

# Paola Cinnella

## List of Publications by Year in descending order

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100  
papers

1,769  
citations

331670

21  
h-index

302126

39  
g-index

103  
all docs

103  
docs citations

103  
times ranked

818  
citing authors

| #  | ARTICLE  | IF   | CITATIONS |
|----|--|------|-----------|
| 1  | CFD-driven symbolic identification of algebraic Reynolds-stress models. Journal of Computational Physics, 2022, 457, 111037.   | 3.8  | 13        |
| 2  | Thermochemical non-equilibrium effects in turbulent hypersonic boundary layers. Journal of Fluid Mechanics, 2022, 941, .   | 3.4  | 21        |
| 3  | Large Eddy Simulations of Strongly Non-Ideal Compressible Flows through a Transonic Cascade. Energies, 2021, 14, 772.  | 3.1  | 8         |
| 4  | Finite-rate chemistry effects in turbulent hypersonic boundary layers: A direct numerical simulation study. Physical Review Fluids, 2021, 6, .   | 2.5  | 23        |
| 5  | Assessment of a high-order shock-capturing central-difference scheme for hypersonic turbulent flow simulations. Computers and Fluids, 2021, 230, 105134.                               | 2.5  | 10        |
| 6  | Discovery of Algebraic Reynolds-Stress Models Using Sparse Symbolic Regression. Flow, Turbulence and Combustion, 2020, 104, 579-603.   | 2.6  | 115       |
| 7  | Large eddy simulation of turbomachinery flows using a high-order implicit residual smoothing scheme. Computers and Fluids, 2020, 198, 104395.  | 2.5  | 9         |
| 8  | Multi-Fidelity Gradient-Based Strategy for Robust Optimization in Computational Fluid Dynamics. Algorithms, 2020, 13, 248.   | 2.1  | 4         |
| 9  | Bayesian model-scenario averaged predictions of compressor cascade flows under uncertain turbulence models. Computers and Fluids, 2020, 201, 104473.                                   | 2.5  | 7         |
| 10 | Numerical Investigation of High-Speed Turbulent Boundary Layers of Dense Gases. Flow, Turbulence and Combustion, 2020, 105, 555-579.   | 2.6  | 13        |
| 11 | Dense-gas effects on compressible boundary-layer stability. Journal of Fluid Mechanics, 2020, 893, .   | 3.4  | 14        |
| 12 | Robust optimization of an organic Rankine cycle for geothermal application. Renewable Energy, 2020, 161, 1120-1129.  | 8.9  | 11        |
| 13 | Numerical Investigation of Supersonic Dense-Gas Boundary Layers. Lecture Notes in Mechanical Engineering, 2020, , 91-103.  | 0.4  | 0         |
| 14 | Numerical Investigation of Hypersonic Boundary Layers of Perfect and Dense Gases. ERCOFTAC Series, 2020, , 277-283.  | 0.1  | 0         |
| 15 | Estimation of Model Error Using Bayesian Model-Scenario Averaging with Maximum a Posteriori-Estimates. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2019, , 53-69. | 0.3  | 0         |
| 16 | Quantification of model uncertainty in RANS simulations: A review. Progress in Aerospace Sciences, 2019, 108, 1-31.  | 12.1 | 228       |
| 17 | Large Eddy Simulation Requirements for the Flow over Periodic Hills. Flow, Turbulence and Combustion, 2019, 103, 55-91.  | 2.6  | 40        |
| 18 | Large Eddy Simulation of dense gas flow around a turbine cascade. , 2019, , .  |      | 1         |

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 19 | Robust prediction of dense gas flows under uncertain thermodynamic models. Reliability Engineering and System Safety, 2019, 183, 400-421.                                    | 8.9 | 4         |
| 20 | Improving the treatment of near-wall regions for multiple-correction k-exact schemes. Computers and Fluids, 2019, 181, 116-134.  | 2.5 | 3         |
| 21 | Assessment of an Innovative Technique for the Robust Optimization of Organic Rankine Cycles. , 2019, , .   |     | 1         |
| 22 | Bayesian Predictions of Reynolds-Averaged Navier-Stokes Uncertainties Using Maximum a Posteriori Estimates. AIAA Journal, 2018, 56, 2018-2029.                               | 2.6 | 37        |
| 23 | Data-Free and Data-Driven RANS Predictions with Quantified Uncertainty. Flow, Turbulence and Combustion, 2018, 100, 593-616.   | 2.6 | 25        |
| 24 | Toward an improved wall treatment for multiple-correction k-exact schemes. , 2018, , .   |     | 1         |
| 25 | Preliminary Design Method for Dense-Gas Supersonic Axial Turbine Stages. Journal of Engineering for Gas Turbines and Power, 2018, 140, .                                     | 1.1 | 14        |
| 26 | A Priori Tests of RANS Models for Turbulent Channel Flows of a Dense Gas. Flow, Turbulence and Combustion, 2018, 101, 295-315.   | 2.6 | 6         |
| 27 | High-Order Hybrid RANS/LES Strategy for Industrial Applications. ERCOFTAC Series, 2018, , 313-319.   | 0.1 | 4         |
| 28 | Development and analysis of high-order vorticity confinement schemes. Computers and Fluids, 2017, 156, 602-620.  | 2.5 | 9         |
| 29 | Direct numerical simulations of supersonic turbulent channel flows of dense gases. Journal of Fluid Mechanics, 2017, 821, 153-199.   | 3.4 | 47        |
| 30 | Comparison of steady and unsteady RANS CFD simulation of a supersonic ORC turbine. Energy Procedia, 2017, 129, 1063-1070.  | 1.8 | 12        |
| 31 | Robust optimization of an Organic Rankine Cycle for heavy duty engine waste heat recovery. Energy Procedia, 2017, 129, 66-73.  | 1.8 | 16        |
| 32 | Multiple-correction hybrid k-exact schemes for high-order compressible RANS-LES simulations on fully unstructured grids. Journal of Computational Physics, 2017, 350, 45-83. | 3.8 | 25        |
| 33 | Robust optimization of supersonic ORC nozzle guide vanes. Journal of Physics: Conference Series, 2017, 821, 012014.  | 0.4 | 5         |
| 34 | Small-scale dynamics of dense gas compressible homogeneous isotropic turbulence. Journal of Fluid Mechanics, 2017, 825, 515-549.   | 3.4 | 26        |
| 35 | DNS of turbulent flows of dense gases. Journal of Physics: Conference Series, 2017, 821, 012018.   | 0.4 | 2         |
| 36 | Vortical flow calculations using a high-order Vorticity Confinement method. , 2017, , .  |     | 0         |

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|----|---|-----|-----------|
| 37 | Model-form and predictive uncertainty quantification in linear aeroelasticity. Journal of Fluids and Structures, 2017, 73, 137-161.   | 3.4 | 6         |
| 38 | High-order implicit residual smoothing time scheme for direct and large eddy simulations of compressible flows. Journal of Computational Physics, 2016, 326, 1-29.  | 3.8 | 18        |
| 39 | Dense gas effects in inviscid homogeneous isotropic turbulence. Journal of Fluid Mechanics, 2016, 800, 140-179.   | 3.4 | 23        |
| 40 | Development of a third-order accurate vorticity confinement scheme. Computers and Fluids, 2016, 136, 132-151.   | 2.5 | 9         |
| 41 | Simplex-stochastic collocation method with improved scalability. Journal of Computational Physics, 2016, 310, 301-328.  | 3.8 | 16        |
| 42 | Direct and inverse uncertainty quantification of acoustic refraction phenomena through a shear layer. , 2015, , .   |     | 0         |
| 43 | Efficient Uncertainty Quantification of Turbulent Flows through Supersonic ORC Nozzle Blades. Energy Procedia, 2015, 82, 186-193.   | 1.8 | 4         |
| 44 | Automatic Hybrid RANS/LES Strategy for Industrial CFD. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2015, , 305-317.  | 0.3 | 3         |
| 45 | Sensitivity of Supersonic ORC Turbine Injector Designs to Fluctuating Operating Conditions. , 2015, , .   |     | 5         |
| 46 | Recent Progress in High-Order Residual-Based Compact Schemes for Compressible Flow Simulations: Toward Scale-Resolving Simulations and Complex Geometries. Notes on Numerical Fluid Mechanics and Multidisciplinary Design, 2015, , 397-421.  | 0.3 | 0         |
| 47 | Multi-fidelity optimization strategy for the industrial aerodynamic design of helicopter rotor blades. Aerospace Science and Technology, 2015, 42, 136-147.   | 4.8 | 27        |
| 48 | Bayesian quantification of thermodynamic uncertainties in dense gas flows. Reliability Engineering and System Safety, 2015, 134, 305-323.   | 8.9 | 19        |
| 49 | Assessment of time implicit discretizations for the computation of turbulent compressible flows. , 2015, , .  |     | 1         |
| 50 | Toward improved simulation tools for compressible turbomachinery: assessment of residual-based compact schemes for the transonic compressor NASA Rotor 37. International Journal of Computational Fluid Dynamics, 2014, 28, 31-40.  | 1.2 | 4         |
| 51 | Numerical Study of Multistage Transcritical Organic Rankine Cycle Axial Turbines. Journal of Engineering for Gas Turbines and Power, 2014, 136, .   | 1.1 | 11        |
| 52 | A high-order and conservative method is developed for the numerical treatment of interface conditions in patched grids, based on the use of a fictitious grid methodology. The proposed approach is compared with a non-conservative interpolation of the state variables from the neighbouring domain for selected internal flow problems. , 2014, , . |     | 0         |
| 53 | An accurate finite-volume formulation of a Residual-Based Compact scheme for unsteady compressible flows. Computers and Fluids, 2014, 92, 93-112.   | 2.5 | 7         |
| 54 | Convergence of Fourier-based time methods for turbomachinery wake passing problems. Journal of Computational Physics, 2014, 278, 229-256.   | 3.8 | 9         |

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|----|---|-----|-----------|
| 55 | Predictive RANS simulations via Bayesian Model-Scenario Averaging. Journal of Computational Physics, 2014, 275, 65-91.  | 3.8 | 87        |
| 56 | High-order residual-based compact schemes for compressible flows on overset grids. , 2014, , .  |     | 1         |
| 57 | Bayesian estimates of parameter variability in the k- $\epsilon$ turbulence model. Journal of Computational Physics, 2014, 258, 73-94.  | 3.8 | 150       |
| 58 | Finite Volume Formulation of a Third-Order Residual-Based Compact Scheme for Unsteady Flow Computations. Lecture Notes in Computational Science and Engineering, 2014, , 37-58.   | 0.3 | 0         |
| 59 | Spectral properties of high-order residual-based compact schemes for unsteady compressible flows. Journal of Computational Physics, 2013, 252, 142-162.                           | 3.8 | 20        |
| 60 | Coupled/Uncoupled solutions of RANS equations using a Jacobian-free Newton-Krylov method. , 2013, , .   |     | 2         |
| 61 | On the design of high order residual-based dissipation for unsteady compressible flows. Journal of Computational Physics, 2013, 235, 32-51.                                       | 3.8 | 12        |
| 62 | Development of Numerical Schemes for Hybrid Turbulence Modelling in an Industrial CFD Solver. , 2013, , .   |     | 4         |
| 63 | Hybrid Adjoint-based Robust Optimization Approach for Fluid-Dynamics Problems. , 2013, , .  |     | 2         |
| 64 | Convergence behaviours of genetic algorithms for aerodynamic optimisation problems. International Journal of Engineering Systems Modelling and Simulation, 2013, 5, 197.          | 0.2 | 0         |
| 65 | The high-order dynamic computational laboratory for CFD research and applications. , 2013, , .  |     | 5         |
| 66 | Aerodynamic rotor blade optimization at Eurocopter - a new way of industrial rotor blade design. , 2013, , .  |     | 3         |
| 67 | High-order residual-based compact schemes for aerodynamics and aeroacoustics. Computers and Fluids, 2012, 61, 31-38.  | 2.5 | 9         |
| 68 | Sensitivity analysis of dense gas flow simulations to thermodynamic uncertainties. Physics of Fluids, 2011, 23, .   | 4.0 | 19        |
| 69 | Efficient Implementation of Short Fundamental Equations of State for the Numerical Simulation of Dense Gas Flows. , 2011, , .   |     | 2         |
| 70 | Multiblock residual-based compact schemes for the computation of complex turbomachinery flows. International Journal of Engineering Systems Modelling and Simulation, 2011, 3, 2. | 0.2 | 7         |
| 71 | Robust Shape Optimization of Uncertain Dense Gas Flows Through a Plane Turbine Cascade. , 2011, , .   |     | 3         |
| 72 | Numerical investigation of dense-gas effects in turbomachinery. Computers and Fluids, 2011, 49, 290-301.  | 2.5 | 34        |

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|----|--|-----|-----------|
| 73 | Quantification of thermodynamic uncertainties in real gas flows. International Journal of Engineering Systems Modelling and Simulation, 2010, 2, 12. | 0.2 | 12        |
| 74 | Robust optimization of dense gas flows under uncertain operating conditions. Computers and Fluids, 2010, 39, 1893-1908.                              | 2.5 | 29        |
| 75 | Quantification of Uncertainties in Compressible Flows with Complex Thermodynamic Behavior. , 2009, , .   |     | 0         |
| 76 | Nozzle Shape Optimization for Wet-Steam Flows. , 2009, , .   |     | 2         |
| 77 | Shape Optimization for Dense Gas Flows in Turbine Cascades. , 2009, , 555-560.   |     | 7         |
| 78 | Efficient Numerical Simulation of Dense Gas Flows Past Airfoils and Wings. , 2009, , 295-300.  |     | 0         |
| 79 | Optimal airfoil shapes for viscous transonic flows of Betheâ€“Zelâ€™dovichâ€“Thompson fluids. Computers and Fluids, 2008, 37, 250-264.               | 2.5 | 18        |
| 80 | Numerical Method for Wet-Steam Flows with Polydispersed Droplet Spectra. , 2008, , .   |     | 1         |
| 81 | Accurate and Computationally Efficient Equations of State for the Numerical Simulation of Dense Gas Flows. , 2008, , .                               |     | 0         |
| 82 | Transonic flows of dense gases over finite wings. Physics of Fluids, 2008, 20, 046103.   | 4.0 | 7         |
| 83 | GA-Hardness of Aerodynamic Optimization Problems: Analysis and Proposed Cures. , 2007, , .   |     | 2         |
| 84 | Airfoil Shape Optimization for Transonic Flows Bethe-Zel'dovich-Thompson Fluids. AIAA Journal, 2007, 45, 1303-1316.                                  | 2.6 | 20        |
| 85 | Inviscid and viscous aerodynamics of dense gases. Journal of Fluid Mechanics, 2007, 580, 179-217.  | 3.4 | 52        |
| 86 | Numerical simulations of mixtures of fluids using upwind algorithms. Computers and Fluids, 2007, 36, 1547-1566.                                      | 2.5 | 102       |
| 87 | Optimal Airfoil Shapes in Viscous Transonic Flows of Dense Gases. , 2006, , .  |     | 2         |
| 88 | Roe-type schemes for dense gas flow computations. Computers and Fluids, 2006, 35, 1264-1281.   | 2.5 | 20        |
| 89 | Transonic Flows of BZT Fluids Through Turbine Cascades. , 2006, , 227-232.   |     | 1         |
| 90 | Numerical Solver for Dense Gas Flows. AIAA Journal, 2005, 43, 2458-2461.   | 2.6 | 34        |

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|-----|---|-----|-----------|
| 91  | Viscous Performance of Transonic Dense Gas Flows. , 2005, , .   |     | 2         |
| 92  | Aerodynamic Performance of Transonic Bethe-Zal'dovich-Thompson Flows past an Airfoil. AIAA Journal, 2005, 43, 370-378.  | 2.6 | 31        |
| 93  | Coupling Heat Transfer and Fluid Flow Solvers for Multidisciplinary Simulations. Journal of Thermophysics and Heat Transfer, 2005, 19, 417-427.                         | 1.6 | 61        |
| 94  | A Numerical Method for Turbomachinery Aeroelasticity. Journal of Turbomachinery, 2004, 126, 310-316.  | 1.7 | 33        |
| 95  | A Numerical Method for 3D Turbomachinery Aeroelasticity. , 2004, , 539.   |     | 0         |
| 96  | A Numerical Solver for Dense Gas Flows. , 2004, , .   |     | 5         |
| 97  | A Numerical Method for Turbomachinery Aeroelasticity. , 2002, , 853.  |     | 6         |
| 98  | Third-order accurate finite volume schemes for Euler computations on curvilinear meshes. Computers and Fluids, 2001, 30, 875-901.                                       | 2.5 | 37        |
| 99  | Numerical Study of Transonic Shock/Boundary Layer Interactions on an Oscillating Airfoil Using a Third-Order Scheme and Nonlinear Turbulence Models. , 2001, , 157-162. |     | 0         |
| 100 | Multi-Zone Quasi-Dimensional Combustion Models for Spark-Ignition Engines. , 0, , .   |     | 8         |