

# Kemal Hanjalic

## List of Publications by Year in descending order

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125  
papers

7,032  
citations

66234

42  
h-index

62479

80  
g-index

133  
all docs

133  
docs citations

133  
times ranked

2796  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Reynolds stress model of turbulence and its application to thin shear flows. <i>Journal of Fluid Mechanics</i> , 1972, 52, 609-638.	1.4	921
2	A robust near-wall elliptic-relaxation eddy-viscosity turbulence model for CFD. <i>International Journal of Heat and Fluid Flow</i> , 2004, 25, 1047-1051.	1.1	416
3	Contribution towards a Reynolds-stress closure for low-Reynolds-number turbulence. <i>Journal of Fluid Mechanics</i> , 1976, 74, 593-610.	1.4	393
4	Vortical structures and heat transfer in a round impinging jet. <i>Journal of Fluid Mechanics</i> , 2008, 596, 221-260.	1.4	277
5	Elliptic blending model: A new near-wall Reynolds-stress turbulence closure. <i>Physics of Fluids</i> , 2002, 14, 744-754.	1.6	242
6	Fully developed asymmetric flow in a plane channel. <i>Journal of Fluid Mechanics</i> , 1972, 51, 301-335.	1.4	239
7	Advanced turbulence closure models: a view of current status and future prospects. <i>International Journal of Heat and Fluid Flow</i> , 1994, 15, 178-203.	1.1	189
8	Compound Wall Treatment for RANS Computation of Complex Turbulent Flows and Heat Transfer. <i>Flow, Turbulence and Combustion</i> , 2007, 78, 177-202.	1.4	189
9	Modeling Rotating and Swirling Turbulent Flows: A Perpetual Challenge. <i>AIAA Journal</i> , 2002, 40, 1984-1996.	1.5	170
10	A new approach to modelling near-wall turbulence energy and stress dissipation. <i>Journal of Fluid Mechanics</i> , 2002, 459, 139-166.	1.4	147
11	A hybrid two-layer URANS-LES approach for large eddy simulation at high Reynolds numbers. <i>International Journal of Heat and Fluid Flow</i> , 2005, 26, 173-190.	1.1	139
12	Vortex structure and heat transfer in turbulent flow over a wall-mounted matrix of cubes. <i>International Journal of Heat and Fluid Flow</i> , 1999, 20, 255-267.	1.1	125
13	ONE-POINT CLOSURE MODELS FOR BUOYANCY-DRIVEN TURBULENT FLOWS. <i>Annual Review of Fluid Mechanics</i> , 2002, 34, 321-347.	10.8	120
14	Contribution towards the second-moment closure modelling of separating turbulent flows. <i>Computers and Fluids</i> , 1998, 27, 137-156.	1.3	108
15	Experimental investigation of impinging jet arrays. <i>Experiments in Fluids</i> , 2004, 36, 946-958.	1.1	107
16	Contribution to elliptic relaxation modelling of turbulent natural and mixed convection. <i>International Journal of Heat and Fluid Flow</i> , 2005, 26, 569-586.	1.1	103
17	High-speed visualization and PIV measurements of cavitating flows around a semi-circular leading-edge flat plate and NACA0015 hydrofoil. <i>International Journal of Multiphase Flow</i> , 2014, 60, 119-134.	1.6	103
18	Experimental Study of the Local Convection Heat Transfer From a Wall-Mounted Cube in Turbulent Channel Flow. <i>Journal of Heat Transfer</i> , 1999, 121, 564-573.	1.2	98

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19	Natural convection in partitioned two-dimensional enclosures at higher Rayleigh numbers. <i>International Journal of Heat and Mass Transfer</i> , 1996, 39, 1407-1427.	2.5	77
20	Transient analysis of Rayleigh-Bénard convection with a RANS model. <i>International Journal of Heat and Fluid Flow</i> , 1999, 20, 329-340.	1.1	76
21	Comparative analysis of low- and high-swirl confined flames and jets by proper orthogonal and dynamic mode decompositions. <i>Physics of Fluids</i> , 2014, 26, .	1.6	73
22	On the implementation of effects of Lorentz force in turbulence closure models. <i>International Journal of Heat and Fluid Flow</i> , 2000, 21, 329-337.	1.1	72
23	Heat transfer correlation for hexagonal and in-line arrays of impinging jets. <i>International Journal of Heat and Mass Transfer</i> , 2008, 51, 5389-5399.	2.5	71
24	Local convective heat transfer from an array of wall-mounted cubes. <i>International Journal of Heat and Mass Transfer</i> , 1998, 41, 335-346.	2.5	67
25	Experimental study and analytical reconstruction of precessing vortex in a tangential swirler. <i>International Journal of Heat and Fluid Flow</i> , 2013, 42, 251-264.	1.1	66
26	Investigation of the influence of oil injection upon the screw compressor working process. <i>International Journal of Refrigeration</i> , 1992, 15, 206-220.	1.8	65
27	Computational study of turbulent natural convection in a side-heated near-cubic enclosure at a high Rayleigh number. <i>International Journal of Heat and Mass Transfer</i> , 2001, 44, 2323-2344.	2.5	64
28	Wall imprint of turbulent structures and heat transfer in multiple impinging jet arrays. <i>Journal of Fluid Mechanics</i> , 2006, 546, 255.	1.4	61
29	Experimental study of the convective heat transfer from in-line and staggered configurations of two wall-mounted cubes. <i>International Journal of Heat and Mass Transfer</i> , 2002, 45, 465-482.	2.5	60
30	Turbulent heat transfer from a multi-layered wall-mounted cube matrix: a large eddy simulation. <i>International Journal of Heat and Fluid Flow</i> , 2002, 23, 173-185.	1.1	58
31	Convective rolls and heat transfer in finite-length Rayleigh-Bénard convection: A two-dimensional numerical study. <i>Physical Review E</i> , 2000, 62, 7987-7998.	0.8	57
32	LES, T-RANS and hybrid simulations of thermal convection at high Ra numbers. <i>International Journal of Heat and Fluid Flow</i> , 2006, 27, 800-810.	1.1	55
33	A comparative assessment of the second-moment differential and algebraic models in turbulent natural convection. <i>International Journal of Heat and Fluid Flow</i> , 1997, 18, 4-14.	1.1	51
34	Prediction of turbulent thermal convection in concentric and eccentric horizontal annuli. <i>International Journal of Heat and Fluid Flow</i> , 1995, 16, 429-439.	1.1	50
35	Title is missing!. <i>Flow, Turbulence and Combustion</i> , 2001, 66, 427-451.	1.4	50
36	Unsteady regimes and pressure pulsations in draft tube of a model hydro turbine in a range of off-design conditions. <i>Experimental Thermal and Fluid Science</i> , 2018, 91, 410-422.	1.5	50

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37	Some developments in turbulence modeling for wind and environmental engineering. Journal of Wind Engineering and Industrial Aerodynamics, 2008, 96, 1537-1570.	1.7	48
38	Vortex structures and heat transfer in a wall-bounded pin matrix: LES with a RANS wall-treatment. International Journal of Heat and Fluid Flow, 2010, 31, 740-753.	1.1	47
39	Scrutinizing URANS in Shedding Flows: The Case of Cylinder in Cross-Flow in the Subcritical Regime. Flow, Turbulence and Combustion, 2016, 97, 1017-1046.	1.4	47
40	Computation of turbulent natural convection in rectangular enclosures with an algebraic flux model. International Journal of Heat and Mass Transfer, 1993, 36, 3603-3624.	2.5	46
41	Particle imaging velocimetry-based identification of coherent structures in normally impinging multiple jets. Physics of Fluids, 2005, 17, 055105.	1.6	46
42	Numerical simulation of magnetic control of heat transfer in thermal convection. International Journal of Heat and Fluid Flow, 2004, 25, 559-568.	1.1	45
43	A new form of the elliptic relaxation equation to account for wall effects in RANS modeling. Physics of Fluids, 2000, 12, 2345-2351.	1.6	40
44	Modelling of particles deposition in an environment relevant to solid fuel boilers. Applied Thermal Engineering, 2012, 49, 131-138.	3.0	40
45	Determination of the laminar burning velocity and the Markstein length of powder-air flames. Powder Technology, 2002, 122, 222-238.	2.1	39
46	Symmetry breaking of flow and heat transfer in multiple impinging jets. International Journal of Heat and Fluid Flow, 2003, 24, 444-453.	1.1	39
47	Autothermal combustion of mechanically-activated micronized coal in a 5MW pilot-scale combustor. Fuel, 2014, 122, 103-111.	3.4	38
48	Comparative analysis of twin vortex ropes in laboratory models of two hydro-turbine draft-tubes. Journal of Hydraulic Research/De Recherches Hydrauliques, 2016, 54, 450-460.	0.7	38
49	Double-diffusive natural convection in trapezoidal enclosures. International Journal of Heat and Mass Transfer, 1998, 41, 1885-1898.	2.5	37
50	Expanding the limits of "equilibrium"-second-moment turbulence closures. Fluid Dynamics Research, 1997, 20, 25-41.	0.6	35
51	A direct-numerical-simulation-based second-moment closure for turbulent magnetohydrodynamic flows. Physics of Fluids, 2004, 16, 1229-1241.	1.6	34
52	Numerical Simulation of a Turbulent Magnetic Dynamo. Physical Review Letters, 2007, 98, 104501.	2.9	34
53	Computation of tip-leakage flow in a linear compressor cascade with a second-moment turbulence closure. International Journal of Heat and Fluid Flow, 2007, 28, 587-601.	1.1	33
54	URANS of flow and endwall heat transfer in a pinned passage relevant to gas-turbine blade cooling. International Journal of Heat and Fluid Flow, 2009, 30, 549-560.	1.1	32

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55	Manipulating cavitation by a wall jet: Experiments on a 2D hydrofoil. <i>International Journal of Multiphase Flow</i> , 2018, 99, 312-328.	1.6	32
56	Experiments on a rotating-pipe swirl burner. <i>Experimental Thermal and Fluid Science</i> , 2003, 27, 481-489.	1.5	31
57	Large-eddy simulation and deduced scaling analysis of Rayleigh-Bénard convection up to $Ra = 10^9$ . <i>Journal of Turbulence</i> , 2006, 7, N66.	0.5	31
58	Computational modeling of autothermal combustion of mechanically-activated micronized coal. <i>Fuel</i> , 2014, 135, 443-458.	3.4	30
59	Mechanical activation of micronized coal: Prospects for new combustion applications. <i>Applied Thermal Engineering</i> , 2015, 74, 174-181.	3.0	30
60	Cavitating flow around a scaled-down model of guide vanes of a high-pressure turbine. <i>International Journal of Multiphase Flow</i> , 2016, 78, 75-87.	1.6	30
61	A model of stress dissipation in second-moment closures. <i>Flow, Turbulence and Combustion</i> , 1993, 51, 513-518.	0.2	29
62	Application of infrared thermography to the evaluation of local convective heat transfer on arrays of cubical protrusions. <i>International Journal of Heat and Fluid Flow</i> , 1997, 18, 152-159.	1.1	29
63	Numerical Study of Winter Diurnal Convection Over the City of Krasnoyarsk: Effects of Non-freezing River, Undulating Fog and Steam Devils. <i>Boundary-Layer Meteorology</i> , 2017, 163, 469-495.	1.2	29
64	Tackling complex turbulent flows with transient RANS. <i>Fluid Dynamics Research</i> , 2009, 41, 012201.	0.6	28
65	Helical modes in low- and high-swirl jets measured by tomographic PIV. <i>Journal of Turbulence</i> , 2016, 17, 678-698.	0.5	28
66	Vortices and heat flux around a wall-mounted cube cooled simultaneously by a jet and a crossflow. <i>International Journal of Heat and Mass Transfer</i> , 2009, 52, 4047-4062.	2.5	27
67	Vortical structures and pressure pulsations in draft tube of a Francis-99 turbine at part load: RANS and hybrid RANS/LES analysis. <i>International Journal of Heat and Fluid Flow</i> , 2017, 63, 158-171.	1.1	27
68	Effects of reburning mechanically-activated micronized coal on reduction of NO <sub>x</sub> : Computational study of a real-scale tangentially-fired boiler. <i>Fuel</i> , 2018, 214, 215-229.	3.4	26
69	Large-eddy simulations of flow over a jet-impinged wall-mounted cube in a cross stream. <i>International Journal of Heat and Fluid Flow</i> , 2007, 28, 1360-1378.	1.1	25
70	Control of flow around a cylinder by rotary oscillations at a high subcritical Reynolds number. <i>Journal of Fluid Mechanics</i> , 2018, 855, 236-266.	1.4	25
71	A DNS-based thermal second-moment closure for buoyant convection at vertical walls. <i>Journal of Fluid Mechanics</i> , 1999, 391, 211-247.	1.4	24
72	Hysteresis and transition in swirling nonpremixed flames. <i>Combustion and Flame</i> , 2009, 156, 447-459.	2.8	24

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73	Separation-Induced Transition to Turbulence: Second-Moment Closure Modelling. <i>Flow, Turbulence and Combustion</i> , 2000, 63, 153-173.	1.4	23
74	Cavitation on NACA0015 hydrofoils with different wall roughness: high-speed visualization of the surface texture effects. <i>Journal of Visualization</i> , 2016, 19, 587-590.	1.1	23
75	Numerical simulation of coal-air mixture flow in a real double-swirl burner and implications on combustion anomalies in a utility boiler. <i>Energy</i> , 2019, 170, 942-953.	4.5	23
76	Effects of rotation on flow in an asymmetric rib-roughened duct: LES study. <i>International Journal of Heat and Fluid Flow</i> , 2015, 55, 104-119.	1.1	21
77	LES of turbulent flow in a concentric annulus with rotating outer wall. <i>International Journal of Heat and Fluid Flow</i> , 2013, 43, 74-84.	1.1	20
78	Dynamic simulation of pollutant dispersion over complex urban terrains: A tool for sustainable development, control and management*1. <i>Energy</i> , 2005, 30, 1481-1497.	4.5	19
79	Coupled fluid-flow and magnetic-field simulation of the Riga dynamo experiment. <i>Physics of Plasmas</i> , 2006, 13, 122308.	0.7	19
80	Vortex ropes in draft tube of a laboratory Kaplan hydroturbine at low load: an experimental and LES scrutiny of RANS and DES computational models. <i>Journal of Hydraulic Research/De Recherches Hydrauliques</i> , 2017, 55, 668-685.	0.7	19
81	Prediction of Cascade Flows With Innovative Second-Moment Closures. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2005, 127, 1059-1070.	0.8	18
82	Numerical insights into magnetic dynamo action in a turbulent regime. <i>New Journal of Physics</i> , 2007, 9, 306-306.	1.2	18
83	Characterization of the flame blow-off conditions in a laminar boundary layer with hydrogen injection. <i>Combustion and Flame</i> , 2013, 160, 1999-2008.	2.8	18
84	A two-scale second-moment turbulence closure based on weighted spectrum integration. <i>Theoretical and Computational Fluid Dynamics</i> , 2004, 18, 1-26.	0.9	17
85	Second-Moment Closure Model for IC Engine Flow Simulation Using Kiva Code1. <i>Journal of Engineering for Gas Turbines and Power</i> , 2000, 122, 355-363.	0.5	16
86	On the Application of the Levenberg-Marquardt Method in Conjunction with an Explicit Runge-Kutta and an Implicit Rosenbrock Method to Assess Burning Velocities from Confined Deflagrations. <i>Flow, Turbulence and Combustion</i> , 2013, 91, 281-317.	1.4	16
87	Numerical and experimental study of electromagnetically driven vortical flows. <i>International Journal of Heat and Fluid Flow</i> , 2009, 30, 494-504.	1.1	15
88	On Impact of Helical Structures on Stabilization of Swirling Flames with Vortex Breakdown. <i>Flow, Turbulence and Combustion</i> , 2019, 103, 887-911.	1.4	15
89	Measurement of velocity-temperature correlations in a turbulent diffusion flame. <i>Experiments in Fluids</i> , 2004, 37, 364-374.	1.1	13
90	Computations of a turbulent wake in a strong adverse pressure gradient. <i>International Journal of Heat and Fluid Flow</i> , 2007, 28, 418-428.	1.1	13

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91	Leray- $\hat{\pm}$ Regularization of the Smagorinsky-Closed Filtered Equations for Turbulent Jets at High Reynolds Numbers. <i>Flow, Turbulence and Combustion</i> , 2012, 89, 627-650.	1.4	13
92	Large-eddy simulations of heat transfer in asymmetric rib-roughened ducts: Effects of rotation. <i>International Journal of Heat and Fluid Flow</i> , 2017, 68, 373-385.	1.1	13
93	Some resolved and unresolved issues in modelling non-equilibrium and unsteady turbulent flows. , 1996, , 3-18.		13
94	A computational study of joint effects of transverse shear and streamwise acceleration on three-dimensional boundary layers. <i>International Journal of Heat and Fluid Flow</i> , 1994, 15, 269-282.	1.1	12
95	Estimation of shape factor for transient conduction. <i>International Journal of Refrigeration</i> , 2003, 26, 360-367.	1.8	12
96	A KIVA code with Reynolds-stress model for engine flow simulation. <i>Energy</i> , 2005, 30, 427-445.	4.5	12
97	DNS, experimental and modelling study of axially compressed in-cylinder swirling flow. <i>International Journal of Heat and Fluid Flow</i> , 2000, 21, 627-639.	1.1	11
98	High-speed imaging of cavitation regimes on a round-leading-edge flat plate and NACA0015 hydrofoil. <i>Journal of Visualization</i> , 2013, 16, 181-184.	1.1	11
99	Heat transfer in flow around a rotary oscillating cylinder at a high subcritical Reynolds number: A computational study. <i>International Journal of Heat and Fluid Flow</i> , 2019, 79, 108441.	1.1	11
100	On dynamics and secondary currents in meandering confined turbulent shallow jet. <i>International Journal of Heat and Fluid Flow</i> , 2015, 56, 284-289.	1.1	10
101	Unstructured large eddy and conjugate heat transfer simulations of wall-bounded flows. <i>WIT Transactions on State-of-the-art in Science and Engineering</i> , 2005, , 30-68.	0.0	10
102	Modeling the dynamics of double-diffusive scalar fields at various stability conditions. <i>International Journal of Heat and Fluid Flow</i> , 1997, 18, 360-367.	1.1	9
103	Synergy of experiments and computer simulations in research of turbulent convection. <i>International Journal of Heat and Fluid Flow</i> , 2005, 26, 828-842.	1.1	9
104	LES Investigation of the Hysteresis Regime in the Cold Model of a Rotating-Pipe Swirl Burner. <i>Flow, Turbulence and Combustion</i> , 2015, 94, 175-198.	1.4	9
105	Ground Boundary Conditions for Thermal Convection Over Horizontal Surfaces at High Rayleigh Numbers. <i>Boundary-Layer Meteorology</i> , 2016, 160, 41-61.	1.2	9
106	Reassessment of modeling turbulence via Reynolds averaging: A review of second-moment transport strategy. <i>Physics of Fluids</i> , 2021, 33, .	1.6	9
107	River-Induced Anomalies in Seasonal Variation of Traffic-Emitted CO Distribution over the City of Krasnoyarsk. <i>Atmosphere</i> , 2019, 10, 407.	1.0	8
108	Contribution towards modelling of two-stage reciprocating compressors. <i>International Journal of Mechanical Sciences</i> , 1977, 19, 439-445.	3.6	7

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109	Identification and visualization of coherent structures in rayleigh-bénard convection with a time-dependent RANS. Journal of Visualization, 1999, 2, 169-176.	1.1	7
110	Expanding the Stability Range of a Lifted Propane Flame by Resonant Acoustic Excitation. Combustion Science and Technology, 2013, 185, 1644-1666.	1.2	7
111	Experimental and numerical simulation for swirl flow in a combustor. Thermal Engineering (English) Tj ETQq1 1 0.784314 rgBT <sub>0</sub> /Overl	0.4	0
112	On coherent structures and mixing characteristics in the near field of a rotating-pipe jet. International Journal of Heat and Fluid Flow, 2017, 63, 139-148.	1.1	6
113	Modeling rotating and swirling turbulent flows - A perpetual challenge. AIAA Journal, 2002, 40, 1984-1996.	1.5	6
114	Determining instability modes in a gas flame. Technical Physics Letters, 2013, 39, 308-311.	0.2	5
115	Simulation and Identification of Deterministic Structures in Thermal and Magnetic Convection. Annals of the New York Academy of Sciences, 2002, 972, 19-28.	1.8	4
116	Cavitation on a semicircular leading-edge plate and NACA0015 hydrofoil: Visualization and velocity measurement. Thermal Engineering (English Translation of Teploenergetika), 2014, 61, 1007-1014.	0.4	4
117	Heat transfer of phase-locked modulated impinging-jet arrays. Experimental Thermal and Fluid Science, 2002, 26, 299-304.	1.5	2
118	Laboratory modeling of flow regimes in a draft tube of Francis hydro-turbine. EPJ Web of Conferences, 2017, 143, 02103.	0.1	2
119	Visualization of air flow and smoke spreading for realistic indoor-climate situations. Journal of Visualization, 2004, 7, 268-268.	1.1	1
120	Active heat transfer and flow control over a cylinder by rotary oscillations. AIP Conference Proceedings, 2021, , .	0.3	1
121	Visualization of turbulence structures reorganization in thermal convection subjected to external magnetic field. Journal of Visualization, 2004, 7, 6-6.	1.1	0
122	Large eddy simulations of turbulent thermal convection at high Rayleigh number. Journal of Visualization, 2004, 7, 105-105.	1.1	0
123	Academician Alexander Ivanovich Leontiev on his 90th birthday. International Journal of Heat and Mass Transfer, 2017, 109, 689.	2.5	0
124	In Memoriam - Graham de Vahl Davis. International Journal of Heat and Mass Transfer, 2020, 152, 119486.	2.5	0
125	A PERSPECTIVE ON COMBINING RANS AND LES FOR COMPUTING COMPLEX FLOWS AND HEAT TRANSFER(Keynote Lecture). The Proceedings of the International Conference on Jets Wakes and Separated Flows (ICJWSF), 2005, 2005, 25-34.	0.1	0