

# Pentti Kujala

## List of Publications by Year in descending order

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Version: 2024-02-01

87  
papers

3,754  
citations

136950

32  
h-index

128289

60  
g-index

87  
all docs

87  
docs citations

87  
times ranked

1481  
citing authors

#	ARTICLE	IF	CITATIONS
1	A comparative method for scaling SOLAS collision damage distributions based on ship crashworthiness " application to probabilistic damage stability analysis of a passenger ship. Ships and Offshore Structures, 2022, 17, 1498-1514.	1.9	15
2	A goal-based approach for selecting a ship's polar class. Marine Structures, 2022, 81, 103123.	3.8	2
3	Comparison of numerical approaches for structural response analysis of passenger ships in collisions and groundings. Marine Structures, 2022, 81, 103125.	3.8	17
4	A predictive analytics method for maritime traffic flow complexity estimation in inland waterways. Reliability Engineering and System Safety, 2022, 220, 108317.	8.9	70
5	A decision-making framework for selecting an MBSE language" A case study to ship pilotage. Expert Systems With Applications, 2022, 193, 116451.	7.6	13
6	An Artificial Bee Colony optimization-based approach for sizing and composition of Arctic offshore drilling support fleets considering cost-efficiency. Ship Technology Research, 2022, 69, 65-88.	2.5	2
7	Prognostic health management of repairable ship systems through different autonomy degree; From current condition to fully autonomous ship. Reliability Engineering and System Safety, 2022, 221, 108355.	8.9	19
8	A comprehensive approach to scenario-based risk management for Arctic waters. Ship Technology Research, 2022, 69, 129-157.	2.5	8
9	A simplified fluid structure interaction model for the assessment of ship hard grounding. Journal of Marine Science and Technology, 2022, 27, 695-711.	2.9	5
10	On reliability assessment of ship machinery system in different autonomy degree; A Bayesian-based approach. Ocean Engineering, 2022, 254, 111252.	4.3	8
11	A machine learning method for the evaluation of ship grounding risk in real operational conditions. Reliability Engineering and System Safety, 2022, 226, 108697.	8.9	57
12	The influence of fluid structure interaction modelling on the dynamic response of ships subject to collision and grounding. Marine Structures, 2021, 75, 102875.	3.8	28
13	Improving Near Miss Detection in Maritime Traffic in the Northern Baltic Sea from AIS Data. Journal of Marine Science and Engineering, 2021, 9, 180.	2.6	16
14	Probability of a ship becoming beset in ice along the Northern Sea Route " A Bayesian analysis of real-life data. Cold Regions Science and Technology, 2021, 184, 103238.	3.5	23
15	A Holistic Multi-Objective Design Optimization Approach for Arctic Offshore Supply Vessels. Sustainability, 2021, 13, 5550.	3.2	10
16	Special Issue on the Recent Advances in Safe Maritime Operations under Extreme Conditions. Applied Sciences (Switzerland), 2021, 11, 5789.	2.5	0
17	Next-Generation Smart Response Web (NG-SRW): An Operational Spatial Decision Support System for Maritime Oil Spill Emergency Response in the Gulf of Finland (Baltic Sea). Sustainability, 2021, 13, 6585.	3.2	7
18	A Big Data Analytics Method for the Evaluation of Ship - Ship Collision Risk reflecting Hydrometeorological Conditions. Reliability Engineering and System Safety, 2021, 213, 107674.	8.9	116

#	ARTICLE	IF	CITATIONS
19	A method for the direct assessment of ship collision damage and flooding risk in real conditions. Ocean Engineering, 2021, 237, 109605.	4.3	80
20	A probabilistic method for long-term estimation of ice loads on ship hull. Structural Safety, 2021, 93, 102130.	5.3	4
21	Short-term statistics of ice loads on ship bow frames in floe ice fields: Full-scale measurements in the Antarctic ocean. Marine Structures, 2021, 80, 103049.	3.8	9
22	Ship performance in ice channels narrower than ship beam: Model test and numerical investigation. Ocean Engineering, 2021, 240, 109922.	4.3	10
23	Shipborne sea-ice field mapping using a LiDAR. , 2021, , .		1
24	Simulation-Based Assessment of the Operational Performance of the Finnishâ€“Swedish Winter Navigation System. Applied Sciences (Switzerland), 2020, 10, 6747.	2.5	12
25	Local pressures for ships in ice: Probabilistic analysis of full-scale line-load data. Marine Structures, 2020, 74, 102822.	3.8	11
26	A framework to model the STPA hierarchical control structure of an autonomous ship. Safety Science, 2020, 132, 104939.	4.9	58
27	Numerical simulation of ship performance in level ice: A framework and a model. Applied Ocean Research, 2020, 102, 102288.	4.1	15
28	Remote piloting in an intelligent fairway â€“ A paradigm for future pilotage. Safety Science, 2020, 130, 104889.	4.9	18
29	Effect of Maneuvering on Ice-Induced Loading on Ship Hull: Dedicated Full-Scale Tests in the Baltic Sea. Journal of Marine Science and Engineering, 2020, 8, 759.	2.6	7
30	Preventing shipping accidents: Past, present, and future of waterway risk management with Baltic Sea focus. Safety Science, 2020, 129, 104798.	4.9	60
31	Improving stand-on ship's situational awareness by estimating the intention of the give-way ship. Ocean Engineering, 2020, 201, 107110.	4.3	60
32	Finite element based meta-modeling of ship-ice interaction at shoulder and midship areas for ship performance simulation. Marine Structures, 2020, 71, 102736.	3.8	27
33	A Framework for Integrating Life-Safety and Environmental Consequences into Conventional Arctic Shipping Risk Models. Applied Sciences (Switzerland), 2020, 10, 2937.	2.5	14
34	A Complete Process For Shipborne Sea-Ice Field Analysis Using Machine Vision. IFAC-PapersOnLine, 2020, 53, 14539-14545.	0.9	7
35	Future Scenarios for Arctic Shipping. , 2020, , .		2
36	Use of HFACS and fault tree model for collision risk factors analysis of icebreaker assistance in ice-covered waters. Safety Science, 2019, 111, 128-143.	4.9	178

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37	A systemic hazard analysis and management process for the concept design phase of an autonomous vessel. <i>Reliability Engineering and System Safety</i> , 2019, 191, 106584.	8.9	65
38	Rotating ice cusps on ship's bow shoulder: Full-scale study on the cusp sizes and corresponding peak loads in different ice and operational conditions. <i>Ocean Engineering</i> , 2019, 189, 106280.	4.3	6
39	An extended ice failure model to improve the fidelity of icebreaking pattern in numerical simulation of ship performance in level ice. <i>Ocean Engineering</i> , 2019, 176, 169-183.	4.3	23
40	A Bayesian Network risk model for assessing oil spill recovery effectiveness in the ice-covered Northern Baltic Sea. <i>Marine Pollution Bulletin</i> , 2019, 139, 440-458.	5.0	42
41	Analysis of a Collision-Energy-Based Method for the Prediction of Ice Loading on Ships. <i>Applied Sciences (Switzerland)</i> , 2019, 9, 4546.	2.5	10
42	Review of risk-based design for ice-class ships. <i>Marine Structures</i> , 2019, 63, 181-195.	3.8	48
43	From data to insight for a polar supply and research vessel. <i>Ship Technology Research</i> , 2019, 66, 57-73.	2.5	13
44	Predicting local ice loads on ship bow as a function of ice and operational conditions in the Southern Sea. <i>Ship Technology Research</i> , 2018, 65, 87-101.	2.5	3
45	Load carrying capacity of ice-strengthened frames under idealized ice load and boundary conditions. <i>Marine Structures</i> , 2018, 58, 18-30.	3.8	18
46	Evaluation of selected state-of-the-art methods for ship transit simulation in various ice conditions based on full-scale measurement. <i>Cold Regions Science and Technology</i> , 2018, 151, 94-108.	3.5	32
47	Increasing energy efficiency in passenger ships by novel energy conservation measures. <i>Journal of Marine Engineering and Technology</i> , 2018, 17, 85-98.	4.1	18
48	Purity and mechanical strength of naturally frozen ice in wastewater basins. <i>Water Research</i> , 2018, 145, 418-428.	11.3	9
49	Influence of load length on short-term ice load statistics in full-scale. <i>Marine Structures</i> , 2017, 52, 153-172.	3.8	28
50	Predicting ice-induced load amplitudes on ship bow conditional on ice thickness and ship speed in the Baltic Sea. <i>Cold Regions Science and Technology</i> , 2017, 135, 116-126.	3.5	35
51	Numerical Modeling of Marine Circulation, Pollution Assessment and Optimal Ship Routes. <i>Journal of Marine Science and Engineering</i> , 2017, 5, 27.	2.6	10
52	Towards mission-based structural design for arctic regions. <i>Ship Technology Research</i> , 2017, 64, 115-128.	2.5	4
53	Effect of pressure distribution on the capacity of ship structure frames. , 2017, , .		0
54	Modelling of a Cruise Shipbuilding Process for Analyzing the Effect of Organization on Production Efficiency. <i>Journal of Ship Production and Design</i> , 2017, 33, 101-121.	0.4	1

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55	Towards an evidence-based probabilistic risk model for ship-grounding accidents. <i>Safety Science</i> , 2016, 86, 195-210.	4.9	71
56	Representing Ice Loads with Pressure Patches in the Analysis of Ship Structures. , 2016, , .		0
57	A method for extracting key performance indicators from maritime safety management norms. <i>WMU Journal of Maritime Affairs</i> , 2016, 15, 237-265.	2.7	13
58	Risk management model of winter navigation operations. <i>Marine Pollution Bulletin</i> , 2016, 108, 242-262.	5.0	79
59	Towards probabilistic models for the prediction of a ship performance in dynamic ice. <i>Cold Regions Science and Technology</i> , 2015, 112, 14-28.	3.5	87
60	Assessing Grounding Frequency using Ship Traffic and Waterway Complexity. <i>Journal of Navigation</i> , 2015, 68, 89-106.	1.7	43
61	A risk-informed ship collision alert system: Framework and application. <i>Safety Science</i> , 2015, 77, 182-204.	4.9	130
62	A risk analysis of winter navigation in Finnish sea areas. <i>Accident Analysis and Prevention</i> , 2015, 79, 100-116.	5.7	91
63	A method for detecting possible near miss ship collisions from AIS data. <i>Ocean Engineering</i> , 2015, 107, 60-69.	4.3	188
64	Uncertainty in maritime risk analysis: Extended case study on chemical tanker collisions. <i>Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment</i> , 2015, 229, 303-320.	0.5	12
65	Expert elicitation of a navigation service implementation effects on ship groundings and collisions in the Gulf of Finland. <i>Proceedings of the Institution of Mechanical Engineers, Part O: Journal of Risk and Reliability</i> , 2014, 228, 19-28.	0.7	17
66	Optimization-based material parameter identification for the numerical simulation of sea ice in four-point bending. <i>Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment</i> , 2014, 228, 70-80.	0.5	3
67	The problem of control of oil pollution risk in the Baltic Sea. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 2014, 29, .	0.6	1
68	The Baltic Sea circulation modelling and assessment of marine pollution. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 2014, 29, .	0.6	9
69	Risk theory based solution to the problem of optimal vessel route. <i>Russian Journal of Numerical Analysis and Mathematical Modelling</i> , 2014, 29, .	0.6	2
70	Modeling the risk of ship groundingâ€”a literature review from a risk management perspective. <i>WMU Journal of Maritime Affairs</i> , 2014, 13, 269-297.	2.7	61
71	On the reliability and validity of shipâ€”ship collision risk analysis in light of different perspectives on risk. <i>Safety Science</i> , 2014, 62, 348-365.	4.9	118
72	A framework for risk assessment for maritime transportation systemsâ€”A case study for open sea collisions involving RoPax vessels. <i>Reliability Engineering and System Safety</i> , 2014, 124, 142-157.	8.9	194

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73	Bayesian network model of maritime safety management. Expert Systems With Applications, 2014, 41, 7837-7846.	7.6	114
74	Variation in short-term ice-induced load amplitudes on a ship's hull and related probability distributions. Cold Regions Science and Technology, 2014, 106-107, 131-140.	3.5	22
75	On a systematic perspective on risk for formal safety assessment (FSA). Reliability Engineering and System Safety, 2014, 127, 77-85.	8.9	79
76	Tools for an Extended Risk Assessment for Ropax Ship-Ship Collision. , 2014, , .		4
77	Impact scenario models for probabilistic risk-based design for ship-ship collision. Marine Structures, 2013, 33, 238-264.	3.8	47
78	A probabilistic model estimating oil spill clean-up costs – A case study for the Gulf of Finland. Marine Pollution Bulletin, 2013, 76, 61-71.	5.0	71
79	Model-scale ice – Part A: Experiments. Cold Regions Science and Technology, 2013, 94, 74-81.	3.5	20
80	Collision consequence estimation model for chemical tankers. Proceedings of the Institution of Mechanical Engineers Part M: Journal of Engineering for the Maritime Environment, 2013, 227, 98-106.	0.5	3
81	Statistical analysis of ice crushing pressures on a ship's hull during hull-ice interaction. Cold Regions Science and Technology, 2012, 70, 1-11.	3.5	37
82	Influences of variables on ship collision probability in a Bayesian belief network model. Reliability Engineering and System Safety, 2012, 102, 27-40.	8.9	167
83	Influence of impact scenario models on collision risk analysis. Ocean Engineering, 2012, 47, 74-87.	4.3	54
84	Traffic simulation based ship collision probability modeling. Reliability Engineering and System Safety, 2011, 96, 91-107.	8.9	221
85	Probability modelling of vessel collisions. Reliability Engineering and System Safety, 2010, 95, 573-589.	8.9	208
86	Analysis of the marine traffic safety in the Gulf of Finland. Reliability Engineering and System Safety, 2009, 94, 1349-1357.	8.9	217
87	Semi-empirical evaluation of long term ice loads on a ship hull. Marine Structures, 1996, 9, 849-871.	3.8	17