

Mikhail A Semenov

List of Publications by Year in descending order

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123
papers

15,215
citations

22099

59
h-index

19690

117
g-index

129
all docs

129
docs citations

129
times ranked

11602
citing authors

#	ARTICLE	IF	CITATIONS
1	Global wheat production could benefit from closing the genetic yield gap. <i>Nature Food</i> , 2022, 3, 532-541.	6.2	29
2	Stability of farm income: The role of agricultural diversity and agri-environment scheme payments. <i>Agricultural Systems</i> , 2021, 187, 103009.	3.2	23
3	Vulnerability of European wheat to extreme heat and drought around flowering under future climate. <i>Environmental Research Letters</i> , 2021, 16, 024052.	2.2	16
4	The potential for soybean to diversify the production of plant-based protein in the UK. <i>Science of the Total Environment</i> , 2021, 767, 144903.	3.9	17
5	The impact of weather and increased atmospheric CO ₂ from 1892 to 2016 on simulated yields of UK wheat. <i>Journal of the Royal Society Interface</i> , 2021, 18, 20210250.	1.5	2
6	Local impacts of climate change on winter wheat in Great Britain. <i>Royal Society Open Science</i> , 2021, 8, 201669.	1.1	9
7	Methodology to assess the changing risk of yield failure due to heat and drought stress under climate change. <i>Environmental Research Letters</i> , 2021, 16, 104033.	2.2	6
8	Dynamic simulation of management events for assessing impacts of climate change on pre-alpine grassland productivity. <i>European Journal of Agronomy</i> , 2021, 128, 126306.	1.9	14
9	Changes in agricultural climate in South-Eastern England from 1892 to 2016 and differences in cereal and permanent grassland yield. <i>Agricultural and Forest Meteorology</i> , 2021, 308-309, 108560.	1.9	6
10	Effectiveness of using representative subsets of global climate models in future crop yield projections. <i>Scientific Reports</i> , 2021, 11, 20565.	1.6	5
11	Preface: Remote sensing, modelling-based hazard and risk assessment, and management of agro-forested ecosystems. <i>Natural Hazards and Earth System Sciences</i> , 2021, 21, 3873-3877.	1.5	2
12	Adverse weather conditions for UK wheat production under climate change. <i>Agricultural and Forest Meteorology</i> , 2020, 282-283, 107862.	1.9	71
13	Large genetic yield potential and genetic yield gap estimated for wheat in Europe. <i>Global Food Security</i> , 2020, 24, 100340.	4.0	57
14	Why do crop models diverge substantially in climate impact projections? A comprehensive analysis based on eight barley crop models. <i>Agricultural and Forest Meteorology</i> , 2020, 281, 107851.	1.9	35
15	Understanding effects of genotype × environment × sowing window interactions for durum wheat in the Mediterranean basin. <i>Field Crops Research</i> , 2020, 259, 107969.	2.3	18
16	Investigating the effects of inter-annual weather variation (1968–2016) on the functional response of cereal grain yield to applied nitrogen, using data from the Rothamsted Long-Term Experiments. <i>Agricultural and Forest Meteorology</i> , 2020, 284, 107898.	1.9	28
17	Drought tolerance during reproductive development is important for increasing wheat yield potential under climate change in Europe. <i>Journal of Experimental Botany</i> , 2019, 70, 2549-2560.	2.4	127
18	Mitigation efforts will not fully alleviate the increase in water scarcity occurrence probability in wheat-producing areas. <i>Science Advances</i> , 2019, 5, eaau2406.	4.7	104

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19	Raising genetic yield potential in high productive countries: Designing wheat ideotypes under climate change. <i>Agricultural and Forest Meteorology</i> , 2019, 271, 33-45.	1.9	44
20	Risk factors for European winter oilseed rape production under climate change. <i>Agricultural and Forest Meteorology</i> , 2019, 272-273, 30-39.	1.9	41
21	Assessing yield gap in high productive countries by designing wheat ideotypes. <i>Scientific Reports</i> , 2019, 9, 5516.	1.6	24
22	Global wheat production with 1.5 and 2.0°C above pre-industrial warming. <i>Global Change Biology</i> , 2019, 25, 1428-1444.	4.2	107
23	Climate change impact and adaptation for wheat protein. <i>Global Change Biology</i> , 2019, 25, 155-173.	4.2	312
24	How does inter-annual variability of attainable yield affect the magnitude of yield gaps for wheat and maize? An analysis at ten sites. <i>Agricultural Systems</i> , 2018, 159, 199-208.	3.2	36
25	Adaptation response surfaces for managing wheat under perturbed climate and CO ₂ in a Mediterranean environment. <i>Agricultural Systems</i> , 2018, 159, 260-274.	3.2	68
26	Classifying multi-model wheat yield impact response surfaces showing sensitivity to temperature and precipitation change. <i>Agricultural Systems</i> , 2018, 159, 209-224.	3.2	47
27	Contribution of crop model structure, parameters and climate projections to uncertainty in climate change impact assessments. <i>Global Change Biology</i> , 2018, 24, 1291-1307.	4.2	149
28	Physical robustness of canopy temperature models for crop heat stress simulation across environments and production conditions. <i>Field Crops Research</i> , 2018, 216, 75-88.	2.3	36
29	Maize yields over Europe may increase in spite of climate change, with an appropriate use of the genetic variability of flowering time. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 10642-10647.	3.3	94
30	Diverging importance of drought stress for maize and winter wheat in Europe. <i>Nature Communications</i> , 2018, 9, 4249.	5.8	230
31	Multimodel ensembles improve predictions of crop-environment-management interactions. <i>Global Change Biology</i> , 2018, 24, 5072-5083.	4.2	111
32	Canopy temperature for simulation of heat stress in irrigated wheat in a semi-arid environment: A multi-model comparison. <i>Field Crops Research</i> , 2017, 202, 21-35.	2.3	91
33	Crop model improvement reduces the uncertainty of the response to temperature of multi-model ensembles. <i>Field Crops Research</i> , 2017, 202, 5-20.	2.3	109
34	The uncertainty of crop yield projections is reduced by improved temperature response functions. <i>Nature Plants</i> , 2017, 3, 17102.	4.7	170
35	Use of an individual-based simulation model to explore and evaluate potential insecticide resistance management strategies. <i>Pest Management Science</i> , 2017, 73, 1364-1372.	1.7	14
36	Designing future barley ideotypes using a crop model ensemble. <i>European Journal of Agronomy</i> , 2017, 82, 144-162.	1.9	84

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37	Temporally and Genetically Discrete Periods of Wheat Sensitivity to High Temperature. <i>Frontiers in Plant Science</i> , 2017, 8, 51.	1.7	30
38	Climate Change and Future Pollen Allergy in Europe. <i>Environmental Health Perspectives</i> , 2017, 125, 385-391.	2.8	216
39	Climate forcing of an emerging pathogenic fungus across a montane multi-host community. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2016, 371, 20150454.	1.8	52
40	Multi-wheat-model ensemble responses to interannual climate variability. <i>Environmental Modelling and Software</i> , 2016, 81, 86-101.	1.9	50
41	Uncertainty of wheat water use: Simulated patterns and sensitivity to temperature and CO ₂ . <i>Field Crops Research</i> , 2016, 198, 80-92.	2.3	47
42	Similar estimates of temperature impacts on global wheat yield by three independent methods. <i>Nature Climate Change</i> , 2016, 6, 1130-1136.	8.1	352
43	Adaptation options for wheat in Europe will be limited by increased adverse weather events under climate change. <i>Journal of the Royal Society Interface</i> , 2015, 12, 20150721.	1.5	69
44	Effects of climate change and seed dispersal on airborne ragweed pollen loads in Europe. <i>Nature Climate Change</i> , 2015, 5, 766-771.	8.1	147
45	Crop modelling for integrated assessment of risk to food production from climate change. <i>Environmental Modelling and Software</i> , 2015, 72, 287-303.	1.9	230
46	<i>In silico</i> system analysis of physiological traits determining grain yield and protein concentration for wheat as influenced by climate and crop management. <i>Journal of Experimental Botany</i> , 2015, 66, 3581-3598.	2.4	51
47	Heat tolerance around flowering in wheat identified as a key trait for increased yield potential in Europe under climate change. <i>Journal of Experimental Botany</i> , 2015, 66, 3599-3609.	2.4	142
48	Rising temperatures reduce global wheat production. <i>Nature Climate Change</i> , 2015, 5, 143-147.	8.1	1,544
49	Multimodel ensembles of wheat growth: many models are better than one. <i>Global Change Biology</i> , 2015, 21, 911-925.	4.2	387
50	Adapting wheat ideotypes for climate change: accounting for uncertainties in CMIP5 climate projections. <i>Climate Research</i> , 2015, 65, 123-139.	0.4	65
51	Temperature and precipitation effects on wheat yield across a European transect: a crop model ensemble analysis using impact response surfaces. <i>Climate Research</i> , 2015, 65, 87-105.	0.4	122
52	A Process-Based Approach to Predicting the Effect of Climate Change on the Distribution of an Invasive Allergenic Plant in Europe. <i>PLoS ONE</i> , 2014, 9, e88156.	1.1	99
53	An Individual-Based Model of the Evolution of Pesticide Resistance in Heterogeneous Environments: Control of <i>Meligethes aeneus</i> Population in Oilseed Rape Crops. <i>PLoS ONE</i> , 2014, 9, e115631.	1.1	34
54	Adverse weather conditions for European wheat production will become more frequent with climate change. <i>Nature Climate Change</i> , 2014, 4, 637-643.	8.1	452

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55	Adapting wheat in Europe for climate change. <i>Journal of Cereal Science</i> , 2014, 59, 245-256.	1.8	195
56	Comparing climate change impacts on cereals based on CMIP3 and EU-ENSEMBLES climate scenarios. <i>Agricultural and Forest Meteorology</i> , 2014, 195-196, 12-23.	1.9	29
57	Uncertainty in simulating wheat yields under climate change. <i>Nature Climate Change</i> , 2013, 3, 827-832.	8.1	1,021
58	Local-scale climate scenarios for impact studies and risk assessments: integration of early 21st century ENSEMBLES projections into the ELPIS database. <i>Theoretical and Applied Climatology</i> , 2013, 113, 445-455.	1.3	13
59	Designing high-yielding wheat ideotypes for a changing climate. <i>Food and Energy Security</i> , 2013, 2, 185-196.	2.0	65
60	Assessing uncertainties in impact of climate change on grass production in Northern Europe using ensembles of global climate models. <i>Agricultural and Forest Meteorology</i> , 2013, 170, 103-113.	1.9	77
61	Reply to Gange et al.: Climate-driven changes in the fungal fruiting season in the United Kingdom. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, E335.	3.3	4
62	Application of evolutionary algorithms for model calibration. , 2012, , .		0
63	Warming-induced shift in European mushroom fruiting phenology. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 14488-14493.	3.3	104
64	ELPIS-JP: a dataset of local-scale daily climate change scenarios for Japan. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2012, 370, 1121-1139.	1.6	28
65	Shortcomings in wheat yield predictions. <i>Nature Climate Change</i> , 2012, 2, 380-382.	8.1	25
66	Future change of daily precipitation indices in Japan: A stochastic weather generator-based bootstrap approach to provide probabilistic climate information. <i>Journal of Geophysical Research</i> , 2012, 117, .	3.3	38
67	A process-based approach to modelling impacts of climate change on the damage niche of an agricultural weed. <i>Global Change Biology</i> , 2012, 18, 2071-2080.	4.2	45
68	Simulation of environmental and genotypic variations of final leaf number and anthesis date for wheat. <i>European Journal of Agronomy</i> , 2012, 42, 22-33.	1.9	56
69	Comment on Lobell et al "Climate Trends and Global Crop Production Since 1980". <i>Nature Precedings</i> , 2011, , .	0.1	4
70	Climate Change Affects Winter Chill for Temperate Fruit and Nut Trees. <i>PLoS ONE</i> , 2011, 6, e20155.	1.1	267
71	Impacts of climate change on wheat anthesis and fusarium ear blight in the UK. <i>European Journal of Plant Pathology</i> , 2011, 130, 117-131.	0.8	121
72	Modelling predicts that heat stress, not drought, will increase vulnerability of wheat in Europe. <i>Scientific Reports</i> , 2011, 1, 66.	1.6	269

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73	Adaptation to increasing severity of phoma stem canker on winter oilseed rape in the UK under climate change. <i>Journal of Agricultural Science</i> , 2010, 148, 683-694.	0.6	32
74	The impact of climate change on disease constraints on production of oilseed rape. <i>Food Security</i> , 2010, 2, 143-156.	2.4	33
75	Global Sensitivity Analysis of the Process-Based Wheat Simulation Model SiriusQuality1 Identifies Key Genotypic Parameters and Unravels Parameters Interactions. <i>Procedia, Social and Behavioral Sciences</i> , 2010, 2, 7676-7677.	0.5	7
76	Calibration of a crop simulation model using an evolutionary algorithm with self-adaptation. <i>Procedia, Social and Behavioral Sciences</i> , 2010, 2, 7749-7750.	0.5	10
77	Climate change and spring-fruited fungi. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2010, 277, 1169-1177.	1.2	81
78	North-South divide: contrasting impacts of climate change on crop yields in Scotland and England. <i>Journal of the Royal Society Interface</i> , 2010, 7, 123-130.	1.5	75
79	Use of multi-model ensembles from global climate models for assessment of climate change impacts. <i>Climate Research</i> , 2010, 41, 1-14.	0.4	430
80	Transient responses to increasing CO ₂ and climate change in an unfertilized grass-clover sward. <i>Climate Research</i> , 2010, 41, 221-232.	0.4	35
81	ELPIS: a dataset of local-scale daily climate scenarios for Europe. <i>Climate Research</i> , 2010, 44, 3-15.	0.4	51
82	Identifying target traits and molecular mechanisms for wheat breeding under a changing climate. <i>Journal of Experimental Botany</i> , 2009, 60, 2791-2804.	2.4	148
83	Quantifying effects of simple wheat traits on yield in water-limited environments using a modelling approach. <i>Agricultural and Forest Meteorology</i> , 2009, 149, 1095-1104.	1.9	56
84	Impacts of climate change on wheat in England and Wales. <i>Journal of the Royal Society Interface</i> , 2009, 6, 343-350.	1.5	125
85	Range and severity of a plant disease increased by global warming. <i>Journal of the Royal Society Interface</i> , 2008, 5, 525-531.	1.5	179
86	Quantifying the effect of uncertainty in soil moisture characteristics on plant growth using a crop simulation model. <i>Field Crops Research</i> , 2008, 106, 138-147.	2.3	29
87	Simulation of extreme weather events by a stochastic weather generator. <i>Climate Research</i> , 2008, 35, 203-212.	0.4	177
88	The impact of climate change on sugarbeet yield in the UK: 1976-2004. <i>Journal of Agricultural Science</i> , 2007, 145, 367-375.	0.6	59
89	Development of high-resolution UKCIP02-based climate change scenarios in the UK. <i>Agricultural and Forest Meteorology</i> , 2007, 144, 127-138.	1.9	165
90	Reconciling alternative models of phenological development in winter wheat. <i>Field Crops Research</i> , 2007, 103, 36-41.	2.3	58

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91	Deconvoluting nitrogen use efficiency in wheat: A simulation study. <i>European Journal of Agronomy</i> , 2007, 26, 283-294.	1.9	72
92	Utility of dynamical seasonal forecasts in predicting crop yield. <i>Climate Research</i> , 2007, 34, 71-81.	0.4	60
93	Modelling the variability of UK sugar beet yields under climate change and husbandry adaptations. <i>Soil Use and Management</i> , 2006, 22, 39-47.	2.6	29
94	Use of an individual-based model to forecast the effect of climate change on the dynamics, abundance and geographical range of the pest slug <i>Deroceras reticulatum</i> in the UK. <i>Global Change Biology</i> , 2006, 12, 1643-1657.	4.2	43
95	Modelling protein content and composition in relation to crop nitrogen dynamics for wheat. <i>European Journal of Agronomy</i> , 2006, 25, 138-154.	1.9	173
96	Individual based model of slug population and spatial dynamics. <i>Ecological Modelling</i> , 2006, 190, 336-350.	1.2	23
97	A wheat canopy model linking leaf area and phenology. <i>European Journal of Agronomy</i> , 2005, 22, 19-32.	1.9	74
98	Crop responses to climatic variation. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2005, 360, 2021-2035.	1.8	764
99	Assessing lead-time for predicting wheat growth using a crop simulation model. <i>Agricultural and Forest Meteorology</i> , 2005, 135, 302-313.	1.9	61
100	Modelling impacts of climate change on wheat yields in England and Wales: assessing drought risks. <i>Agricultural Systems</i> , 2005, 84, 77-97.	3.2	129
101	Modelling <i>Deroceras reticulatum</i> (Gastropoda) population dynamics based on daily temperature and rainfall. <i>Agriculture, Ecosystems and Environment</i> , 2004, 103, 519-525.	2.5	30
102	Analysis of Convergence of an Evolutionary Algorithm with Self-Adaptation using a Stochastic Lyapunov function. <i>Evolutionary Computation</i> , 2003, 11, 363-379.	2.3	41
103	Effects of elevated CO ₂ and drought on wheat: testing crop simulation models for different experimental and climatic conditions. <i>Agriculture, Ecosystems and Environment</i> , 2002, 93, 249-266.	2.5	159
104	Simplifying Sirius: sensitivity analysis and development of a meta-model for wheat yield prediction. <i>European Journal of Agronomy</i> , 2001, 14, 43-60.	1.9	59
105	Modelling CO ₂ effects on wheat with varying nitrogen supplies. <i>Agriculture, Ecosystems and Environment</i> , 2000, 82, 27-37.	2.5	96
106	Modelling nitrogen uptake and redistribution in wheat. <i>Field Crops Research</i> , 2000, 68, 21-29.	2.3	180
107	Climate variability and crop yields in Europe. <i>Nature</i> , 1999, 400, 724-724.	13.7	64
108	Comments on "Testing winter wheat simulation models predictions against observed UK grain yields" by Landau et al. (1998). <i>Agricultural and Forest Meteorology</i> , 1999, 96, 157-161.	1.9	29

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109	Spatial interpolation of the LARS-WG stochastic weather generator in Great Britain. <i>Climate Research</i> , 1999, 11, 137-148.	0.4	135
110	Sirius: a mechanistic model of wheat response to environmental variation. <i>European Journal of Agronomy</i> , 1998, 8, 161-179.	1.9	289
111	Making sense of wheat development: a critique of methodology. <i>Field Crops Research</i> , 1998, 55, 117-127.	2.3	96
112	Comparison of the WGEN and LARS-WG stochastic weather generators for diverse climates. <i>Climate Research</i> , 1998, 10, 95-107.	0.4	484
113	USE OF A STOCHASTIC WEATHER GENERATOR IN THE DEVELOPMENT OF CLIMATE CHANGE SCENARIOS. , 1997, 35, 397-414.		614
114	Comparison of wheat simulation models under climate change. I. Model calibration and sensitivity analyses. <i>Climate Research</i> , 1996, 7, 253-270.	0.4	113
115	Temperature, CO2 and the growth and development of wheat: Changes in the mean and variability of growing conditions. <i>Climatic Change</i> , 1996, 33, 351-368.	1.7	34
116	Effect of using different methods in the construction of climate change scenarios: examples from Europe. <i>Climate Research</i> , 1996, 7, 195-211.	0.4	33
117	Comparison of wheat simulation models under climate change. II. Application of climate change scenarios. <i>Climate Research</i> , 1996, 7, 271-281.	0.4	59
118	Climate change scenarios with high spatial and temporal resolution for agricultural applications. <i>Forestry</i> , 1995, 68, 349-360.	1.2	40
119	Non-Linearity in Climate Change Impact Assessments. <i>Journal of Biogeography</i> , 1995, 22, 597.	1.4	16
120	Climatic variability and the modelling of crop yields. <i>Agricultural and Forest Meteorology</i> , 1995, 73, 265-283.	1.9	224
121	Climatic change and the growth and development of wheat in the UK and France. <i>European Journal of Agronomy</i> , 1993, 2, 293-304.	1.9	38
122	A serial approach to local stochastic weather models. <i>Ecological Modelling</i> , 1991, 57, 27-41.	1.2	387
123	Modelling predicts that heat stress and not drought will limit wheat yield in Europe. <i>Nature Precedings</i> , 0, , .	0.1	4