Franck Nicoud

List of Publications by Year
in descending order

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132 papers	8,417 citations	109137 35 h-index	45213 90 g-index
139 all docs	139 docs citations	139 times ranked	4271 citing authors

#	Article	IF	Citations
1	A Pipeline for the Generation of Synthetic Cardiac Color Doppler. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2022, 69, 932-941.	1.7	5
2	Full-volume three-component intraventricular vector flow mapping by triplane color Doppler. Physics in Medicine and Biology, 2022, 67, 095004.	1.6	3
3	Heat-release dynamics in a doubly-transcritical LO2/LCH4 cryogenic coaxial jet flame subjected to fuel inflow acoustic modulation. Proceedings of the Combustion Institute, 2021, 38, 6375-6383.	2.4	10
4	3-D Intraventricular Vector Flow Mapping Using Triplane Doppler Echo. Lecture Notes in Computer Science, 2021, , 587-594.	1.0	0
5	Numerical simulation of time-resolved 3D phase-contrast magnetic resonance imaging. PLoS ONE, 2021, 16, e0248816.	1.1	9
6	Representing the geometrical complexity of liners and boundaries in low-order modeling for thermoacoustic instabilities. Journal of Computational Physics, 2021, 428, 110077.	1.9	8
7	Impact of the membrane viscosity on the tank-treading behavior of red blood cells. Physical Review Fluids, 2021, 6, .	1.0	13
8	Detecting cells rotations for increasing the robustness of cell sizing by impedance measurements, with or without machine learning. Cytometry Part A: the Journal of the International Society for Analytical Cytology, 2021, 99, 977-986.	1.1	3
9	Stochastic forcing for sub-grid scale models in wall-modeled large-eddy simulation. Physics of Fluids, 2021, 33, .	1.6	9
10	Mathematical and computational modeling of device-induced thrombosis. Current Opinion in Biomedical Engineering, 2021, 20, 100349.	1.8	11
11	A Heterogeneous Model of Endovascular Devices for the Treatment of Intracranial Aneurysms. International Journal for Numerical Methods in Biomedical Engineering, 2021, , e3552.	1.0	3
12	Physics-constrained intraventricular vector flow mapping by color Doppler. Physics in Medicine and Biology, 2021, 66, 245019.	1.6	6
13	Augmented patientâ€specific functional medical imaging by implicit manifold learning. International Journal for Numerical Methods in Biomedical Engineering, 2020, 36, e3325.	1.0	0
14	Combining analytical models and LES data to determine the transfer function from swirled premixed flames. Combustion and Flame, 2020, 217, 222-236.	2.8	20
15	Solution of Thermoacoustic Eigenvalue Problems With a Noniterative Method. Journal of Engineering for Gas Turbines and Power, 2020, 142, .	0.5	14
16	Surrogates for Combustion Instabilities in Annular Combustors. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2019, , 247-263.	0.2	1
17	Uncertainties for Thermoacoustics: A First Analysis. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2019, , 71-88.	0.2	0
18	Numerical simulation of deformable particles in a Coulter counter. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3243.	1.0	15

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19	A novel modal expansion method for low-order modeling of thermoacoustic instabilities in complex geometries. Combustion and Flame, 2019, 206, 334-348.	2.8	12
20	Kinetics of the coagulation cascade including the contact activation system: sensitivity analysis and model reduction. Biomechanics and Modeling in Mechanobiology, 2019, 18, 1139-1153.	1.4	19
21	Reconciling PCâ€MRI and CFD: An inâ€vitro study. NMR in Biomedicine, 2019, 32, e4063.	1.6	26
22	Backward sensitivity analysis and reducedâ€order covariance estimation in noninvasive parameter identification for cerebral arteries. International Journal for Numerical Methods in Biomedical Engineering, 2019, 35, e3170.	1.0	2
23	Application of UQ to Combustor Design. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2019, , 399-414.	0.2	0
24	A Thickened-Hole Model for Large Eddy Simulations over Multiperforated Liners. Flow, Turbulence and Combustion, 2018, 101, 705-717.	1.4	9
25	Introducing the pro-coagulant contact system in the numerical assessment of device-related thrombosis. Biomechanics and Modeling in Mechanobiology, 2018, 17, 815-826.	1.4	24
26	Large-Eddy Simulation of Turbulence in Cardiovascular Flows. Lecture Notes in Applied and Computational Mechanics, 2018, , 147-167.	2.0	12
27	Fluidâ€structure interaction of a pulsatile flow with an aortic valve model: A combined experimental and numerical study. International Journal for Numerical Methods in Biomedical Engineering, 2018, 34, e2945.	1.0	32
28	Including Flowâ€“Acoustic Interactions in the Helmholtz Computations of Industrial Combustors. AIAA Journal, 2018, 56, 4815-4829.	1.5	6
29	Flow-Induced Transitions of Red Blood Cell Shapes under Shear. Physical Review Letters, 2018, 121, 118103.	2.9	93
30	Low order modeling method for assessing the temperature of multi-perforated plates. International Journal of Heat and Mass Transfer, 2018, 127, 727-742.	2.5	5
31	About the numerical robustness of biomedical benchmark cases: Interlaboratory FDA's idealized medical device. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e02789.	1.0	32
32	How should the optical tweezers experiment be used to characterize the red blood cell membrane mechanics?. Biomechanics and Modeling in Mechanobiology, 2017, 16, 1645-1657.	1.4	36
33	Accounting for Acoustic Damping in a Helmholtz Solver. AIAA Journal, 2017, 55, 1205-1220.	1.5	17
34	Comparison of Heterogeneous and Homogeneous Coolant Injection Models for Large Eddy Simulation of Multiperforated Liners Present in a Combustion Simulator. , 2017, , .		3
35	Non Invasive Blood Flow Features Estimation in Cerebral Arteries from Uncertain Medical Data. Annals of Biomedical Engineering, 2017, 45, 2574-2591.	1.3	11
36	Intraventricular vector flow mappingâ€”a Doppler-based regularized problem with automatic model selection. Physics in Medicine and Biology, 2017, 62, 7131-7147.	1.6	28

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37	Data assimilation for identification of cardiovascular network characteristics. International Journal for Numerical Methods in Biomedical Engineering, 2017, 33, e2824.	1.0	11
38	Notice of Removal: A doppler-based regularization problem for intraventricular vector flow mapping. , 2017, , .		0
39	Large Eddy Simulation of Conjugate Heat Transfer Around a Multi-Perforated Plate With Deviation. , 2016, , .		0
40	Symmetry breaking of azimuthal thermoacoustic modes: the UQ perspective. Journal of Fluid Mechanics, 2016, 789, 534-566.	1.4	28
41	Image-Based Simulations Show Important Flow Fluctuations in a Normal Left Ventricle: What Could be the Implications?. Annals of Biomedical Engineering, 2016, 44, 3346-3358.	1.3	56
42	Validation of an immersed thick boundary method for simulating fluidâ€“structure interactions of deformable membranes. Journal of Computational Physics, 2016, 322, 723-746.	1.9	27
43	Stability analysis of thermo-acoustic nonlinear eigenproblems in annular combustors. Part II. Uncertainty quantification. Journal of Computational Physics, 2016, 325, 411-421.	1.9	40
44	Red cellsâ€™ dynamic morphologies govern blood shear thinning under microcirculatory flow conditions. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13289-13294.	3.3	179
45	Assessment of the Indirect Combustion Noise Generated in a Transonic High-Pressure Turbine Stage. Journal of Engineering for Gas Turbines and Power, 2016, 138, .	0.5	23
46	Uncertainty Quantification of Thermoacoustic Instabilities in a Swirled Stabilized Combustor. , 2015, , .		13
47	Direct Numerical Simulation of combustion near a carbonaceous surface in a quiescent flow. International Journal of Heat and Mass Transfer, 2015, 84, 130-148.	2.5	7
48	Theoretical analysis of the mass balance equation through a flame at zero and non-zero Mach numbers. Combustion and Flame, 2015, 162, 60-67.	2.8	31
49	Using Image-based CFD to Investigate the Intracardiac Turbulence. Modeling, Simulation and Applications, 2015, , 97-117.	1.3	4
50	YALES2BIO: A Computational Fluid Dynamics Software Dedicated to the Prediction of Blood Flows in Biomedical Devices. IFMBE Proceedings, 2015, , 7-10.	0.2	5
51	Intracranial Aneurysmal Pulsatility as a New Individual Criterion for Rupture Risk Evaluation: Biomechanical and Numeric Approach (IRRAs Project). American Journal of Neuroradiology, 2014, 35, 1765-1771.	1.2	18
52	Symmetry breaking of azimuthal thermo-acoustic modes in annular cavities: aÂtheoretical study. Journal of Fluid Mechanics, 2014, 760, 431-465.	1.4	58
53	An unstructured solver for simulations of deformable particles in flows at arbitrary Reynolds numbers. Journal of Computational Physics, 2014, 256, 465-483.	1.9	40
54	Assessment of subgrid-scale models with a large-eddy simulation-dedicated experimental database: The pulsatile impinging jet in turbulent cross-flow. Physics of Fluids, 2014, 26, 075108.	1.6	25

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55	Simulation and modelling of the waves transmission and generation in a stator blade row in a combustion-noise framework. Journal of Sound and Vibration, 2014, 333, 6090-6106.	2.1	22
56	Characterisation of a dedicated mechanical model for red blood cells: numerical simulations of optical tweezers experiment. Computer Methods in Biomechanics and Biomedical Engineering, 2014, 17, 28-29.	0.9	2
57	Accounting for convective effects in zero-Mach-number thermoacoustic models. Journal of Sound and Vibration, 2014, 333, 246-262.	2.1	34
58	An analytical model for azimuthal thermoacoustic modes in an annular chamber fed by an annular plenum. Combustion and Flame, 2014, 161, 1374-1389.	2.8	92
59	Image-based large-eddy simulation in a realistic left heart. Computers and Fluids, 2014, 94, 173-187.	1.3	132
60	Boundary Conditions for the Computation of Thermoacoustic Modes in Combustion Chambers. AIAA Journal, 2014, 52, 1180-1193.	1.5	11
61	On the damped oscillations of an elastic quasi-circular membrane in a two-dimensional incompressible fluid. Journal of Fluid Mechanics, 2014, 746, 300-331.	1.4	5
62	Mixed acousticâ€“entropy combustion instabilities in gas turbines. Journal of Fluid Mechanics, 2014, 749, 542-576.	1.4	115
63	Towards numerical prediction of red blood cells dynamics within a cytometer. Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 9-10.	0.9	1
64	Biomechanical Assessment of the Individual Risk of Rupture of Cerebral Aneurysms: A Proof of Concept. Annals of Biomedical Engineering, 2013, 41, 28-40.	1.3	31
65	Computing combustion noise by combining large eddy simulations with analytical models for the propagation of waves through turbine blades. Comptes Rendus - Mecanique, 2013, 341, 131-140.	2.1	11
66	Combining a Helmholtz solver with the flame describing function to assess combustion instability in a premixed swirled combustor. Combustion and Flame, 2013, 160, 1743-1754.	2.8	135
67	Assessment of combustion noise in a premixed swirled combustor via Large-Eddy Simulation. Computers and Fluids, 2013, 78, 1-9.	1.3	27
68	Prediction of the Nonlinear Dynamics of a Multiple Flame Combustor by Coupling the Describing Function Methodology With a Helmholtz Solver. , 2013, , .		8
69	Analysis and Modeling of Entropy Modes in a Realistic Aeronautical Gas Turbine. Journal of Engineering for Gas Turbines and Power, 2013, 135, .	0.5	22
70	Analysis and Modelling of Entropy Modes in a Realistic Aeronautical Gas Turbine. , 2013, , .		0
71	Using Boundary Conditions to Account for Mean Flow Effects in a Zero Mach Number Acoustic Solver. Journal of Engineering for Gas Turbines and Power, 2012, 134, .	0.5	15
72	Image-based patient-specific simulation: a computational modelling of the human left heart haemodynamics. Computer Methods in Biomechanics and Biomedical Engineering, 2012, 15, 74-75.	0.9	12

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73	Effect of the fluidâ€“structure interaction on solid rocket motors instabilities. European Journal of Computational Mechanics, 2012, 21, 337-350.	0.6	4
74	Haemodynamic imaging of thoracic stent-grafts by computational fluid dynamics (CFD): presentation of a patient-specific method combining magnetic resonance imaging and numerical simulations. European Radiology, 2012, 22, 2094-2102.	2.3	45
75	Effect of Perforated Plates on the Acoustics of Annular Combustors. AIAA Journal, 2012, 50, 2629-2642.	1.5	32
76	Using Boundary Conditions to Account for Mean Flow Effects in a Zero Mach Number Acoustic Solver. , 2012, , .		1
77	A simple analytical model to study and control azimuthal instabilities in annular combustion chambers. Combustion and Flame, 2012, 159, 2374-2387.	2.8	66
78	Using singular values to build a subgrid-scale model for large eddy simulations. Physics of Fluids, 2011, 23, .	1.6	443
79	Biomechanical wall properties of human intracranial aneurysms resected following surgical clipping (IRRAs Project). Journal of Biomechanics, 2011, 44, 2685-2691.	0.9	71
80	Effect of the Fluid Structure Interaction on the Aeroacoustic Instabilities of Solid Rocket Motors. , 2011, , .		3
81	Numerical and analytical modelling of entropy noise in a supersonic nozzle with a shock. Journal of Sound and Vibration, 2011, 330, 3944-3958.	2.1	74
82	Assessing non-normal effects in thermoacoustic systems with mean flow. Physics of Fluids, 2011, 23, .	1.6	36
83	On the stability and dissipation of wall boundary conditions for compressible flows. International Journal for Numerical Methods in Fluids, 2010, 62, 1134-1154.	0.9	1
84	Direct numerical simulation of a reacting turbulent channel flow with thermochemical ablation. Journal of Turbulence, 2010, 11, N44.	0.5	3
85	Extracting the Acoustic Pressure Field from Large Eddy Simulation of Confined Reactive Flows. , 2010, , .		1
86	Prediction of Thermoacoustic Instabilities: Numerical Study of Mach Number Effects. , 2010, , .		1
87	Waves Transmission and Generation in Turbine Stages in a Combustion-Noise Framework. , 2010, , .		11
88	Comparison of Direct and Indirect Combustion Noise Mechanisms in a Model Combustor. AIAA Journal, 2009, 47, 2709-2716.	1.5	114
89	Development and assessment of a coupled strategy for conjugate heat transfer with Large Eddy Simulation: Application to a cooled turbine blade. International Journal of Heat and Fluid Flow, 2009, 30, 1129-1141.	1.1	111
90	Conjugate heat transfer with Large Eddy Simulation for gas turbine components. Comptes Rendus - Mecanique, 2009, 337, 550-561.	2.1	28

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91	Effect of multiperforated plates on the acoustic modes in combustors. Comptes Rendus - Mecanique, 2009, 337, 406-414.	2.1	14
92	Numerical and analytical investigation of the indirect combustion noise in a nozzle. Comptes Rendus - Mecanique, 2009, 337, 415-425.	2.1	31
93	Damping Effect of Perforated Plates on the Acoustics of Annular Combustors. , 2009, , .		2
94	Direct simulations for wall modeling of multicomponent reacting compressible turbulent flows. Physics of Fluids, 2009, 21, .	1.6	44
95	A Tool to Study Azimuthal Standing and Spinning Modes in Annular Combustors. International Journal of Aeroacoustics, 2009, 8, 57-67.	0.8	35
96	About the Zero Mach Number Assumption in the Calculation of Thermoacoustic Instabilities. International Journal of Spray and Combustion Dynamics, 2009, 1, 67-111.	0.4	83
97	A comparison of solvers for quadratic eigenvalue problems from combustion. International Journal for Numerical Methods in Fluids, 2008, 56, 1481-1487.	0.9	8
98	Validation of a Flame Transfer Function Reconstruction Method for Complex Turbulent Configurations. , 2008, , .		7
99	Computation of azimuthal combustion instabilities in an helicopter combustion chamber. , 2008, , .		0
100	Large-Eddy Simulation of the Acoustic Response of a Perforated Plate. , 2008, , .		15
101	Adiabatic Homogeneous Model for Flow Around a Multiperforated Plate. AIAA Journal, 2008, 46, 2623-2633.	1.5	60
102	Large-eddy simulation of a bi-periodic turbulent flow with effusion. Journal of Fluid Mechanics, 2008, 598, 27-65.	1.4	66
103	Optimised Computational Functional Imaging for Arteries. Lecture Notes in Computer Science, 2008, , 420-429.	1.0	1
104	Realistic and patient specific blood flow simulations. Computer Methods in Biomechanics and Biomedical Engineering, 2007, 10, 175-176.	0.9	0
105	Numerical Assessment of Stability Criteria from Disturbance Energies in Gaseous Combustion. , 2007, , .		6
106	Direct Numerical Simulation Of Turbulent Multispecies Channel Flow With Wall Ablation. , 2007, , .		5
107	Acoustic Modes in Combustors with Complex Impedances and Multidimensional Active Flames. AIAA Journal, 2007, 45, 426-441.	1.5	308
108	Large-Eddy Simulation of a Turbulent Flow around a Multi-Perforated Plate. , 2007, , 289-303.		8

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109	Large-Eddy Simulation and Acoustic Analysis of a Swirled Staged Turbulent Combustor. AIAA Journal, 2006, 44, 741-750.	1.5	122
110	Joint use of compressible large-eddy simulation and Helmholtz solvers for the analysis of rotating modes in an industrial swirled burner. Combustion and Flame, 2006, 145, 194-205.	2.8	99
111	A low-complexity global optimization algorithm for temperature and pollution control in flames with complex chemistry. International Journal of Computational Fluid Dynamics, 2006, 20, 93-98.	0.5	9
112	Direct Numerical Simulation of Reacting Turbulent Multi-Species Channel Flow. , 2006, , 85-92.		2
113	Anisothermal Wall Functions for RANS and LES of Turbulent Flows With Strong Heat Transfer. , 2006, , 381-388.		0
114	Direct and Large-Eddy Simulations of a Turbulent Flow with Effusion. , 2006, , 415-422.		0
115	A numerical assessment of wall shear stress changes after endovascular stenting. Journal of Biomechanics, 2005, 38, 2019-2027.	0.9	15
116	Numerical assessment of thermo-acoustic instabilities in gas turbines. International Journal for Numerical Methods in Fluids, 2005, 47, 849-855.	0.9	32
117	Thermoacoustic instabilities: Should the Rayleigh criterion be extended to include entropy changes?. Combustion and Flame, 2005, 142, 153-159.	2.8	162
118	Actual Impedance of Nonreflecting Boundary Conditions: Implications for Computation of Resonators. AIAA Journal, 2004, 42, 958-964.	1.5	144
119	Integral boundary conditions for unsteady biomedical CFD applications. International Journal for Numerical Methods in Fluids, 2002, 40, 457-465.	0.9	39
120	Flow forcing techniques for numerical simulation of combustion instabilities. Combustion and Flame, 2002, 131, 371-385.	2.8	112
121	Large eddy simulation wall-modeling based on suboptimal control theory and linear stochastic estimation. Physics of Fluids, 2001, 13, 2968-2984.	1.6	102
122	Conservative High-Order Finite-Difference Schemes for Low-Mach Number Flows. Journal of Computational Physics, 2000, 158, 71-97.	1.9	154
123	A velocity transformation for heat and mass transfer. Physics of Fluids, 2000, 12, 237-238.	1.6	9
124	An approach to wall modeling in large-eddy simulations. Physics of Fluids, 2000, 12, 1629-1632.	1.6	410
125	Subgrid-Scale Stress Modelling Based on the Square of the Velocity Gradient Tensor. Flow, Turbulence and Combustion, 1999, 62, 183-200.	1.4	2,653
126	Defining Wave Amplitude in Characteristic Boundary Conditions. Journal of Computational Physics, 1999, 149, 418-422.	1.9	37

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127	Large-Eddy Simulation of the Shock/Turbulence Interaction. Journal of Computational Physics, 1999, 152, 517-549.	1.9	598
128	Compact finite difference schemes on non-uniform meshes. Application to direct numerical simulations of compressible flows. International Journal for Numerical Methods in Fluids, 1999, 29, 159-191.	0.9	130
129	A consistent finite element approach to large eddy simulation. , 1998, , .		17
130	Active control of an unsteady flow over a rectangular cavity. , 1998, , .		13
131	Effects of uniform injection at the wall on the stability of Couette-like flows. Physical Review E, 1997, 56, 3000-3009.	0.8	12
132	Numerical active control of two-dimensional boundary layer separation. , 1996, , .		4