

# Stanford

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## Gianluca Iaccarino

Professor of Mechanical Engineering

### CONTACT INFORMATION

- **Administrator**

Corinne Beck - Administrative Associate

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### Bio

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#### BIO

Iaccarino's research themes include numerical methods for fluid mechanics, physical models for laminar/turbulent flows, and uncertainty quantification in computational science.

#### ACADEMIC APPOINTMENTS

- Professor, Mechanical Engineering
- Member, Bio-X
- Affiliate, Precourt Institute for Energy
- Affiliate, Stanford Woods Institute for the Environment

#### ADMINISTRATIVE APPOINTMENTS

- Co-Director, ICME Institute for Computational and Mathematical Engineering, (2015- present)
- Director, Exascale Computing Engineering Center - PSAAP II, (2014- present)
- Director, TFSA Thermal and Fluid Sciences Industrial Affiliates Program, (2010- present)
- Director, Uncertainty Quantification Laboratory, (2008- present)

#### HONORS AND AWARDS

- Terman Fellow, Stanford University (2007)
- Presidential Early Career Award for Scientists and Engineers, National Science Foundation (2010)
- William R. and Inez Kerr Bell Faculty Scholar, Stanford University (2014)
- Humboldt Fellowship, Humboldt Research Fellowship Program (2009)

#### PROGRAM AFFILIATIONS

- Institute for Computational and Mathematical Engineering (ICME)

## PROFESSIONAL EDUCATION

- PhD, Politecnico di Bari, Italy , Mechanical Engineering (2005)
- MS, University di Napoli, Italy , Aeronautical Engineering (1993)
- BS, University di Napoli, Italy , Aeronautical Engineering (1992)

## LINKS

- <http://www.stanford.edu/~jops>: <http://www.stanford.edu/~jops>

## Teaching

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### COURSES

#### 2017-18

- Computational Engineering: ME 123 (Spr)
- Computational Methods in Fluid Mechanics: ME 469 (Spr)

#### 2016-17

- Computational Engineering: ME 123 (Spr)
- Computational Methods in Fluid Mechanics: ME 469 (Win)
- Linear Algebra with Application to Engineering Computations: CME 200, ME 300A (Aut)

#### 2015-16

- Computational Methods in Fluid Mechanics: ME 469 (Spr)
- Linear Algebra with Application to Engineering Computations: CME 200, ME 300A (Aut)
- Seminar in Fluid Mechanics: ENGR 298 (Spr)

#### 2014-15

- Computational Methods in Fluid Mechanics: ME 469 (Win)
- Linear Algebra with Application to Engineering Computations: CME 200, ME 300A (Aut)
- Uncertainty Quantification: ME 470 (Spr)

### STANFORD ADVISEES

#### Doctoral Dissertation Reader (AC)

Mengfei Yang

#### Doctoral Dissertation Advisor (AC)

Ohiremen Dibua

#### Master's Program Advisor

Guillermo Aboumradi Sidaoui, Yokila Arora, Poorvi Bhargava, Charles Bournhonesque, Daniel Byrnes, Vincent Cao, Enze Chen, Guanting Chen, Sizhu Cheng, Guillaume Chhor, Sean Clement, Gregory DePaul, Yi Ding, Erika Earley, Cooper Elsworth, Ananthakrishnan Ganesan, Alexander Haigh, Robert Harvey, Suraj Heereguppe Radhakrishna, Nicholas Johnson, Vihan Lakshman, Rebecca Layne, Christopher Lazarus Garcia, Zihan Lin, Julio Martinez, Hunter Mills, Olivier Moindrot, Cameron Najmabadi, Jacob Perricone, Shaina Reji, Javier Sagastuy Brena, Stephanie Sanchez, Ankita Sharma, Bier Shi, Rafid Sikder, Vishal Subbiah, Marc Thibault, David Thomas, Alexey Voronin, Fan Yang, Yuyun Yang

#### Doctoral Dissertation Co-Advisor (AC)

Taylor Geisler

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**Postdoctoral Research Mentor**

Lluís Jofre-Cruanyes, Aaron Towne

**Publications**

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**PUBLICATIONS**

- **Convergence of the Bouguer-Beer law for radiation extinction in particulate media** *JOURNAL OF QUANTITATIVE SPECTROSCOPY & RADIATIVE TRANSFER*  
Frankel, A., Iaccarino, G., Mani, A.  
2016; 182: 45-54
- **A density-matching approach for optimization under uncertainty** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*  
Seshadri, P., Constantine, P., Iaccarino, G., Parks, G.  
2016; 305: 562-578
- **Large-Eddy Simulation of a Wing-Body Junction Flow** *AIAA JOURNAL*  
Ryu, S., Emory, M., Iaccarino, G., Campos, A., Duraisamy, K.  
2016; 54 (3): 793-804
- **A comparison of laminar-turbulent boundary-layer transitions induced by deterministic and random oblique waves at Mach 3** *INTERNATIONAL JOURNAL OF HEAT AND FLUID FLOW*  
Ryu, S., Marxen, O., Iaccarino, G.  
2015; 56: 218-232
- **Exploiting active subspaces to quantify uncertainty in the numerical simulation of the HyShot II scramjet** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Constantine, P. G., Emory, M., Larsson, J., Iaccarino, G.  
2015; 302: 1-20
- **Reusing Chebyshev points for polynomial interpolation** *NUMERICAL ALGORITHMS*  
Ghili, S., Iaccarino, G.  
2015; 70 (2): 249-267
- **Quantifying inflow and RANS turbulence model form uncertainties for wind engineering flows** *JOURNAL OF WIND ENGINEERING AND INDUSTRIAL AERODYNAMICS*  
Gorle, C., Garcia-Sanchez, C., Iaccarino, G.  
2015; 144: 202-212
- **An adaptive multiresolution semi-intrusive scheme for UQ in compressible fluid problems** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN FLUIDS*  
Abgrall, R., Congedo, P. M., Geraci, G., Iaccarino, G.  
2015; 78 (10): 595-637
- **Uncertainty Quantification for the Trailing-Edge Noise of a Controlled-Diffusion Airfoil** *AIAA JOURNAL*  
CHRISTOPHE, J., Moreau, S., Hamman, C. W., Witteveen, J. A., Iaccarino, G.  
2015; 53 (1): 42-54
- **Direct numerical simulations of hypersonic boundary-layer transition with finite-rate chemistry** *JOURNAL OF FLUID MECHANICS*  
Marxen, O., Iaccarino, G., Magin, T. E.  
2014; 755
- **Nonlinear instability of a supersonic boundary layer with two-dimensional roughness** *JOURNAL OF FLUID MECHANICS*  
Marxen, O., Iaccarino, G., Shaqfeh, E. S.  
2014; 752: 497-520
- **A subgrid-scale eddy-viscosity model based on the volumetric strain-stretching** *PHYSICS OF FLUIDS*  
Ryu, S., Iaccarino, G.  
2014; 26 (6)

- **The deviation from parallel shear flow as an indicator of linear eddy-viscosity model inaccuracy** *PHYSICS OF FLUIDS*  
Gorle, C., Larsson, J., EMORY, M., Iaccarino, G.  
2014; 26 (5)
- **A matching pursuit approach to solenoidal filtering of three-dimensional velocity measurements** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Schiavazzi, D., Coletti, F., Iaccarino, G., Eaton, J. K.  
2014; 263: 206-221
- **Simulations of High Reynolds Number Air Flow Over the NACA-0012 Airfoil Using the Immersed Boundary Method** *JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME*  
Johnson, J. P., Iaccarino, G., Chen, K., Khalighi, B.  
2014; 136 (4)
- **Local shear and mass transfer on individual coral colonies: Computations in unidirectional and wave-driven flows** *JOURNAL OF GEOPHYSICAL RESEARCH-OCEANS*  
Chang, S., Iaccarino, G., Ham, F., Elkins, C., Monismith, S.  
2014; 119 (4): 2599-2619
- **A stochastic Galerkin method for the Euler equations with Roe variable transformation** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Pettersson, P., Iaccarino, G., Nordstrom, J.  
2014; 257: 481-500
- **SPARSE MULTIREOLUTION REGRESSION FOR UNCERTAINTY PROPAGATION** *INTERNATIONAL JOURNAL FOR UNCERTAINTY QUANTIFICATION*  
Schiavazzi, D., Doostan, A., Iaccarino, G.  
2014; 4 (4): 303-331
- **Uncertainty-quantification analysis of the effects of residual impurities on hydrogen-oxygen ignition in shock tubes** *COMBUSTION AND FLAME*  
Urzay, J., Kseib, N., Davidson, D. F., Iaccarino, G., Hanson, R. K.  
2014; 161 (1): 1-15
- **Flow past a transversely rotating sphere at Reynolds numbers above the laminar regime** *JOURNAL OF FLUID MECHANICS*  
Poon, E. K., Ooi, A. S., Giacobello, M., Iaccarino, G., Chung, D.  
2014; 759
- **A method for the direct numerical simulation of hypersonic boundary-layer instability with finite-rate chemistry** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Marxen, O., Magin, T. E., Shaqfeh, E. S., Iaccarino, G.  
2013; 255: 572-589
- **An intrusive hybrid method for discontinuous two-phase flow under uncertainty** *COMPUTERS & FLUIDS*  
Pettersson, P., Iaccarino, G., Nordstrom, J.  
2013; 86: 228-239
- **The effect of shear thinning and walls on the sedimentation of a sphere in an elastic fluid under orthogonal shear** *JOURNAL OF NON-NEWTONIAN FLUID MECHANICS*  
Padhy, S., Rodriguez, M., Shaqfeh, E. S., Iaccarino, G., Morris, J. F., Tonmukayakul, N.  
2013; 201: 120-129
- **Modeling of structural uncertainties in Reynolds-averaged Navier-Stokes closures** *PHYSICS OF FLUIDS*  
Emory, M., Larsson, J., Iaccarino, G.  
2013; 25 (11)
- **Subcell resolution in simplex stochastic collocation for spatial discontinuities** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Witteveen, J. A., Iaccarino, G.  
2013; 251: 17-52
- **Numerical analysis and modeling of plume meandering in passive scalar dispersion downstream of a wall-mounted cube** *7th International Symposium on Turbulence Heat and Mass Transfer (THMT)*  
Rossi, R., Iaccarino, G.

ELSEVIER SCIENCE INC.2013: 137–148

- **A simplex-based numerical framework for simple and efficient robust design optimization** *COMPUTATIONAL OPTIMIZATION AND APPLICATIONS*  
Congedo, P. M., Witteveen, J., Iaccarino, G.  
2013; 56 (1): 231-251
- **Non-intrusive low-rank separated approximation of high-dimensional stochastic models** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*  
Doostan, A., Validi, A., Iaccarino, G.  
2013; 263: 42-55
- **Simulations of a sphere sedimenting in a viscoelastic fluid with cross shear flow** *JOURNAL OF NON-NEWTONIAN FLUID MECHANICS*  
Padhy, S., Shaqfeh, E. S., Iaccarino, G., Morris, J. F., Tonmukayakul, N.  
2013; 197: 48-60
- **Assessment of Uncertainties in Modeling of Laminar to Turbulent Transition for Transonic Flows** *FLOW TURBULENCE AND COMBUSTION*  
Pecnik, R., Witteveen, J. A., Iaccarino, G.  
2013; 91 (1): 41-61
- **Quantification of margins and uncertainties using multiple gates and conditional probabilities** *RELIABILITY ENGINEERING & SYSTEM SAFETY*  
Iaccarino, G., Sharp, D., Glimm, J.  
2013; 114: 99-113
- **Large-eddy simulation of passive scalar dispersion in an urban-like canopy** *JOURNAL OF FLUID MECHANICS*  
Philips, D. A., Rossi, R., Iaccarino, G.  
2013; 723: 404-428
- **A framework for epistemic uncertainty quantification of turbulent scalar flux models for Reynolds-averaged Navier-Stokes simulations** *PHYSICS OF FLUIDS*  
Gorle, C., Iaccarino, G.  
2013; 25 (5)
- **Simplex stochastic collocation with ENO-type stencil selection for robust uncertainty quantification** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Witteveen, J. A., Iaccarino, G.  
2013; 239: 1-21
- **Chemical kinetic uncertainty quantification for Large Eddy Simulation of turbulent nonpremixed combustion** *PROCEEDINGS OF THE COMBUSTION INSTITUTE*  
Mueller, M. E., Iaccarino, G., Pitsch, H.  
2013; 34: 1299-1306
- **A probabilistic non-dominated sorting GA for optimization under uncertainty** *ENGINEERING COMPUTATIONS*  
Petrone, G., Axerio-Cilies, J., Quagliarella, D., Iaccarino, G.  
2013; 30 (8): 1054-1085
- **A sparse multiresolution stochastic approximation for uncertainty quantification** *8th International Conference on Scientific Computing and Applications*  
Schiavazzi, D., Doostan, A., Iaccarino, G.  
AMER MATHEMATICAL SOC.2013: 295–303
- **An Aerodynamic Investigation of an Isolated Rotating Formula 1 Wheel Assembly** *JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME*  
Axerio-Cilies, J., Iaccarino, G.  
2012; 134 (12)
- **Reynolds-Averaged Navier-Stokes Simulations of the HyShot II Scramjet** *AIAA JOURNAL*  
Pecnik, R., Terrapon, V. E., Ham, F., Iaccarino, G., Pitsch, H.  
2012; 50 (8): 1717-1732
- **Unsteady Aerodynamic Flow Investigation Around a Simplified Square-Back Road Vehicle With Drag Reduction Devices** *JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME*  
Khalighi, B., Chen, K., Iaccarino, G.  
2012; 134 (6)

- **Risk Assessment of Scramjet Unstart Using Adjoint-Based Sampling Methods** *AIAA JOURNAL*  
Wang, Q., Duraisamy, K., Alonso, J. J., Iaccarino, G.  
2012; 50 (3): 581-592
- **Effects of viscoelasticity in the high Reynolds number cylinder wake** *JOURNAL OF FLUID MECHANICS*  
Richter, D., Iaccarino, G., Shaqfeh, E. S.  
2012; 693: 297-318
- **An Aerodynamic Investigation of an Isolated Stationary Formula 1 Wheel Assembly** *JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME*  
Axerio-Cilies, J., Issakhanian, E., Jimenez, J., Iaccarino, G.  
2012; 134 (2)
- **REFINEMENT CRITERIA FOR SIMPLEX STOCHASTIC COLLOCATION WITH LOCAL EXTREMUM DIMINISHING ROBUSTNESS** *SIAM JOURNAL ON SCIENTIFIC COMPUTING*  
Witteveen, J. A., Iaccarino, G.  
2012; 34 (3): A1522-A1543
- **FORWARD AND BACKWARD UNCERTAINTY PROPAGATION FOR DISCONTINUOUS SYSTEM RESPONSE USING THE PADE-LEGENDRE METHOD** *INTERNATIONAL JOURNAL FOR UNCERTAINTY QUANTIFICATION*  
Chantramsi, T., Iaccarino, G.  
2012; 2 (2): 125-143
- **STUDY OF DRAG REDUCTION DEVICES FOR A SQUARE BACK VEHICLE CONFIGURATION USING RANS CFD SIMULATIONS** *ASME Fluids Engineering Division Summer Meeting (FEDSM)*  
Khalighi, B., Chen, K., Iaccarino, G.  
AMER SOC MECHANICAL ENGINEERS.2012: 1-8
- **SIMPLEX STOCHASTIC COLLOCATION WITH RANDOM SAMPLING AND EXTRAPOLATION FOR NONHYPERCUBE PROBABILITY SPACES** *SIAM JOURNAL ON SCIENTIFIC COMPUTING*  
Witteveen, J. A., Iaccarino, G.  
2012; 34 (2): A814-A838
- **Backward uncertainty propagation method in flow problems: Application to the prediction of rarefaction shock waves** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*  
Congedo, P. M., Colonna, P., Corre, C., Witteveen, J. A., Iaccarino, G.  
2012; 213: 314-326
- **The influence of normal stress anisotropy in predicting scalar dispersion with the  $v(2)$ -f model** *INTERNATIONAL JOURNAL OF HEAT AND FLUID FLOW*  
Philips, D. A., Rossi, R., Iaccarino, G.  
2011; 32 (5): 943-963
- **Numerical Simulation of Polymer Injection in Turbulent Flow Past a Circular Cylinder** *JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME*  
Richter, D., Shaqfeh, E. S., Iaccarino, G.  
2011; 133 (10)
- **A QMU approach for characterizing the operability limits of air-breathing hypersonic vehicles** *RELIABILITY ENGINEERING & SYSTEM SAFETY*  
Iaccarino, G., Pecnik, R., Glimm, J., Sharp, D.  
2011; 96 (9): 1150-1160
- **A high-order numerical method to study hypersonic boundary-layer instability including high-temperature gas effects** *PHYSICS OF FLUIDS*  
Marxen, O., Magin, T., Iaccarino, G., Shaqfeh, E. S.  
2011; 23 (8)
- **Floquet stability analysis of viscoelastic flow over a cylinder** *16th International Workshop on Numerical Methods for Non-Newtonian Flows*  
Richter, D., Shagfeh, E. S., Iaccarino, G.  
ELSEVIER SCIENCE BV.2011: 554-65
- **A FACTORIZATION OF THE SPECTRAL GALERKIN SYSTEM FOR PARAMETERIZED MATRIX EQUATIONS: DERIVATION AND APPLICATIONS** *SIAM JOURNAL ON SCIENTIFIC COMPUTING*

- 
- Constantine, P. G., Gleich, D. F., Iaccarino, G.  
2011; 33 (5): 2995-3009
- **A numerical study of scalar dispersion downstream of a wall-mounted cube using direct simulations and algebraic flux models** *INTERNATIONAL JOURNAL OF HEAT AND FLUID FLOW*  
Rossi, R., Philips, D. A., Iaccarino, G.  
2010; 31 (5): 805-819
  - **A co-located incompressible Navier-Stokes solver with exact mass, momentum and kinetic energy conservation in the inviscid limit** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Shashank, Larsson, J., Iaccarino, G.  
2010; 229 (12): 4425-4430
  - **Simulations of three-dimensional viscoelastic flows past a circular cylinder at moderate Reynolds numbers** *JOURNAL OF FLUID MECHANICS*  
Richter, D., Iaccarino, G., Shaqfeh, E. S.  
2010; 651: 415-442
  - **Disturbance evolution in a Mach 4.8 boundary layer with two-dimensional roughness-induced separation and shock** *JOURNAL OF FLUID MECHANICS*  
Marxen, O., Iaccarino, G., Shaqfeh, E. S.  
2010; 648: 435-469
  - **Reynolds-averaged modeling of polymer drag reduction in turbulent flows** *JOURNAL OF NON-NEWTONIAN FLUID MECHANICS*  
Iaccarino, G., Shaqfeh, E. S., Dubief, Y.  
2010; 165 (7-8): 376-384
  - **BOUNDARY PROCEDURES FOR THE TIME-DEPENDENT BURGERS' EQUATION UNDER UNCERTAINTY** *ACTA MATHEMATICA SCIENTIA*  
Pettersson, P., Nordstrom, J., Iaccarino, G.  
2010; 30 (2): 539-550
  - **SPECTRAL METHODS FOR PARAMETERIZED MATRIX EQUATIONS** *SIAM JOURNAL ON MATRIX ANALYSIS AND APPLICATIONS*  
Constantine, P. G., Gleich, D. F., Iaccarino, G.  
2010; 31 (5): 2681-2699
  - **Linear and non-linear disturbance evolution in a compressible boundary-layer with localized roughness** *7th IUTAM Symposium on Laminar-Turbulent Transition*  
Marxen, O., Iaccarino, G., Shaqfeh, E. S.  
SPRINGER.2010: 271-276
  - **A RATIONAL INTERPOLATION SCHEME WITH SUPERPOLYNOMIAL RATE OF CONVERGENCE** *SIAM JOURNAL ON NUMERICAL ANALYSIS*  
Wang, Q., Moin, P., Iaccarino, G.  
2010; 47 (6): 4073-4097
  - **Stable Boundary Treatment for the Wave Equation on Second-Order Form** *JOURNAL OF SCIENTIFIC COMPUTING*  
Mattsson, K., Ham, F., Iaccarino, G.  
2009; 41 (3): 366-383
  - **Numerical analysis of the Burgers' equation in the presence of uncertainty** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Pettersson, P., Iaccarino, G., Nordstrom, J.  
2009; 228 (22): 8394-8412
  - **A hybrid collocation/Galerkin scheme for convective heat transfer problems with stochastic boundary conditions** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING*  
Constantine, P. G., Doostan, A., Iaccarino, G.  
2009; 80 (6-7): 868-880
  - **Pade-Legendre approximants for uncertainty analysis with discontinuous response surfaces** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Chantrasmı, T., Doostan, A., Iaccarino, G.  
2009; 228 (19): 7159-7180
  - **Prediction of wall-pressure fluctuation in turbulent flows with an immersed boundary method** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Kang, S., Iaccarino, G., Ham, F., Moin, P.

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2009; 228 (18): 6753-6772

- **On the HLLC Riemann solver for interface interaction in compressible multi-fluid flow** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Hu, X. Y., Adams, N. A., Iaccarino, G.  
2009; 228 (17): 6572-6589
- **A least-squares approximation of partial differential equations with high-dimensional random inputs** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Doostan, A., Iaccarino, G.  
2009; 228 (12): 4332-4345
- **Accurate Immersed-Boundary Reconstructions for Viscous Flow Simulations** *AIAA JOURNAL*  
Kang, S., Iaccarino, G., Moin, P.  
2009; 47 (7): 1750-1760
- **DNS of buoyancy-dominated turbulent flows on a bluff body using the immersed boundary method** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Kang, S., Iaccarino, G., Ham, F.  
2009; 228 (9): 3189-3208
- **Numerical simulation of scalar dispersion downstream of a square obstacle using gradient-transport type models** *ATMOSPHERIC ENVIRONMENT*  
Rossi, R., Iaccarino, G.  
2009; 43 (16): 2518-2531
- **Computational aspects of scalar dispersion modeling and simulation in complex flows** *Conference on Scientific Computation in Physics*  
Rossi, R., Iaccarino, G.  
SOC ITALIANA FISICA.2009: 257-60
- **LES prediction of wall-pressure fluctuations and noise of a low-speed airfoil** *INTERNATIONAL JOURNAL OF AEROACOUSTICS*  
Wang, M., Moreau, S., Iaccarino, G., Rogers, M.  
2009; 8 (3): 177-197
- **Numerical simulation of scalar dispersion in separated flows using algebraic flux models** *6th International Symposium on Turbulence, Heat and Mass Transfer*  
Rossi, R., Philips, D. A., Iaccarino, G.  
BEGELL HOUSE, INC.2009: 413-416
- **MINIMAL REPETITION DYNAMIC CHECKPOINTING ALGORITHM FOR UNSTEADY ADJOINT CALCULATION** *SIAM JOURNAL ON SCIENTIFIC COMPUTING*  
Wang, Q., Moin, P., Iaccarino, G.  
2009; 31 (4): 2549-2567
- **Stable and accurate wave-propagation in discontinuous media** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Mattsson, K., Ham, F., Iaccarino, G.  
2008; 227 (19): 8753-8767
- **An immersed boundary method for compressible flows using local grid refinement** *JOURNAL OF COMPUTATIONAL PHYSICS*  
de Tullio, M. D., De Palma, P., Iaccarino, G., Pascazio, G., Napolitano, M.  
2007; 225 (2): 2098-2117
- **LES on Cartesian grids with anisotropic refinement** *Symposium on Complex Effects in Large Eddy Simulation*  
Iaccarino, G., Ham, F.  
SPRINGER.2007: 219-?
- **Towards time-stable and accurate LES on unstructured grids** *Symposium on Complex Effects in Large Eddy Simulation*  
Ham, F., Mattsson, K., Iaccarino, G., Moin, P.  
SPRINGER.2007: 235-?
- **Complex effects in large eddy simulations** *Symposium on Complex Effects in Large Eddy Simulation*  
Moin, P., Iaccarino, G.  
SPRINGER.2007: 1-?



- **Towards rapid analysis of turbulent flows in complex internal passages** *6th International Symposium on Engineering Turbulence Modelling and Measurements (ETMM6)*  
Iaccarino, G., Elkins, C. J.  
SPRINGER.2006: 27–39
- **Natural and forced conjugate heat transfer in complex geometries on Cartesian adapted grids** *JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME*  
Iaccarino, G., Moreau, S.  
2006; 128 (4): 838-846
- **Large-eddy simulation of reacting turbulent flows in complex geometries** *4th ASME/JSME Joint Fluids Engineering Conference*  
Mahesh, K., Constantinescu, G., Apte, S., Iaccarino, G., Ham, F., Moin, P.  
ASME.2006: 374–81
- **Computational study on the internal layer in a diffuser** *JOURNAL OF FLUID MECHANICS*  
Wu, X. H., Schluter, J., Moin, P., Pitsch, H., Iaccarino, G., Ham, F.  
2006; 550: 391-412
- **Near-wall behavior of RANS turbulence models and implications for wall functions** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Kalitzin, G., Medic, G., Iaccarino, G., Durbin, P.  
2005; 204 (1): 265-291
- **Immersed boundary methods** *ANNUAL REVIEW OF FLUID MECHANICS*  
Mittal, R., Iaccarino, G.  
2005; 37: 239-261
- **Rapid techniques for measuring and modeling turbulent flows in complex geometries** *6th International Symposium on Engineering Turbulence Modelling and Measurements (ETMM6)*  
Iaccarino, G., Elkins, C. J.  
ELSEVIER SCIENCE BV.2005: 3–16
- **Numerical simulation of the flow around a circular cylinder at high Reynolds numbers** *5th International Symposium on Engineering Turbulence Modelling and Measurements*  
Catalano, P., Wang, M., Iaccarino, G., Moin, P.  
ELSEVIER SCIENCE INC.2003: 463–69
- **Reynolds averaged simulation of unsteady separated flow** *INTERNATIONAL JOURNAL OF HEAT AND FLUID FLOW*  
Iaccarino, G., Ooi, A., Durbin, P. A., Behnia, M.  
2003; 24 (2): 147-156
- **Large eddy simulation of a road vehicle with drag-reduction devices** *AIAA JOURNAL*  
Verzicco, R., Fatica, M., Iaccarino, G., Moin, P.  
2002; 40 (12): 2447-2455
- **Reynolds averaged simulation of flow and heat transfer in ribbed ducts** *INTERNATIONAL JOURNAL OF HEAT AND FLUID FLOW*  
Ooi, A., Iaccarino, G., Durbin, P. A., Behnia, M.  
2002; 23 (6): 750-757
- **An approach to local refinement of structured grids** *JOURNAL OF COMPUTATIONAL PHYSICS*  
Durbin, P. A., Iaccarino, G.  
2002; 181 (2): 639-653
- **Conjugate heat transfer predictions in two-dimensional ribbed passages** *2nd International Symposium on Advances in Computational Heat Transfer*  
Iaccarino, G., Ooi, A., Durbin, P. A., Behnia, M.  
ELSEVIER SCIENCE INC.2002: 340–45
- **Numerical simulation of the flow around a circular cylinder at high Reynolds number** *5th International Symposium on Engineering Turbulence Modelling and Measurements*  
Catalano, P., Wang, M., Iaccarino, G., Moin, P.  
ELSEVIER SCIENCE BV.2002: 657–665

- **Predictions of a turbulent separated flow using commercial CFD codes** *JOURNAL OF FLUIDS ENGINEERING-TRANSACTIONS OF THE ASME*  
Iaccarino, G.  
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