

# Wolfgang Reif

## List of Publications by Year in descending order

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Version: 2024-02-01

191  
papers

1,761  
citations

394421

19  
h-index

526287

27  
g-index

203  
all docs

203  
docs citations

203  
times ranked

757  
citing authors

#	ARTICLE	IF	CITATIONS
1	Improving medical protocols by formal methods. <i>Artificial Intelligence in Medicine</i> , 2006, 36, 193-209.	6.5	85
2	Formal System Development with KIV. <i>Lecture Notes in Computer Science</i> , 2000, , 363-366.	1.3	80
3	A Specification and Construction Paradigm for Organic Computing Systems. , 2008, , .		40
4	KIV: overview and VerifyThis competition. <i>International Journal on Software Tools for Technology Transfer</i> , 2015, 17, 677-694.	1.9	39
5	Trustworthy Organic Computing Systems: Challenges and Perspectives. <i>Lecture Notes in Computer Science</i> , 2010, , 62-76.	1.3	36
6	The Kiv-approach to software verification. <i>Lecture Notes in Computer Science</i> , 1995, , 339-368.	1.3	33
7	Reuse of proofs in software verification. <i>Lecture Notes in Computer Science</i> , 1993, , 284-293.	1.3	29
8	Abstract Specification of the UBIFS File System for Flash Memory. <i>Lecture Notes in Computer Science</i> , 2009, , 190-206.	1.3	28
9	Environment-aware proximity detection with capacitive sensors for human-robot-interaction. , 2016, , .		27
10	Interactive Verification of UML State Machines. <i>Lecture Notes in Computer Science</i> , 2004, , 434-448.	1.3	26
11	The Mondex Challenge: Machine Checked Proofs for an Electronic Purse. <i>Lecture Notes in Computer Science</i> , 2006, , 16-31.	1.3	25
12	Development of a Verified Flash File System. <i>Lecture Notes in Computer Science</i> , 2014, , 9-24.	1.3	24
13	Formal Modeling and Verification of Systems with Self-x Properties. <i>Lecture Notes in Computer Science</i> , 2006, , 38-47.	1.3	24
14	Verification of Mondex electronic purses with KIV: from transactions to a security protocol. <i>Formal Aspects of Computing</i> , 2008, 20, 41-59.	1.8	23
15	RGITL: A temporal logic framework for compositional reasoning about interleaved programs. <i>Annals of Mathematics and Artificial Intelligence</i> , 2014, 71, 131-174.	1.3	23
16	SecureMDD: A Model-Driven Development Method for Secure Smart Card Applications. , 2009, , .		22
17	Towards Testing Self-organizing, Adaptive Systems. <i>Lecture Notes in Computer Science</i> , 2014, , 180-185.	1.3	22
18	Interleaved Programs and Rely-Guarantee Reasoning with ITL. , 2011, , .		21

#	ARTICLE	IF	CITATIONS
19	Multipotent Systems: Combining Planning, Self-Organization, and Reconfiguration in Modular Robot Ensembles. Sensors, 2019, 19, 17.	3.8	21
20	Interactive Verification of Statecharts. Lecture Notes in Computer Science, 2004, , 355-373.	1.3	20
21	DEDUCTIVE CAUSE-CONSEQUENCE ANALYSIS (DCCA). IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2005, 38, 62-67.	0.4	20
22	A Universal Self-Organization Mechanism for Role-Based Organic Computing Systems. Lecture Notes in Computer Science, 2009, , 17-31.	1.3	20
23	Generating formal specifications for security-critical applications - A model-driven approach. , 2009, , .		20
24	Combining Formal Methods and Safety Analysis – The ForMoSA Approach. Lecture Notes in Computer Science, 2004, , 474-493.	1.3	19
25	Safety and Dependability Analysis of Self-Adaptive Systems. , 2006, , .		19
26	Using Deductive Cause-Consequence Analysis (DCCA) with SCADE. Lecture Notes in Computer Science, 2007, , 465-478.	1.3	19
27	Design and construction of organic computing systems. , 2007, , .		18
28	Hiding real-time: A new approach for the software development of industrial robots. , 2009, , .		18
29	Proving linearizability with temporal logic. Formal Aspects of Computing, 2011, 23, 91-112.	1.8	18
30	Design of an automation system for performing processes in aerospace industries. , 2011, , .		17
31	Model-Driven Development of Information Flow-Secure Systems with IFlow. , 2013, , .		17
32	Interactive verification of concurrent systems using symbolic execution. AI Communications, 2010, 23, 285-307.	1.2	16
33	Formal Verification of Application-Specific Security Properties in a Model-Driven Approach. Lecture Notes in Computer Science, 2010, , 166-181.	1.3	16
34	On the Influence of Inter-Agent Variation on Multi-Agent Algorithms Solving a Dynamic Task Allocation Problem under Uncertainty. , 2012, , .		15
35	Designing Self-healing in Automotive Systems. Lecture Notes in Computer Science, 2010, , 47-61.	1.3	15
36	Formal Verification of QVT Transformations for Code Generation. Lecture Notes in Computer Science, 2011, , 533-547.	1.3	14

#	ARTICLE	IF	CITATIONS
37	Flexible and continuous execution of real-time critical robotic tasks. International Journal of Mechatronics and Automation, 2014, 4, 27.	0.2	14
38	Cooperative Resource Allocation in Open Systems of Systems. ACM Transactions on Autonomous and Adaptive Systems, 2015, 10, 1-44.	0.8	14
39	A Research Overview and Evaluation of Performance Metrics for Self-Organization Algorithms. , 2015, , .		14
40	Modular, crash-safe refinement for ASMs with submachines. Science of Computer Programming, 2016, 131, 3-21.	1.9	14
41	Verification of a Virtual Filesystem Switch. Lecture Notes in Computer Science, 2014, , 242-261.	1.3	14
42	A generic software framework for role-based Organic Computing systems. , 2009, , .		13
43	The Robotics API: An object-oriented framework for modeling industrial robotics applications. , 2010, , .		13
44	Modeling of self-adaptive systems with SCADE. , 2007, , .		12
45	Automated cutting and handling of carbon fiber fabrics in aerospace industries. , 2010, , .		12
46	A backward-oriented approach for offline programming of complex manufacturing tasks. , 2015, , .		12
47	Formal verification of QVT transformations for code generation. Software and Systems Modeling, 2015, 14, 981-1002.	2.7	12
48	Real-time capable OPC-UA Programs over TSN for distributed industrial control. , 2020, , .		12
49	KIV 3.0 for Provably Correct Systems. Lecture Notes in Computer Science, 1999, , 330-337.	1.3	12
50	Safety analysis of the height control system for the Elbtunnel. Reliability Engineering and System Safety, 2003, 81, 259-268.	8.9	11
51	Verification of Mondex Electronic Purses with KIV: From a Security Protocol to Verified Code. , 2008, , 165-180.		11
52	A Refinement Method for Java Programs. Lecture Notes in Computer Science, 2007, , 221-235.	1.3	11
53	Formal Verification of a Lock-Free Stack with Hazard Pointers. Lecture Notes in Computer Science, 2011, , 239-255.	1.3	11
54	Model-Driven Code Generation for Secure Smart Card Applications. , 2009, , .		10

#	ARTICLE	IF	CITATIONS
55	Decentralized Reconfiguration for Self-Organizing Resource-Flow Systems Based on Local Knowledge. , 2011, , .		10
56	A Trust- and Cooperation-Based Solution of a Dynamic Resource Allocation Problem. , 2013, , .		10
57	Inside a Verified Flash File System: Transactions and Garbage Collection. Lecture Notes in Computer Science, 2016, , 73-93.	1.3	10
58	Temporal Logic Verification of Lock-Freedom. Lecture Notes in Computer Science, 2010, , 377-396.	1.3	10
59	Verifying Smart Card Applications: An ASM Approach. Lecture Notes in Computer Science, 2007, , 313-332.	1.3	9
60	Model-Driven Development of Secure Service Applications. , 2012, , .		9
61	Formal Modeling and Verification of Self-* Systems Based on Observer/Controller-Architectures. Lecture Notes in Computer Science, 2013, , 80-111.	1.3	9
62	Runtime Model-Based Safety Analysis of Self-Organizing Systems with S#. , 2015, , .		9
63	Flaw Detection in Formal Specifications. Lecture Notes in Computer Science, 2001, , 642-657.	1.3	9
64	Formal Specification of an Erase Block Management Layer for Flash Memory. Lecture Notes in Computer Science, 2013, , 214-229.	1.3	9
65	Partial Valuation Structures for Qualitative Soft Constraints. Lecture Notes in Computer Science, 2015, , 115-133.	1.3	9
66	Correctness of generic modules. , 1992, , 406-417.		8
67	Verified formal security models for multiapplicative smart cards <sup>1</sup> . Journal of Computer Security, 2002, 10, 339-367.	0.8	8
68	A Software Engineering Guideline for Self-Organizing Resource-Flow Systems. , 2010, , .		8
69	Confidence as a Means to Assess the Accuracy of Trust Values. , 2012, , .		8
70	Synthesised Constraint Models for Distributed Energy Management. , 2014, , .		8
71	Synthesizing Capabilities for Collective Adaptive Systems from Self-descriptive Hardware Devices Bridging the Reality Gap. Lecture Notes in Computer Science, 2018, , 94-108.	1.3	8
72	Trust-Based Scenarios â€“ Predicting Future Agent Behavior in Open Self-organizing Systems. Lecture Notes in Computer Science, 2014, , 90-102.	1.3	8

#	ARTICLE	IF	CITATIONS
73	A Modeling Framework for the Development of Provably Secure E-Commerce Applications. , 2007, , .		7
74	Interfacing industrial robots using Realtime Primitives. , 2010, , .		7
75	Model-driven synthesis of monitoring infrastructure for reliable adaptive multi-agent systems. , 2013, , .		7
76	An Approach to Robust Resource Allocation in Large-Scale Systems of Systems. , 2015, , .		7
77	Back-to-Back Testing of Self-organization Mechanisms. Lecture Notes in Computer Science, 2016, , 18-35.	1.3	7
78	Risk-Based Interoperability Testing Using Reinforcement Learning. Lecture Notes in Computer Science, 2016, , 52-69.	1.3	7
79	Test suite reduction for self-organizing systems. , 2018, , .		7
80	Modular Verification of Order-Preserving Write-Back Caches. Lecture Notes in Computer Science, 2017, , 375-390.	1.3	7
81	An Approach for Isolated Testing of Self-Organization Algorithms. Lecture Notes in Computer Science, 2017, , 188-222.	1.3	7
82	A Systematic Verification Approach for Mondex Electronic Purses Using ASMs. Lecture Notes in Computer Science, 2009, , 93-110.	1.3	7
83	A Formal Framework for Compositional Verification of Organic Computing Systems. Lecture Notes in Computer Science, 2010, , 17-31.	1.3	7
84	Developing Self-Organizing Robotic Cells Using Organic Computing Principles. Studies in Computational Intelligence, 2011, , 253-273.	0.9	7
85	A Decentralized Multi-agent Algorithm for the Set Partitioning Problem. Lecture Notes in Computer Science, 2012, , 107-121.	1.3	7
86	A Formal Model of a Virtual Filesystem Switch. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 102, 33-45.	0.8	7
87	LegoBot: Automated Planning for Coordinated Multi-Robot Assembly of LEGO structures. , 2020, , .		7
88	Patterns to Measure and Utilize Trust in Multi-agent Systems. , 2011, , .		6
89	Proactive Guidance for Dynamic and Cooperative Resource Allocation under Uncertainties. , 2014, , .		6
90	Toward Adaptive, Self-Aware Test Automation. , 2017, , .		6

#	ARTICLE	IF	CITATIONS
91	Facilitating Planning by Using Self-Organization. , 2017, , .		6
92	Semantic Plug and Play " Self-Descriptive Modular Hardware for Robotic Applications. International Journal of Semantic Computing, 2018, 12, 559-577.	0.5	6
93	Measuring and Evaluating the Performance of Self-Organization Mechanisms Within Collective Adaptive Systems. Lecture Notes in Computer Science, 2018, , 202-220.	1.3	6
94	MiniBrass: Soft constraints for MiniZinc. Constraints, 2018, 23, 403-450.	0.7	6
95	A Method for Secure Smartcard Applications. Lecture Notes in Computer Science, 2002, , 319-333.	1.3	6
96	Safety Analysis of the Height Control System for the Elbtunnel. Lecture Notes in Computer Science, 2002, , 296-308.	1.3	6
97	Adding Concurrency to a Sequential Refinement Tower. Lecture Notes in Computer Science, 2020, , 6-23.	1.3	6
98	Software Metrics in Static Program Analysis. Lecture Notes in Computer Science, 2010, , 485-500.	1.3	6
99	The ForMoSA Approach to Qualitative and Quantitative Model-Based Safety Analysis. , 2012, , 65-114.		6
100	A Particle Swarm Optimizer for Solving the Set Partitioning Problem in the Presence of Partitioning Constraints. , 2015, , .		6
101	Incremental development of large, secure smart card applications. , 2012, , .		5
102	Quality over Quantity in Soft Constraints. , 2014, , .		5
103	Modeling test cases for security protocols with SecureMDD. Computer Networks, 2014, 58, 99-111.	5.1	5
104	Towards Real-time Process Monitoring and Machine Learning for Manufacturing Composite Structures. , 2020, , .		5
105	FlowFrontNet: Improving Carbon Composite Manufacturing with CNNs. Lecture Notes in Computer Science, 2021, , 411-426.	1.3	5
106	Modular Integration of Crashsafe Caching into a Verified Virtual File System Switch. Lecture Notes in Computer Science, 2020, , 218-236.	1.3	5
107	Robust Distance Estimation of Capacitive Proximity Sensors in HRI using Neural Networks. , 2020, , .		5
108	An Abstract Specification Language for Static Program Analysis. Electronic Notes in Theoretical Computer Science, 2009, 254, 181-197.	0.9	4

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109	Formal Specification and Analysis of Trusted Communities. , 2010, , .		4
110	Security requirements formalized with OCL in a model-driven approach. , 2013, , .		4
111	Executable Specifications of Safety-Critical Systems with S#. IFAC-PapersOnLine, 2015, 48, 44-49.	0.9	4
112	Self-Organized Resource Allocation for Reconfigurable Robot Ensembles. , 2018, , .		4
113	Architecture for Emergency Control of Autonomous UAV Ensembles. , 2021, , .		4
114	Flashix: Modular Verification of a Concurrent and Crash-Safe Flash File System. Lecture Notes in Computer Science, 2021, , 239-265.	1.3	4
115	Proving System Correctness with KIV 3.0. Lecture Notes in Computer Science, 1997, , 69-72.	1.3	4
116	A Compositional Proof Method for Linearizability Applied to a Wait-Free Multiset. Lecture Notes in Computer Science, 2014, , 357-372.	1.3	4
117	Bounded Relational Analysis of Free Data Types. , 2008, , 99-115.		4
118	Verification of Bâ€™+â€™ Trees: An Experiment Combining Shape Analysis and Interactive Theorem Proving. Lecture Notes in Computer Science, 2011, , 188-203.	1.3	4
119	RealCaPP: Real-time capable Plug & Produce communication platform with OPC UA over TSN for distributed industrial robot control. , 2021, , .		4
120	Multi-robot Cooperation for Assembly: Automated Planning and Optimization. Lecture Notes in Electrical Engineering, 2021, , 169-192.	0.4	4
121	Towards a Real-Time Capable Plug & Produce Environment for Adaptable Factories. , 2021, , .		4
122	Software & System Verification with KIV. Lecture Notes in Computer Science, 2022, , 408-436.	1.3	4
123	Reuse of proofs in software verification. Sadhana - Academy Proceedings in Engineering Sciences, 1996, 21, 229-244.	1.3	3
124	Pitfalls in Formal Reasoning about Security Protocols. , 2010, , .		3
125	A genetic algorithm for self-optimization in safety-critical resource-flow systems. , 2011, , .		3
126	Instantaneous switching between real-time commands for continuous execution of complex robotic tasks. , 2012, , .		3



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127	Managing extensibility and maintainability of industrial robotics software. , 2013, , .		3
128	An Effective Implementation of Norms in Trust-Aware Open Self-Organising Systems. , 2014, , .		3
129	Fault-Aware Modeling and Specification for Efficient Formal Safety Analysis. Lecture Notes in Computer Science, 2016, , 97-114.	1.3	3
130	Towards Re-orchestration of Real-Time Component Systems in Robotics. , 2017, , .		3
131	Ensemble Programming for Multipotent Systems. , 2019, , .		3
132	A Heuristic for Constrained Set Partitioning in the Light of Heterogeneous Objectives. Lecture Notes in Computer Science, 2015, , 223-244.	1.3	3
133	Unified Simulation, Visualization, and Formal Analysis of Safety-Critical Systems with. Lecture Notes in Computer Science, 2016, , 150-167.	1.3	3
134	On Deadlocks and Fairness in Self-organizing Resource-Flow Systems. Lecture Notes in Computer Science, 2010, , 87-100.	1.3	3
135	PermeabilityNets: Comparing Neural Network Architectures on a Sequence-to-Instance Task in CFRP Manufacturing. , 2021, , .		3
136	Formal Support for Development of Knowledge-Based Systems. Failure and Lessons Learned in Information Technology Management, 1998, 2, 173-182.	0.1	2
137	ASN1-light: A Verified Message Encoding for Security Protocols. , 2007, , .		2
138	Object-centric programming: A new modeling paradigm for robotic applications. , 2009, , .		2
139	Automated Flaw Detection in Algebraic Specifications. Journal of Automated Reasoning, 2010, 45, 359-395.	1.4	2
140	Ensuring correct self-reconfiguration in safety-critical applications by verified result checking. , 2011, , .		2
141	Model-Driven Testing of Security Protocols with SecureMDD. , 2012, , .		2
142	Quality Assurance for Self-Adaptive, Self-Organising Systems (Message from the Workshop) Tj ETQq0 0 0 rgBT /Overlock 10 If 50 142 T		2
143	Modeling information flow properties with UML. , 2015, , .		2
144	Abstracting security-critical applications for model checking in a model-driven approach. , 2015, , .		2

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145	Verification of B <sup>+</sup> trees by integration of shape analysis and interactive theorem proving. <i>Software and Systems Modeling</i> , 2015, 14, 27-44.	2.7	2
146	Toward Integrated Analysis & Testing of Component-Based, Adaptive Robot Systems. , 2016, , .		2
147	The Social Concept of Trust as Enabler for Robustness in Open Self-Organising Systems. , 2016, , 1-16.		2
148	Quantitative and qualitative safety analysis of a hemodialysis machine with S#. <i>Journal of Software: Evolution and Process</i> , 2018, 30, e1942.	1.6	2
149	Abstraction of Heterogeneous Supplier Models in Hierarchical Resource Allocation. <i>Lecture Notes in Computer Science</i> , 2015, , 23-53.	1.3	2
150	Automating Algebraic Specifications of Non-freely Generated Data Types. <i>Lecture Notes in Computer Science</i> , 2008, , 141-155.	1.3	2
151	Qualitative and quantitative analysis of safety-critical systems with. <i>International Journal on Software Tools for Technology Transfer</i> , 2018, 20, 359-377.	1.9	2
152	Towards a Tool-based Methodology for Developing Software for Dynamic Robot Teams. , 2018, , .		2
153	Modular and Domain-guided Multi-robot Planning for Assembly Processes. , 2019, , .		2
154	How to find assembly plans (fast): Hierarchical state space partitioning for efficient multi-robot assembly. , 2020, , .		2
155	Engineering self-coordinating software intensive systems. , 2010, , .		1
156	Active Learning for Efficient Sampling of Control Models of Collectives. , 2015, , .		1
157	On Structure and Distribution of Software for Mobile Manipulators. <i>Lecture Notes in Electrical Engineering</i> , 2016, , 209-227.	0.4	1
158	Specification and Design of Trust-Based Open Self-Organising Systems. , 2016, , 17-54.		1
159	Consistent World Models for Cooperating Robots: Separating Logical Relationships, Sensor Interpretation and Estimation. , 2017, , .		1
160	Symbolic execution for a clash-free subset of ASMs. <i>Science of Computer Programming</i> , 2018, 158, 21-40.	1.9	1
161	Case Study: Adaptive Test Automation for Testing an Adaptive Hadoop Resource Manager. , 2018, , .		1
162	Deadlock Avoidance for Multiple Tasks in a Self-Organizing Production Cell. , 2020, , .		1

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163	Semantic Plug and Play: An Architecture Combining Linked Data and Reconfigurable Hardware. , 2021, , .		1
164	Integrating a Model-Driven Approach and Formal Verification for the Development of Secure Service Applications. Texts and Monographs in Symbolic Computation, 2015, , 45-81.	0.4	1
165	Evaluation of Jif and Joana as Information Flow Analyzers in a Model-Driven Approach. Lecture Notes in Computer Science, 2013, , 174-186.	1.3	1
166	Formalizing Information Flow Control in a Model-Driven Approach. Lecture Notes in Computer Science, 2014, , 456-461.	1.3	1
167	A Relational Encoding for a Clash-Free Subset of ASMs. Lecture Notes in Computer Science, 2016, , 237-243.	1.3	1
168	Combining PosoMAS Method Content with Scrum: Agile Software Engineering for Open Self-Organising Systems. Scalable Computing, 2016, 16, .	1.0	1
169	Declassification of Information with Complex Filter Functions. , 2016, , .		1
170	Reducing Bias in Preference Aggregation for Multiagent Soft Constraint Problems. Lecture Notes in Computer Science, 2019, , 510-526.	1.3	1
171	Constraint-based Whole-Body-Control of Mobile Manipulators in Human-Centered Environments. , 2021, , .		1
172	Distributed Constraint Optimization for Task Allocation in Self-Adaptive Manufacturing Systems. , 2021, , .		1
173	Verification of Crashsafe Caching in a Virtual File System Switch. Formal Aspects of Computing, 2022, 34, 1-33.	1.8	1
174	Workshop Message. , 2011, , .		0
175	3rd edition of the workshop on trustworthy self-organizing systems (TSOS 2012). , 2012, , .		0
176	Secure Integration of Third Party Components in a Model-Driven Approach. Lecture Notes in Computer Science, 2016, , 66-86.	1.3	0
177	Integrating planning and reactive behavior by using semantically annotated robot tasks. Encyclopedia With Semantic Computing and Robotic Intelligence, 2018, 02, 1850005.	0.2	0
178	Integrating Reactive Behavior and Planning: Optimizing Execution Time Through Predictive Preparation of State Machine Tasks. , 2018, , .		0
179	A Wave-like Decentralized Reconfiguration Strategy for Self-organizing Resource-Flow Systems. Electronic Proceedings in Theoretical Computer Science, EPTCS, 0, 27, 32-33.	0.8	0
180	OC-Trust: Towards Trustworthy Organic Computing Systems. , 2011, , 593-595.		0

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181	Integration and Exchangeability of External Security-Critical Web Services in a Model-Driven Approach. Lecture Notes in Computer Science, 2015, , 63-73.	1.3	0
182	Code Abstractions for Automatic Information Flow Control in a Model-Driven Approach. Lecture Notes in Computer Science, 2017, , 209-218.	1.3	0
183	A Chained Neural Network Model for Photovoltaic Power Forecast. Lecture Notes in Computer Science, 2019, , 566-578.	1.3	0
184	Integrating planning and reactive behavior by using semantically annotated robot tasks. World Scientific Encyclopedia With Semantic Computing and Robotic Intelligence, 2019, , 111-120.	0.0	0
185	Industrial Robot Programming. , 2020, , 1-9.		0
186	Industrial Robot Programming. , 2020, , 1-9.		0
187	Learning Controllers for Adaptive Spreading of Carbon Fiber Tows. Lecture Notes in Computer Science, 2020, , 65-77.	1.3	0
188	A Real-Word Realization of the AntNet Routing Algorithm with ActivityBots. , 2021, , .		0
189	UAV Inspection of Large Components: Indoor Navigation Relative to Structures. , 2021, , .		0
190	Modeling and Execution of Coordinated Missions in Reconfigurable Robot Ensembles. , 2020, , .		0
191	ROSSi A Graphical Programming Interface for ROS 2. , 2021, , .		0