124	A low-order model for slamming in a flexible-channel flow. Quarterly Journal of Mechanics and Applied Mathematics, 2015, 68, 299-319.	0.5	5
125	Drop spreading with random viscosity. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2016, 472, 20160270.	1.0	5
126	A study of the bifurcation behaviour of a model of flow through a collapsible tube. Bulletin of Mathematical Biology, 1996, 58, 611-641.	0.9	4

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127	An asymptotic analysis of the buckling of a highly shear-resistant vesicle. European Journal of Applied Mathematics, 2009, 20, 479-518.	1.4	4
128	Early gene regulation of osteogenesis in embryonic stem cells. Integrative Biology (United Kingdom), 2012, 4, 1470.	0.6	4
129	Stochastic transport in the presence of spatial disorder: Fluctuation-induced corrections to homogenization. Physical Review E, 2016, 94, 042121.	0.8	4
130	Homogenization approximations for unidirectional transport past randomly distributed sinks. IMA Journal of Applied Mathematics, 2020, 85, 161-189.	0.8	4
131	Force networks, torque balance and Airy stress in the planar vertex model of a confluent epithelium. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2020, 476, 20190716.	1.0	4
132	Micro-haemodynamics at the maternalâ€“fetal interface: Experimental, theoretical and clinical perspectives. Current Opinion in Biomedical Engineering, 2022, 22, 100387.	1.8	4
133	Surfactant spreading in a two-dimensional cavity and emergent contact-line singularities. Journal of Fluid Mechanics, 2022, 930, .	1.4	3
134	Growth of the chorioallantoic membrane into a rapid-prototyped model pore system: experiments and mathematical model. Biomechanics and Modeling in Mechanobiology, 2011, 10, 539-558.	1.4	2
135	Instabilities of Flows through Deformable Tubes and Channels. , 2013, , 101-116.		2
136	Bubble Propagation In Flexible Channels With Permeable Walls. Fluid Mechanics and Its Applications, 2001, , 137-144.	0.1	2
137	A field theory for plant tropisms. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	2
138	Long-Time Draining of Thin Liquid Films in Buckled Lung Airways. Fluid Mechanics and Its Applications, 2001, , 265-272.	0.1	1
139	Decoupling the roles of cell shape and mechanical stress in orienting and cueing epithelial mitosis. SSRN Electronic Journal, 0, , .	0.4	1
140	The effect of isolated ridges and grooves on static menisci in rectangular channels. Journal of Fluid Mechanics, 2022, 935, .	1.4	1
141	Microhydrodynamique dans les systÃƒÂ¨mes biologiques. Mecanique Et Industries, 2001, 2, 283-287.	0.2	0
142	A Mechanistic Model For Disruption Of Actin-Myosin Connectivity In An Airway Smooth Muscle Cell. , 2011, , .		0
143	Effect of intermittent inspiratory leaks on measurement of lung clearance index using nitrogen and sulfur hexafluoride. ERJ Open Research, 2018, 4, 00132-2018.	1.1	0
144	Drop spreading and drifting on a spatially heterogeneous film: capturing variability with asymptotics and emulation. Journal of Engineering Mathematics, 2018, 111, 191-208.	0.6	0

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145	Thin-sheet theory for soft materials. Journal of Fluid Mechanics, 2021, 910, .	1.4	0
146	Bubble Propagation in a Flexible-Walled Channel. Fluid Mechanics and Its Applications, 2000, , 149-157.	0.1	0
147	Steady Flows and Instabilities in Collapsible Tubes. , 1990, , 33-40.		0
148	Predicting multiple breath washout outcomes from hyperpolarised gas magnetic resonance imaging (MRI). , 2019, , .		0
149	Combining patient-specific airway models with acinar asymmetry in simulations of multiple breath washout (MBW). , 2019, , .		0
150	Interpretation of multiple breath washout (MBW) measurements of lung function using mathematical modelling and hyperpolarised 3He gas MRI. , 2020, , .		0
151	Model-based Bayesian inference of the ventilation distribution in patients with Cystic Fibrosis from multiple breath washout, with comparison to ventilation MRI. Respiratory Physiology and Neurobiology, 2022, 302, 103919.	0.7	0
152	Advection-dominated transport past isolated disordered sinks: stepping beyond homogenization. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2022, 478, .	1.0	0