

Tim Colonius

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California Institute of Technology
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Education

STANFORD UNIVERSITY

PhD, Mechanical Engineering, June 1994.

STANFORD UNIVERSITY

MS, Mechanical Engineering, June 1988.

THE UNIVERSITY OF MICHIGAN

BSE(ME), Mechanical Engineering, *Summa Cum Laude* May 1987.

Principal Employment

CALIFORNIA INSTITUTE OF TECHNOLOGY

Department of Mechanical and Civil Engineering.

2016-now Frank and Ora Lee Marble Professor of Mechanical Engineering

2005-2016 Professor of Mechanical Engineering.

2000-2005 Associate Professor of Mechanical Engineering.

1994-2000 Assistant Professor of Mechanical Engineering.

Additional Appointments

Department of Medical Engineering, California Institute of Technology (2014 - now).

Visiting Professor, University of Melbourne, Australia (2016).

Undergraduate Option Representative, Mechanical Engineering, Caltech (2010-2015).

Visiting Professor, University of Poitiers, France (2010).

Option Representative, Mechanical Engineering, Caltech (2001-2003, 2008).

Visiting Fellow, University of Cambridge, UK (2003).

Member of Technical Staff, FMC Corporate Technology Center, Santa Clara, CA (1994).

Graduate Research Assistant, Stanford University (1988-1994).

Research Interests

FLUID DYNAMICS: turbulence, aeroacoustics, flow/acoustic instability, cavitation, multiphase flow, shock waves.

NUMERICAL METHODS: high-order-accurate methods, boundary conditions, immersed-boundary methods, shock- and interface-capturing schemes.

CONTROL: active and passive flow control, reduced-order modeling, data assimilation.

BIOMEDICAL: shockwave and ultrasound therapy, lithotripsy.

Awards

Fellow, Acoustical Society of America (2016).
Midwest Mechanics Invited Speaker (2012-2013).
Fellow, American Physical Society (2010).
Associate Fellow, American Institute of Aeronautics and Astronautics (2009).
AIAA Best Paper Award, 32nd AIAA Fluid Dynamics Conference (2003).
IUTAM Bureau Prize (2000).
NSF Career Award (1994-1999).
Powell Foundation Award (1997).

Teaching Experience

Mechanics (undergraduate, designed course).
Thermal Science (undergraduate, designed course).
Fluid Mechanics (undergraduate).
Fluid Mechanics (graduate).
Computational Fluid Mechanics (graduate).
Flow Control (graduate, designed course).
Acoustic Waves in Fluids (graduate, designed course).
Signal Processing, Coherent Structures, and Reduced-Order Modeling in Turbulence (graduate, designed course).
Heat Transfer (undergraduate).
Heat Transfer (graduate).
Design and analysis of control systems (undergraduate, co-instructor).

Professional Activities and Service

PRINCIPAL/CO-INVESTIGATOR: Airbus, Aeroacoustics Research Consortium, AFOSR, Boeing, DARPA, JPL, Gordon and Betty Moore Foundation, NASA, NAVAIR, NIH, NSF, ONR.
THEORETICAL AND COMPUTATIONAL FLUID DYNAMICS: Editor-in-chief (2014-now); Handling editor (2003-2013).
AMERICAN PHYSICAL SOCIETY, DIVISION OF FLUID DYNAMICS: Executive committee (2009-2012); Organizing committee, 63rd Annual DFD Meeting (2010).
INTERNATIONAL SYMPOSIUM ON CAVITATION: Member of scientific committee, (2006-now).
INSTITUTE OF CAVITATION RESEARCH (ICR) ADVISORY COMMITTEE: Member (2013-2014).
WIMRC CAVITATION FORUM: Member of scientific committee, (2011-now).
CALIFORNIA INSTITUTE OF TECHNOLOGY FACULTY COMMITTEES: Academic Policies Committee, Graduate Study Committee, Conduct Review Committee, Committee on Patents & Relations with Industry (Chair), Undergraduate Admissions.
CONSULTANT: United Technologies Research Center, Jet Propulsion Laboratory, AeroHydroPLUS, confidential clients.
AMERICAN INSTITUTE OF AERONAUTICS AND ASTRONAUTICS: Discussion group on modal decompositions (2015-2016); Working group on flow control algorithms and architectures (2002-2004); Aeroacoustics Technical Committee (1996-2001); Technical co-chair, 4th AIAA / CEAS Aeroacoustics Conference (1998).

SYMPOSIUM ON GLOBAL FLOW INSTABILITY AND CONTROL: Co chair, 1st-6th symposia (2001-2015).

PAPER REVIEWER: *J. Fluid Mech.*, *Phys. Fluids*, *Phys. Rev. Fluids*, *J. Comput. Phys.*, *AIAA J.*, *J. Sound Vibration*, *JASA*, *Int. J. Aeroacoustics.*, *Theoret. Comput. Fluid Dyn.*, *Europ. J. Mechanics B - fluids*, *SIAM J. Appl. Math.*, *SIAM J. Sci. Comput.*, *Exp. Fluids*, *J. Fluids Engrg.*, *Fluid Dyn. Resrch.*, *Int. J. Multiphase Flow*, *Comput. Meth. Appl. Mech. Engrg.*, *Biomech. Model. Mechanobiology.*, *Comput. Fluids*, *Turbo Expo*, *Ultrasound Medicine Bio.*, *Int. J. Comput. Fluid Dyn.*, *Int. J. Numeric. Meth. Fluids.*, *Aerosp. Sci. Tech.*, *Appl. Math. Model.*, *Appl. Num. Math.*, *Int. J. Heat Fluid Flow*, *J. Fluids Struct.*, *Proc. Roy Soc. A.*

Invited Presentations and Lectures (boldface indicates keynote/plenary address)

University of California, AMES, San Diego, CA (1996).
University of Tokyo, Mech. Engrg., Tokyo, Japan (1996).
Caltech, Mech. Engrg. (1996).
Northrop Grumman Corp. Pico Rivera, CA (1996).
von Karman Institute for Fluid Dynamics, Lecture Series 1997-07, Sint-Genesius-Rode, Belgium (1997).
Caltech, GALCIT Fluid Mechanics Sem., Pasadena, CA (1998).
University of Arizona, Mech. and Aerosp. Engrg., Tuscon, AZ (1999).
University of California, Los Angeles, Los Angeles, CA (1999).
BERLIN99 Meeting of the Acoustical Society of America, Berlin. (1999).
University of California, AMES. San Diego, CA (1999).
3rd ASME/JSME Joint Fluids Engineering Conference, San Francisco, CA (1999).
ICTAM 2000. Chicago, IL (2000).
United Technologies Research Center, East Hartford, CT (2000).
Cargese Summer School in Physics—Sound-Flow Interaction Lecture Series. Cargese, Corsica, France (2000).
Stanford University, Fluid Mechanics, Stanford, CA (2000).
Caltech, GALCIT Fluid Mechanics Sem., Pasadena, CA (2000).
39th AIAA Aerospace Sciences Meeting, Reno NV (2001).
RWTH Aachen. Aachen, Aerodynamisches Institute, Aachen, Germany (2001).
Aerospace Corporation, El Segundo, CA (2001).
von Karman Institute for Fluid Dynamics, Lecture Series 2001-02, Sint-Genesius-Rode, Belgium (2001).
Conference on Decision and Control, Las Vegas, NV (2002).
Harvey Mudd College, Engrg. & Applied Sci. Pomona, CA (2002).
University of Minnesota, Aerosp. Engrg., Minneapolis, MN (2002).
141st Meeting of Acoustical Society of America, Chicago, IL (2003).
146th Meeting of the Acoustical Society of America, Austin, TX (2003).
University of Cambridge, DAMPT, Cambridge, UK (2003).
University of Cambridge, Engineering., Cambridge, UK (2003).
Florida State University, Dept. of Math., Tallahassee, Fl (2003).
University of Twente, Enschede, The Netherlands (2003).
Rolls Royce, Derby, UK (2003).

United Technologies Research Center, East Hartford, CT (2003).
 34th AIAA Fluid Dynamics Conference, Portland, OR (2004).
 Boeing Commercial Aircraft, Renton, WA (2004).
 NASA Langley Research Center, Hampton, VA (2004).
 University of Illinois at Urbana-Champaign, TAM. 2004.
 KTH (Royal Institute of Techonlogy), Stockholm, Sweden (2005).
9th CEAS-ASC Workshop, Stockholm, Sweden (2005).
 Massachusettes Institute of Technology, Mechanical Engrg., Cambridge, MA (2005).
 Florida State University, Applied Mathematics, Tallahassee, Fl (2006).
 AIAA 3rd Flow Control Conference, San Francisco, CA (2006).
 University of California, Santa Barbara, Mech. Engrg. Santa Barbara, CA (2006).
 von Karman Institute for Fluid Dynamics, Lecture Series 2006-05, Sint-Genesius-Rode, Belgium (2005).
 World Congress on Computational Mechanics, Los Angeles, CA (2006).
 Princeton University MAE Dept., Princeton, NJ (2007).
 University of Rome âLa Sapienzaâ, Rome, Italy (2007).
 Universidad Politecnica de Madrid, Madrid, Spain (2007).
 SAIC Corporation, San Diego, CA (2007).
 University of Southern California, Aerospace and Mechanical Engineering, Los Angeles, CA (2007).
 AIAA 38th Fluid Dynamics Conference, Seattle WA (2008).
 AIAA 39th Fluid Dynamics Conference, Orlando, FL (2009).
 Florida State University, Mechanical Engineering, Tallahassee, FL (2009).
 Stanford University, Fluid Mechanics Seminar, Stanford, CA (2009).
 University of Illinois, Urbana-Champaign, Fluid Mechanics Seminar, Urbana, IL (2009).
 Universite Pierre et Marie Curie (Paris 6). Institut dâAlembert Seminar, Paris, France (2010).
 Ecole Polytechnique, LadHyX seminar, Palaiseau, France (2010).
 Technical University of Eindhoven, Dept. of Applied Physics Seminar, Eindhoven, The Netherlands (2010).
 University of Poitiers, C.E.A.T. seminar. Poitiers, France (2010). (3 seminars)
CFD 2010: 5th European Conf. on Comp. Fluid Dynamics. Lisbon, Portugal (2010).
 University of Melbourne, Australia, Fluid Mechanics Seminar, Melbourne, Australia (2011).
 University of California, San Diego, MAME seminar, San Diego, CA (2011).
 University of California, Santa Barbara, Mechanical Engineering, Santa Barbara, CA (2012).
 100th Anniversary of the Aerodynamics Institute, RWTH Aachen, Germany (2012).
 Midwest Mechanics Invited Speaker. Seminars at Illinois Institute of Technology, Iowa State University, Michigan State University, Notre Dame University, Purdue University, Northwestern University, University of Illinois, University of Michigan, University of Minnesota, University of Wisconsin. (2012-2013).
ERCOFTAC Workshop, Direct and Large Eddy Simulation 9, Dresden, Germany (2013).
 EUROMECH 547, Trends in Open Shear Flow Instability, Paris, France (2013).
 AIAA Fluid Dynamics Conference, Invited Speaker for Future of Fluids Session (2013).
 University of California, Santa Barbara, Mechanical Engrg., Santa Barbara, CA (2013).
 University of California, Irvine, Mechanical and Aerosp. Engrg., Irvine, CA (2014).
 University of Maryland, Aerosp. Engrg., College Park, MD (2014).

67th Annual Meeting of the APS Division of Fluid Dynamics, San Francisco, CA (2014).

AIAA SciTech 2015, Kissimmee, FL (2015).

Boeing Research & Technology, Huntington Beach, CA, (2015).

University of Twente, Mechanical Engineering, Enschede, The Netherlands (2015).

University of Melbourne, Mech. Engrg., Melbourne, Australia (2016).

ONR Workshop on Active Flow Control, Pax River, MD (2016).

University of Washington, Mech. Engrg., Seattle, WA (2016).

AIAA Aviation 2017, Washington, DC (2016).

24th Intl. Congress of Theoretical and Applied Mechanics, Montréal, Canada (2016).

10th ABCM Spring School on Transition and Turbulence, San Jose Dos Campos, Brazil (2016).

University of California, Santa Barbara, Fluid Mechanics, Santa Barbara, CA (2016).

Workshop on the status and future directions of Wall-Modeled Large Eddy Simulation (WM-LES) for aeronautical applications, University of Maryland (2016).

3rd International Conference on Numerical Methods in Multiphase Flows, Tokyo, Japan (2017).

Journal Articles

- [J99] S. Liska and T. Colonius, “A fast immersed boundary method for external incompressible viscous flows using lattice Green’s functions,” *Journal of Computational Physics*, vol. 331, pp. 257–279, 2017. DOI: [10.1016/j.jcp.2016.11.034](https://doi.org/10.1016/j.jcp.2016.11.034).
- [J98] A. Goza, S. Liska, B. Morley, and T. Colonius, “Accurate computation of surface stresses and forces with immersed boundary methods,” *Journal of Computational Physics*, vol. 321, pp. 860–873, 2016. DOI: [10.1016/j.jcp.2016.06.014](https://doi.org/10.1016/j.jcp.2016.06.014).
- [J97] S. Liska and T. Colonius, “A fast lattice green’s function method for solving viscous incompressible flows on unbounded domains,” *Journal of Computational Physics*, vol. 316, pp. 360–384, 2016. DOI: [10.1016/j.jcp.2016.04.023](https://doi.org/10.1016/j.jcp.2016.04.023).
- [J96] A. Sinha, K. Guðmundsson, H. Xia, and T. Colonius, “Parabolized stability analysis of jets from serrated nozzles,” *Journal of Fluid Mechanics*, vol. 789, pp. 36–63, 2016. DOI: [10.1017/jfm.2015.719](https://doi.org/10.1017/jfm.2015.719).
- [J95] H.-C. Tsai and T. Colonius, “Coriolis effect on dynamic stall in a vertical axis wind turbine,” *AIAA Journal*, vol. 54, no. 1, pp. 216–226, 2016. DOI: [10.2514/1.j054199](https://doi.org/10.2514/1.j054199).
- [J94] J. Choi, T. Colonius, and D. R. Williams, “Surging and plunging oscillations of an airfoil at low Reynolds number,” *Journal of Fluid Mechanics*, vol. 763, pp. 237–253, 2015. DOI: [10.1017/jfm.2014.674](https://doi.org/10.1017/jfm.2014.674).
- [J93] T. L. B. Flinois and T. Colonius, “Optimal control of circular cylinder wakes using long control horizons,” *Physics of Fluids*, vol. 27, no. 8, 2015. DOI: [10.1063/1.4928896](https://doi.org/10.1063/1.4928896).
- [J92] H. J. Lee, S. Sherrit, L. P. Tosi, P. Walkemeyer, and T. Colonius, “Piezoelectric energy harvesting in internal fluid flow,” *Sensors*, vol. 15, no. 10, pp. 26 039–26 062, 2015. DOI: [10.3390/s151026039](https://doi.org/10.3390/s151026039).

- [J91] K. Maeda, W. Kreider, A. Maxwell, B. Cunitz, T. Colonius, and M. Bailey, “Modeling and experimental analysis of acoustic cavitation bubbles for burst wave lithotripsy,” *J. Phys.: Conf. Ser.*, vol. 656, p. 012027, 2015. DOI: [10.1088/1742-6596/656/1/012027](https://doi.org/10.1088/1742-6596/656/1/012027).
- [J90] J. C. Meng and T. Colonius, “Numerical simulations of the early stages of high-speed droplet breakup,” *Shock Waves*, vol. 25, no. 4, pp. 399–414, 2015. DOI: [10.1007/s00193-014-0546-z](https://doi.org/10.1007/s00193-014-0546-z).
- [J89] D. Rodríguez, A. V. G. Cavalieri, T. Colonius, and P. Jordan, “A study of linear wavepacket models for subsonic turbulent jets using local eigenmode decomposition of piv data,” *European Journal of Mechanics B-Fluids*, vol. 49, pp. 308–321, 2015. DOI: [10.1016/j.euromechflu.2014.03.004](https://doi.org/10.1016/j.euromechflu.2014.03.004).
- [J88] A. Towne and T. Colonius, “One-way spatial integration of hyperbolic equations,” *Journal of Computational Physics*, vol. 300, pp. 844–861, 2015. DOI: [10.1016/j.jcp.2015.08.015](https://doi.org/10.1016/j.jcp.2015.08.015).
- [J87] A. Uzun, F. S. Alvi, T. Colonius, and M. Y. Hussaini, “Spatial stability analysis of subsonic jets modified for low-frequency noise reduction,” *AIAA Journal*, vol. 53, no. 8, pp. 2335–2358, 2015. DOI: [10.2514/1.J053719](https://doi.org/10.2514/1.J053719).
- [J86] V. Coralic and T. Colonius, “Finite-volume WENO scheme for viscous compressible multicomponent flows,” *Journal of Computational Physics*, vol. 274, pp. 95–121, 2014. DOI: [10.1016/j.jcp.2014.06.003](https://doi.org/10.1016/j.jcp.2014.06.003).
- [J85] D. Fuster, J. M. Conoir, and T. Colonius, “Effect of direct bubble-bubble interactions on linear-wave propagation in bubbly liquids,” *Physical Review E*, vol. 90, no. 6, 2014. DOI: [10.1103/PhysRevE.90.063010](https://doi.org/10.1103/PhysRevE.90.063010).
- [J84] S. Liska and T. Colonius, “A parallel fast multipole method for elliptic difference equations,” *Journal of Computational Physics*, vol. 278, pp. 76–91, 2014. DOI: [10.1016/j.jcp.2014.07.048](https://doi.org/10.1016/j.jcp.2014.07.048).
- [J83] J. D. Regele, J. Rabinovitch, T. Colonius, and G. Blanquart, “Unsteady effects in dense, high speed, particle laden flows,” *International Journal of Multiphase Flow*, vol. 61, pp. 1–13, 2014. DOI: [10.1016/j.ijmultiphaseflow.2013.12.007](https://doi.org/10.1016/j.ijmultiphaseflow.2013.12.007).
- [J82] A. Sinha, D. Rodríguez, G. A. Brès, and T. Colonius, “Wavepacket models for supersonic jet noise,” *Journal of Fluid Mechanics*, vol. 742, pp. 71–95, 2014. DOI: [10.1017/jfm.2013.660](https://doi.org/10.1017/jfm.2013.660).
- [J81] G. A. Brès, M. Inkman, T. Colonius, and A. V. Fedorov, “Second-mode attenuation and cancellation by porous coatings in a high-speed boundary layer,” *Journal of Fluid Mechanics*, vol. 726, pp. 312–337, 2013. DOI: [10.1017/jfm.2013.206](https://doi.org/10.1017/jfm.2013.206).
- [J80] A. V. G. Cavalieri, D. Rodríguez, P. Jordan, T. Colonius, and Y. Gervais, “Wavepackets in the velocity field of turbulent jets,” *Journal of Fluid Mechanics*, vol. 730, pp. 559–592, 2013. DOI: [10.1017/jfm.2013.346](https://doi.org/10.1017/jfm.2013.346).
- [J79] V. Coralic and T. Colonius, “Shock-induced collapse of a bubble inside a deformable vessel,” *European Journal of Mechanics B-Fluids*, vol. 40, pp. 64–74, 2013. DOI: [10.1016/j.euromechflu.2013.01.003](https://doi.org/10.1016/j.euromechflu.2013.01.003).
- [J78] Y. Feldman and T. Colonius, “On a transitional and turbulent natural convection in spherical shells,” *International Journal of Heat and Mass Transfer*, vol. 64, pp. 514–525, 2013. DOI: [10.1016/j.ijheatmasstransfer.2013.04.042](https://doi.org/10.1016/j.ijheatmasstransfer.2013.04.042).

- [J77] P. Jordan and T. Colonius, “Wave packets and turbulent jet noise,” *Annual Review of Fluid Mechanics*, vol. 45, pp. 173–195, 2013. DOI: [10.1146/annurev-fluid-011212-140756](https://doi.org/10.1146/annurev-fluid-011212-140756).
- [J76] S. Pirozzoli and T. Colonius, “Generalized characteristic relaxation boundary conditions for unsteady compressible flow simulations,” *Journal of Computational Physics*, vol. 248, pp. 109–126, 2013. DOI: [10.1016/j.jcp.2013.04.021](https://doi.org/10.1016/j.jcp.2013.04.021).
- [J75] D. Rodríguez, A. Sinha, G. A. Brès, and T. Colonius, “Inlet conditions for wave packet models in turbulent jets based on eigenmode decomposition of large eddy simulation data,” *Physics of Fluids*, vol. 25, no. 10, 2013. DOI: [10.1063/1.4824479](https://doi.org/10.1063/1.4824479).
- [J74] A. V. G. Cavalieri, P. Jordan, T. Colonius, and Y. Gervais, “Axisymmetric superdirectivity in subsonic jets,” *Journal of Fluid Mechanics*, vol. 704, pp. 388–420, 2012. DOI: [10.1017/jfm.2012.247](https://doi.org/10.1017/jfm.2012.247).
- [J73] Y. Feldman, T. Colonius, M. T. Pauken, J. L. Hall, and J. A. Jones, “Simulation and cryogenic experiments of natural convection for the Titan Montgolfiere,” *AIAA Journal*, vol. 50, no. 11, pp. 2483–2491, 2012. DOI: [10.2514/1.J051672](https://doi.org/10.2514/1.J051672).
- [J72] J. A. Franck and T. Colonius, “Effects of actuation frequency on flow control applied to a wall-mounted hump,” *AIAA Journal*, vol. 50, no. 7, pp. 1631–1634, 2012. DOI: [10.2514/1.J051183](https://doi.org/10.2514/1.J051183).
- [J71] X. B. Li, M. L. Hunt, and T. Colonius, “A contact model for normal immersed collisions between a particle and a wall,” *Journal of Fluid Mechanics*, vol. 691, pp. 123–145, 2012. DOI: [10.1017/jfm.2011.461](https://doi.org/10.1017/jfm.2011.461).
- [J70] T. Sanada, K. Ando, and T. Colonius, “Effects of target compliance on a high-speed droplet impact,” *Ultra Clean Processing of Semiconductor Surfaces X*, vol. 187, pp. 137–140, 2012. DOI: [10.4028/www.scientific.net/SSP.187.137](https://doi.org/10.4028/www.scientific.net/SSP.187.137).
- [J69] A. Sinha, H. Alkandry, M. Kearney-Fischer, M. Samimy, and T. Colonius, “The impulse response of a high-speed jet forced with localized arc filament plasma actuators,” *Physics of Fluids*, vol. 24, no. 12, 2012. DOI: [10.1063/1.4772191](https://doi.org/10.1063/1.4772191).
- [J68] K. Ando, T. Colonius, and C. E. Brennen, “Numerical simulation of shock propagation in a polydisperse bubbly liquid,” *International Journal of Multiphase Flow*, vol. 37, no. 6, pp. 596–608, 2011. DOI: [10.1016/j.ijmultiphaseflow.2011.03.007](https://doi.org/10.1016/j.ijmultiphaseflow.2011.03.007).
- [J67] K. Ando, T. Sanada, K. Inaba, J. S. Damazo, J. E. Shepherd, T. Colonius, and C. E. Brennen, “Shock propagation through a bubbly liquid in a deformable tube,” *Journal of Fluid Mechanics*, vol. 671, pp. 339–363, 2011. DOI: [10.1017/S0022112010005707](https://doi.org/10.1017/S0022112010005707).
- [J66] T. Colonius and D. R. Williams, “Control of vortex shedding on two- and three-dimensional aerofoils,” *Philosophical Transactions of the Royal Society a-Mathematical Physical and Engineering Sciences*, vol. 369, no. 1940, pp. 1525–1539, 2011. DOI: [10.1098/rsta.2010.0355](https://doi.org/10.1098/rsta.2010.0355).
- [J65] D. Fuster and T. Colonius, “Modelling bubble clusters in compressible liquids,” *Journal of Fluid Mechanics*, vol. 688, pp. 352–389, 2011. DOI: [10.1017/jfm.2011.380](https://doi.org/10.1017/jfm.2011.380).
- [J64] K. Guðmundsson and T. Colonius, “Instability wave models for the near-field fluctuations of turbulent jets,” *Journal of Fluid Mechanics*, vol. 689, pp. 97–128, 2011. DOI: [10.1017/jfm.2011.401](https://doi.org/10.1017/jfm.2011.401).

- [J63] W. Joe, T. Colonius, and D. MacMynowski, “Feedback control of vortex shedding from an inclined flat plate,” *Theoretical and Computational Fluid Dynamics*, vol. 25, no. 1-4, pp. 221–232, 2011. DOI: [10.1007/s00162-010-0204-8](https://doi.org/10.1007/s00162-010-0204-8).
- [J62] W. Kerstens, J. Pfeiffer, D. Williams, R. King, and T. Colonius, “Closed-loop control of lift for longitudinal gust suppression at low Reynolds numbers,” *AIAA Journal*, vol. 49, no. 8, pp. 1721–1728, 2011. DOI: [10.2514/1.J050954](https://doi.org/10.2514/1.J050954).
- [J61] W. F. J. Olsman and T. Colonius, “Numerical simulation of flow over an airfoil with a cavity,” *AIAA Journal*, vol. 49, no. 1, pp. 143–149, 2011. DOI: [10.2514/1.J050542](https://doi.org/10.2514/1.J050542).
- [J60] W. F. J. Olsman, J. F. H. Willems, A. Hirschberg, T. Colonius, and R. R. Trieling, “Flow around a NACA0018 airfoil with a cavity and its dynamical response to acoustic forcing,” *Experiments in Fluids*, vol. 51, no. 2, pp. 493–509, 2011. DOI: [10.1007/s00348-011-1065-7](https://doi.org/10.1007/s00348-011-1065-7).
- [J59] A. Samanta, D. Appelö, T. Colonius, J. Nott, and J. Hall, “Comment on “computational modeling and experiments of natural convection for a Titan Montgolfiere” reply,” *AIAA Journal*, vol. 49, no. 4, pp. 877–878, 2011. DOI: [10.2514/1.J050961](https://doi.org/10.2514/1.J050961).
- [J58] T. Sanada, K. Ando, and T. Colonius, “A computational study of high-speed droplet impact,” *Fluid Dynamics and Material Processing*, 2011.
- [J57] V. Theofilis and T. Colonius, “Special issue on global flow instability and control,” *Theoretical and Computational Fluid Dynamics*, vol. 25, no. 1-4, pp. 1–6, 2011. DOI: [10.1007/s00162-010-0217-3](https://doi.org/10.1007/s00162-010-0217-3).
- [J56] G. A. Brès, T. Colonius, and A. V. Fedorov, “Acoustic properties of porous coatings for hypersonic boundary-layer control,” *AIAA Journal*, vol. 48, no. 2, pp. 267–274, 2010. DOI: [10.2514/1.40811](https://doi.org/10.2514/1.40811).
- [J55] K. K. Chen, T. Colonius, and K. Taira, “The leading-edge vortex and quasisteady vortex shedding on an accelerating plate,” *Physics of Fluids*, vol. 22, no. 3, 2010. DOI: [10.1063/1.3327282](https://doi.org/10.1063/1.3327282).
- [J54] J. A. Franck and T. Colonius, “Compressible large-eddy simulation of separation control on a wall-mounted hump,” *AIAA Journal*, vol. 48, no. 6, pp. 1098–1107, 2010. DOI: [10.2514/1.44756](https://doi.org/10.2514/1.44756).
- [J53] J. Krimmel, T. Colonius, and M. Tanguay, “Simulation of the effects of cavitation and anatomy in the shock path of model lithotripters,” *Urological Research*, vol. 38, no. 6, pp. 505–518, 2010. DOI: [10.1007/s00240-010-0332-z](https://doi.org/10.1007/s00240-010-0332-z).
- [J52] R. Reba, S. Narayanan, and T. Colonius, “Wave-packet models for large-scale mixing noise,” *International Journal of Aeroacoustics*, vol. 9, no. 4-5, pp. 533–557, 2010. DOI: [10.1260/1475-472x.9.4-5.533](https://doi.org/10.1260/1475-472x.9.4-5.533).
- [J51] A. Samanta, D. Appelö, T. Colonius, J. Nott, and J. Hall, “Computational modeling and experiments of natural convection for a Titan Montgolfiere,” *AIAA Journal*, vol. 48, no. 5, pp. 1007–1016, 2010. DOI: [10.2514/1.45854](https://doi.org/10.2514/1.45854).
- [J50] K. Taira and T. Colonius, “Effect of tip vortices in low-Reynolds-number poststall flow control (correction to vol 47, pg 749, 2009),” *AIAA Journal*, vol. 48, no. 3, pp. 702–702, 2010. DOI: [10.2514/1.48009](https://doi.org/10.2514/1.48009).
- [J49] K. Taira, C. W. Rowley, T. Colonius, and D. R. Williams, “Lift enhancement for low-aspect-ratio wings with periodic excitation,” *AIAA Journal*, vol. 48, no. 8, pp. 1785–1790, 2010. DOI: [10.2514/1.J050248](https://doi.org/10.2514/1.J050248).

- [J48] K. Ando, T. Colonius, and C. E. Brennen, “Improvement of acoustic theory of ultrasonic waves in dilute bubbly liquids,” *Journal of the Acoustical Society of America*, vol. 126, no. 3, El69–El74, 2009. DOI: [10.1121/1.3182858](https://doi.org/10.1121/1.3182858).
- [J47] D. Appelö and T. Colonius, “A high-order super-grid-scale absorbing layer and its application to linear hyperbolic systems,” *Journal of Computational Physics*, vol. 228, no. 11, pp. 4200–4217, 2009. DOI: [10.1016/j.jcp.2009.02.030](https://doi.org/10.1016/j.jcp.2009.02.030).
- [J46] J. B. Freund and T. Colonius, “Turbulence and sound-field POD analysis of a turbulent jet,” *International Journal of Aeroacoustics*, vol. 8, no. 4, pp. 337–354, 2009. DOI: [10.1260/147547209787548903](https://doi.org/10.1260/147547209787548903).
- [J45] E. Johnsen and T. Colonius, “Numerical simulations of non-spherical bubble collapse,” *Journal of Fluid Mechanics*, vol. 629, pp. 231–262, 2009. DOI: [10.1017/S0022112009006351](https://doi.org/10.1017/S0022112009006351).
- [J44] H. Y. Ran and T. Colonius, “Numerical simulation of the sound radiated by a turbulent vortex ring,” *International Journal of Aeroacoustics*, vol. 8, no. 4, pp. 317–336, 2009. DOI: [10.2514/6.2004-2918](https://doi.org/10.2514/6.2004-2918).
- [J43] K. Taira and T. Colonius, “Effect of tip vortices in low-Reynolds-number poststall flow control,” *AIAA Journal*, vol. 47, no. 3, pp. 749–756, 2009. DOI: [10.2514/1.40615](https://doi.org/10.2514/1.40615).
- [J42] —, “Three-dimensional flows around low-aspect-ratio flat-plate wings at low Reynolds numbers,” *Journal of Fluid Mechanics*, vol. 623, pp. 187–207, 2009. DOI: [10.1017/S0022112008005314](https://doi.org/10.1017/S0022112008005314).
- [J41] D. R. Williams, G. Tadmor, T. Colonius, W. Kerstens, V. Quach, and S. Buntain, “Lift response of a stalled wing to pulsatile disturbances,” *AIAA Journal*, vol. 47, no. 12, pp. 3031–3037, 2009. DOI: [10.2514/1.45407](https://doi.org/10.2514/1.45407).
- [J40] G. A. Brès and T. Colonius, “Three-dimensional instabilities in compressible flow over open cavities,” *Journal of Fluid Mechanics*, vol. 599, pp. 309–339, 2008. DOI: [10.1017/S0022112007009925](https://doi.org/10.1017/S0022112007009925).
- [J39] T. Colonius, R. Hagmeijer, K. Ando, and C. E. Brennen, “Statistical equilibrium of bubble oscillations in dilute bubbly flows,” *Physics of Fluids*, vol. 20, no. 4, 2008. DOI: [10.1063/1.2912517](https://doi.org/10.1063/1.2912517).
- [J38] T. Colonius and K. Taira, “A fast immersed boundary method using a nullspace approach and multi-domain far-field boundary conditions,” *Computer Methods in Applied Mechanics and Engineering*, vol. 197, no. 25-28, pp. 2131–2146, 2008. DOI: [10.1016/j.cma.2007.08.014](https://doi.org/10.1016/j.cma.2007.08.014).
- [J37] E. Johnsen and T. Colonius, “Shock-induced collapse of a gas bubble in shockwave lithotripsy,” *Journal of the Acoustical Society of America*, vol. 124, no. 4, pp. 2011–2020, 2008. DOI: [10.1121/1.2973229](https://doi.org/10.1121/1.2973229).
- [J36] J. B. Freund, T. Colonius, and A. P. Evan, “A cumulative shear mechanism for tissue damage initiation in shock-wave lithotripsy,” *Ultrasound in Medicine and Biology*, vol. 33, no. 9, pp. 1495–1503, 2007. DOI: [10.1016/j.ultrasmedbio.2007.03.001](https://doi.org/10.1016/j.ultrasmedbio.2007.03.001).
- [J35] A. T. Preston, T. Colonius, and C. E. Brennen, “A reduced-order model of diffusive effects on the dynamics of bubbles,” *Physics of Fluids*, vol. 19, no. 12, 2007. DOI: [10.1063/1.2825018](https://doi.org/10.1063/1.2825018).

- [J34] K. Taira and T. Colonius, “The immersed boundary method: A projection approach,” *Journal of Computational Physics*, vol. 225, no. 2, pp. 2118–2137, 2007. DOI: [10.1016/j.jcp.2007.03.005](https://doi.org/10.1016/j.jcp.2007.03.005).
- [J33] M. Bailey, J. McAteer, Y. Pishchalnikov, M. Hamilton, and T. Colonius, “Progress in lithotripsy research,” *Acoustics Today*, vol. 2, no. 2, pp. 18–29, 2006.
- [J32] E. Johnsen and T. Colonius, “Implementation of WENO schemes in compressible multi-component flow problems,” *Journal of Computational Physics*, vol. 219, no. 2, pp. 715–732, 2006. DOI: [10.1016/j.jcp.2006.04.018](https://doi.org/10.1016/j.jcp.2006.04.018).
- [J31] C. W. Rowley, D. R. Williams, T. Colonius, R. M. Murray, and D. G. Macmynowski, “Linear models for control of cavity flow oscillations,” *Journal of Fluid Mechanics*, vol. 547, pp. 317–330, 2006. DOI: [10.1017/S0022112005007299](https://doi.org/10.1017/S0022112005007299).
- [J30] T. Suzuki and T. Colonius, “Instability waves in a subsonic round jet detected using a near-field phased microphone array,” *Journal of Fluid Mechanics*, vol. 565, pp. 197–226, 2006. DOI: [10.1017/S0022112006001613](https://doi.org/10.1017/S0022112006001613).
- [J29] T. Colonius, “Modeling artificial boundary conditions for compressible flow,” *Annual Review of Fluid Mechanics*, vol. 36, pp. 315–345, 2004. DOI: [10.1146/annurev.fluid.36.050802.121930](https://doi.org/10.1146/annurev.fluid.36.050802.121930).
- [J28] T. Colonius and S. K. Lele, “Computational aeroacoustics: Progress on nonlinear problems of sound generation,” *Progress in Aerospace Sciences*, vol. 40, no. 6, pp. 345–416, 2004. DOI: [10.1016/j.paerosci.2004.09.001](https://doi.org/10.1016/j.paerosci.2004.09.001).
- [J27] C. W. Rowley, T. Colonius, and R. M. Murray, “Model reduction for compressible flows using POD and Galerkin projection,” *Physica D-Nonlinear Phenomena*, vol. 189, no. 1-2, pp. 115–129, 2004. DOI: [10.1016/j.physd.2003.03.001](https://doi.org/10.1016/j.physd.2003.03.001).
- [J26] T. Suzuki, T. Colonius, and S. Pirozzoli, “Vortex shedding in a two-dimensional diffuser: Theory and simulation of separation control by periodic mass injection,” *Journal of Fluid Mechanics*, vol. 520, pp. 187–213, 2004. DOI: [10.1017/S0022112004001405](https://doi.org/10.1017/S0022112004001405).
- [J25] K. Weinberg, T. Colonius, and M. Ortiz, “A model for kidney tissue damage under high speed loading,” *Proc. Appl. Math. Mech.*, vol. 4, no. 1, pp. 234–235, 2004. DOI: [10.1002/pamm.200410098](https://doi.org/10.1002/pamm.200410098).
- [J24] Y. A. Pishchalnikov, O. A. Sapozhnikov, M. R. Bailey, J. C. Williams, R. O. Cleveland, T. Colonius, L. A. Crum, A. P. Evan, and J. A. McAteer, “Cavitation bubble cluster activity in the breakage of kidney stones by lithotripter shockwaves,” *Journal of Endourology*, vol. 17, no. 7, pp. 435–446, 2003. DOI: [10.1089/089277903769013568](https://doi.org/10.1089/089277903769013568).
- [J23] T. Suzuki and T. Colonius, “Inverse-imaging method for detection of a vortex in a channel,” *AIAA Journal*, vol. 41, no. 9, pp. 1743–1751, 2003. DOI: [10.2514/2.7292](https://doi.org/10.2514/2.7292).
- [J22] T. Colonius and H. Y. Ran, “A super-grid-scale model for simulating compressible flow on unbounded domains,” *Journal of Computational Physics*, vol. 182, no. 1, pp. 191–212, 2002. DOI: [10.1006/jcph.2002.7161](https://doi.org/10.1006/jcph.2002.7161).
- [J21] J. D. Eldredge, T. Colonius, and A. Leonard, “A dilating vortex particle method for compressible flow,” *Journal of Turbulence*, vol. 3, 2002. DOI: [10.1088/1468-5248/3/1/036](https://doi.org/10.1088/1468-5248/3/1/036).
- [J20] —, “A vortex particle method for two-dimensional compressible flow,” *Journal of Computational Physics*, vol. 179, no. 2, pp. 371–399, 2002. DOI: [10.1006/jcph.2002.7060](https://doi.org/10.1006/jcph.2002.7060).

- [J19] J. D. Eldredge, A. Leonard, and T. Colonius, “A general deterministic treatment of derivatives in particle methods,” *Journal of Computational Physics*, vol. 180, no. 2, pp. 686–709, 2002. DOI: [10.1006/jcph.2002.7112](https://doi.org/10.1006/jcph.2002.7112).
- [J18] K. Mohseni, T. Colonius, and J. B. Freund, “An evaluation of linear instability waves as sources of sound in a supersonic turbulent jet,” *Physics of Fluids*, vol. 14, no. 10, pp. 3593–3600, 2002. DOI: [10.1063/1.1501545](https://doi.org/10.1063/1.1501545).
- [J17] Y. A. Pishchalnikov, O. A. Sapozhnikov, M. R. Bailey, J. C. Williams, R. O. Cleveland, T. Colonius, L. A. Crum, A. P. Evan, and J. A. McAteer, “Cavitation damage to kidney stones in SWL involves the action of bubble clusters: New observations using ultra-high speed imaging in vitro,” *Journal of Urology*, vol. 167, no. 4, pp. 261–262, 2002. DOI: [10.1089/089277903769013568](https://doi.org/10.1089/089277903769013568).
- [J16] A. T. Preston, T. Colonius, and C. E. Brennen, “A numerical investigation of unsteady bubbly cavitating nozzle flows,” *Physics of Fluids*, vol. 14, no. 1, pp. 300–311, 2002. DOI: [10.1063/1.1416497](https://doi.org/10.1063/1.1416497).
- [J15] C. W. Rowley, T. Colonius, and A. J. Basu, “On self-sustained oscillations in two-dimensional compressible flow over rectangular cavities,” *Journal of Fluid Mechanics*, vol. 455, pp. 315–346, 2002. DOI: [10.1017/S0022112001007534](https://doi.org/10.1017/S0022112001007534).
- [J14] K. Mohseni, H. Y. Ran, and T. Colonius, “Numerical experiments on vortex ring formation,” *Journal of Fluid Mechanics*, vol. 430, pp. 267–282, 2001. DOI: [10.1017/s002211200003025](https://doi.org/10.1017/s002211200003025).
- [J13] T. Colonius, F. d’Auria, and C. E. Brennen, “Acoustic saturation in bubbly cavitating flow adjacent to an oscillating wall,” *Physics of Fluids*, vol. 12, no. 11, pp. 2752–2761, 2000. DOI: [10.1063/1.1313561](https://doi.org/10.1063/1.1313561).
- [J12] T. Colonius and J. B. Freund, “Application of Lighthill’s equation to Mach 1.92 turbulent jet,” *AIAA Journal*, vol. 38, no. 2, pp. 368–370, 2000. DOI: [10.2514/3.14418](https://doi.org/10.2514/3.14418).
- [J11] K. Mohseni and T. Colonius, “Numerical treatment of polar coordinate singularities,” *Journal of Computational Physics*, vol. 157, no. 2, pp. 787–795, 2000. DOI: [10.1006/jcph.1999.6382](https://doi.org/10.1006/jcph.1999.6382).
- [J10] C. W. Rowley and T. Colonius, “Discretely nonreflecting boundary conditions for linear hyperbolic systems,” *Journal of Computational Physics*, vol. 157, no. 2, pp. 500–538, 2000. DOI: [10.1006/jcph.1999.6383](https://doi.org/10.1006/jcph.1999.6383).
- [J9] J. Zhou, F. Rusnak, T. Colonius, and G. M. Hathaway, “Quasi-linear gradients for capillary liquid chromatography with mass and tandem mass spectrometry,” *Rapid Communications in Mass Spectrometry*, vol. 14, no. 6, pp. 432–438, 2000. DOI: [10.1002/\(sici\)1097-0231\(20000331\)14:6<432::aid-rcm886>3.3.co;2-k](https://doi.org/10.1002/(sici)1097-0231(20000331)14:6<432::aid-rcm886>3.3.co;2-k).
- [J8] R. Kedia, M. L. Hunt, and T. Colonius, “Transition of chaotic flow in a radially heated Taylor-Couette system,” *Journal of Heat Transfer-Transactions of the Asme*, vol. 121, no. 3, pp. 574–582, 1999. DOI: [10.1115/1.2826018](https://doi.org/10.1115/1.2826018).
- [J7] —, “Numerical simulations of heat transfer in Taylor-Couette flow,” *Journal of Heat Transfer-Transactions of the Asme*, vol. 120, no. 1, pp. 65–71, 1998. DOI: [10.1115/1.2830066](https://doi.org/10.1115/1.2830066).
- [J6] T. Colonius, “Numerically nonreflecting boundary and interface conditions for compressible flow and aeroacoustic computations,” *AIAA Journal*, vol. 35, no. 7, pp. 1126–1133, 1997. DOI: [10.2514/3.13637](https://doi.org/10.2514/3.13637).

- [J5] T. Colonius, S. K. Lele, and P. Moin, “Sound generation in a mixing layer,” *Journal of Fluid Mechanics*, vol. 330, pp. 375–409, 1997. DOI: [10.1017/s0022112096003928](https://doi.org/10.1017/s0022112096003928).
- [J4] T. Colonius, “Aeroacoustics,” *Aerospace America*, vol. 33, no. 12, pp. 8–8, 1995.
- [J3] T. Colonius, S. K. Lele, and P. Moin, “The scattering of sound waves by a vortex – numerical simulations and analytical solutions,” *Journal of Fluid Mechanics*, vol. 260, pp. 271–298, 1994. DOI: [10.1017/s0022112094003514](https://doi.org/10.1017/s0022112094003514).
- [J2] —, “Boundary conditions for direct computation of aerodynamic sound generation,” *AIAA Journal*, vol. 31, no. 9, pp. 1574–1582, 1993. DOI: [10.2514/3.11817](https://doi.org/10.2514/3.11817).
- [J1] —, “The free compressible viscous vortex,” *Journal of Fluid Mechanics*, vol. 230, pp. 45–73, 1991. DOI: [10.1017/s0022112091000708](https://doi.org/10.1017/s0022112091000708).

Conference Papers

- [C152] X. An, D. R. Williams, J. Eldredge, and T. Colonius, “Modeling dynamic lift response to actuation,” in *54th AIAA Aerospace Sciences Meeting*, American Institute of Aeronautics and Astronautics (AIAA), 2016. DOI: [10.2514/6.2016-0058](https://doi.org/10.2514/6.2016-0058).
- [C151] G. A. Brès, V. Jaunet, M. L. Rallic, P. Jordan, A. Towne, O. Schmidt, T. Colonius, A. V. Cavalieri, and S. K. Lele, “Large eddy simulation for jet noise: Azimuthal decomposition and intermittency of the radiated sound,” in *22nd AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics (AIAA), 2016. DOI: [10.2514/6.2016-3050](https://doi.org/10.2514/6.2016-3050).
- [C150] A. V. Cavalieri, K. Sasaki, P. Jordan, O. Schmidt, T. Colonius, and G. A. Brès, “High-frequency wavepackets in turbulent jets,” in *22nd AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics (AIAA), 2016. DOI: [10.2514/6.2016-3056](https://doi.org/10.2514/6.2016-3056).
- [C149] D. Darakananda, J. Eldredge, T. Colonius, and D. R. Williams, “A vortex sheet/point vortex dynamical model for unsteady separated flows,” in *54th AIAA Aerospace Sciences Meeting*, American Institute of Aeronautics and Astronautics (AIAA), 2016. DOI: [10.2514/6.2016-2072](https://doi.org/10.2514/6.2016-2072).
- [C148] V. Jaunet, P. Jordan, A. V. Cavalieri, A. Towne, T. Colonius, O. Schmidt, and G. A. Brès, “Tonal dynamics and sound in subsonic turbulent jets,” in *22nd AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics (AIAA), 2016. DOI: [10.2514/6.2016-3016](https://doi.org/10.2514/6.2016-3016).
- [C147] K. Maeda, T. Colonius, W. Kreider, A. Maxwell, and M. Bailey, “Modeling and experimental analysis of acoustic cavitation bubble clouds for burst-wave lithotripsy,” in *5th Joint Meeting of the Acoustical Society of America and the Acoustical Society of Japan*, vol. 140, 2016, pp. 3307–3307. DOI: [10.1121/1.4970532](https://doi.org/10.1121/1.4970532).
- [C146] O. Schmid, T. Colonius, and G. Brès, “Modeling the generation of supersonic turbulent jet noise by large-scale coherent structures,” in *5th Joint Meeting of the Acoustical Society of America and the Acoustical Society of Japan*, vol. 140, 2016, pp. 3097–3097. DOI: [10.1121/1.4969657](https://doi.org/10.1121/1.4969657).
- [C145] O. Schmidt, A. Towne, T. Colonius, P. Jordan, V. Jaunet, A. V. Cavalieri, and G. A. Brès, “Super- and multi-directive acoustic radiation by linear global modes of a turbulent jet,” in *22nd AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics (AIAA), 2016. DOI: [10.2514/6.2016-2808](https://doi.org/10.2514/6.2016-2808).

- [C144] A. Towne, A. V. Cavalieri, P. Jordan, T. Colonius, V. Jaunet, O. Schmidt, and G. A. Brès, “Trapped acoustic waves in the potential core of subsonic jets,” in *22nd AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics (AIAA), 2016. DOI: [10.2514/6.2016-2809](https://doi.org/10.2514/6.2016-2809).
- [C143] H.-C. Tsai and T. Colonius, “Numerical investigation of self-starting capability of vertical-axis wind turbines at low Reynolds numbers,” in *34th AIAA Applied Aerodynamics Conference*, American Institute of Aeronautics and Astronautics (AIAA), 2016. DOI: [10.2514/6.2016-3731](https://doi.org/10.2514/6.2016-3731).
- [C142] G. Brès, V. Jaunet, M. Le Rallic, P. Jordan, T. Colonius, and S. K. Lele, “Large eddy simulation for jet noise: The importance of getting the boundary layer right,” in *21st AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2015. DOI: [10.2514/6.2015-2535](https://doi.org/10.2514/6.2015-2535).
- [C141] T. Colonius, A. Sinha, D. Rodríguez, A. Towne, J. Liu, G. Brès, D. Appelö, and T. Hagstrom, “Simulation and modeling of turbulent jet noise,” in *Direct and Large-Eddy Simulation IX*, Springer, 2015, pp. 305–310. DOI: [10.1007/978-3-319-14448-1_38](https://doi.org/10.1007/978-3-319-14448-1_38).
- [C140] R. Dunne, H.-C. Tsai, T. Colonius, and B. McKeon, “Leading edge vortex development on pitching and surging airfoils: A study of vertical axis wind turbines,” in *International Conference on Wakes, Jets and Separated flows*, Stockholm, Sweden, 2015.
- [C139] S. Sherrit, H. J. Lee, P. Walkemeyer, T. Winn, L. P. Tosi, and T. Colonius, “Fluid flow nozzle energy harvesters,” in *Sensors and Smart Structures Technologies for Civil, Mechanical, and Aerospace Systems 2015*, 2015. DOI: [10.1117/12.2084574](https://doi.org/10.1117/12.2084574).
- [C138] A. Sinha, H. Xia, and T. Colonius, “Parabolized stability analysis of jets issuing from serrated nozzles,” in *3rd Symposium on FSSIC*, 2015. DOI: [10.1007/978-3-662-48868-3_34](https://doi.org/10.1007/978-3-662-48868-3_34).
- [C137] A. Sinha and T. Colonius, “Linear stability implications of mean flow variations in turbulent jets issuing from serrated nozzles,” in *21st AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2015. DOI: [10.2514/6.2015-3125](https://doi.org/10.2514/6.2015-3125).
- [C136] G. Tissot, M. Zhang, F. Lajús, A. Cavalieri, P. Jordan, and T. Colonius, “Sensitivity of wavepackets in jets to non-linear effects: The role of the critical layer,” in *21st AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2015. DOI: [10.2514/6.2015-2218](https://doi.org/10.2514/6.2015-2218).
- [C135] A. Towne, T. Colonius, P. Jordan, A. Cavalieri, and G. Brès, “Stochastic and nonlinear forcing of wavepackets in a Mach 0.9 jet,” in *21st AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2015. DOI: [10.2514/6.2015-2217](https://doi.org/10.2514/6.2015-2217).
- [C134] G. Brès, P. Jordan, T. Colonius, M. Le Rallic, V. Jaunet, and S. Lele, “Large-eddy simulation of a Mach 0.9 turbulent jet,” in *Proceedings of the 2014 Summer Program*, Center for Turbulence Research, 2014.
- [C133] T. Colonius, A. Towne, R. H. Schlinker, R. A. Reba, and D. Shannon, “Active control of noise from hot, supersonic turbulent jets,” in *168th Meeting of the Acoustical Society of America*, vol. 136, 2014, pp. 2080–2080. DOI: [10.1121/1.4899469](https://doi.org/10.1121/1.4899469).
- [C132] V. Coralic and T. Colonius, “Modeling vascular injury due to shock-induced bubble collapse in lithotripsy,” in *168th Meeting of the Acoustical Society of America*, vol. 136, 2014, pp. 2192–2192. DOI: [10.1121/1.4899946](https://doi.org/10.1121/1.4899946).

- [C131] P. Jordan, T. Colonius, G. Brès, M. Zhang, A. Towne, and S. Lele, “Modeling intermittent wavepackets and their radiated sound in a turbulent jet,” in *Proceedings of the 2014 Summer Program*, Center for Turbulence Research, 2014.
- [C130] S. Sherrit, H. J. Lee, P. Walkemeyer, J. Hasenoehrl, J. L. Hall, T. Colonius, L. P. Tosi, A. Arrazola, N. Kim, K. Sun, and G. Corbett, “Flow energy piezoelectric bimorph nozzle harvester,” in *Active and Passive Smart Structures and Integrated Systems 2014*, 2014. DOI: [10.1117/12.2045191](https://doi.org/10.1117/12.2045191).
- [C129] A. Towne and T. Colonius, “Continued development of the one-way euler equations: Application to jets,” in *20th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2014. DOI: [10.2514/6.2014-2903](https://doi.org/10.2514/6.2014-2903).
- [C128] —, “Efficient jet noise models using the one-way euler equations,” in *168th Meeting of the Acoustical Society of America*, vol. 136, 2014, pp. 2081–2081. DOI: [10.1121/1.4899470](https://doi.org/10.1121/1.4899470).
- [C127] H.-C. Tsai and T. Colonius, “Coriolis effect on dynamic stall in a vertical axis wind turbine at moderate Reynolds number,” in *32nd AIAA Applied Aerodynamics Conference*, American Institute of Aeronautics and Astronautics, 2014. DOI: [10.2514/6.2014-3140](https://doi.org/10.2514/6.2014-3140).
- [C126] D. Breakey, P. Jordan, A. Cavalieri, O. Léon, M. Zhang, G. Lehnasch, T. Colonius, and D. Rodríguez, “Near-field wavepackets and the far-field sound of a subsonic jet,” in *19th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2013. DOI: [10.2514/6.2013-2083](https://doi.org/10.2514/6.2013-2083).
- [C125] J. Choi, T. Colonius, and D. Williams, “Dynamics and energy extraction of a surging and plunging airfoil at low Reynolds number,” in *51st AIAA Aerospace Sciences Meeting including the New Horizons Forum and Aerospace Exposition*, American Institute of Aeronautics and Astronautics, 2013. DOI: [10.2514/6.2013-672](https://doi.org/10.2514/6.2013-672).
- [C124] J. Meng and T. Colonius, “Droplet breakup in high-speed gas flows,” in *8th International Conference on Multiphase Flow*, Jeju, Korea, 2013.
- [C123] —, “The effects of shock strength on droplet breakup,” in *Proceedings of the 29th International Symposium on Shock Waves*, Madison, WI, 2013.
- [C122] D. Rodríguez, A. Cavalieri, T. Colonius, and P. Jordan, “Wavepacket eduction in turbulent jets based on eigenmode decomposition of piv data,” in *19th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2013. DOI: [10.2514/6.2013-2084](https://doi.org/10.2514/6.2013-2084).
- [C121] D. Rodríguez, A. Sinha, G. Brès, and T. Colonius, “Acoustic field associated with parabolized stability equation models in turbulent jets,” in *19th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2013. DOI: [10.2514/6.2013-2279](https://doi.org/10.2514/6.2013-2279).
- [C120] A. Sinha, R. Schlinker, J. Simonich, R. Reba, and T. Colonius, “Toward active control of noise from hot supersonic jets,” in *19th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2013. DOI: [10.2514/6.2013-2234](https://doi.org/10.2514/6.2013-2234).
- [C119] A. Towne and T. Colonius, “Improved parabolization of the euler equations,” in *19th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2013. DOI: [10.2514/6.2013-2171](https://doi.org/10.2514/6.2013-2171).

- [C118] C. Cavalieri André, D. Rodríguez, P. Jordan, T. Colonius, and Y. Gervais, “Wavepackets in the velocity field of turbulent jets,” in *18th AIAA/CEAS Aeroacoustics Conference (33rd AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2012. DOI: [10.2514/6.2012-2115](https://doi.org/10.2514/6.2012-2115).
- [C117] C. Cavalieri André, D. Violato, D. Rodríguez, P. Jordan, F. Scarano, T. Colonius, and Y. Gervais, “Low-speed jet dynamics and sound radiation,” in *18th AIAA/CEAS Aeroacoustics Conference (33rd AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2012. DOI: [10.2514/6.2012-2080](https://doi.org/10.2514/6.2012-2080).
- [C116] T. Colonius and D. Fuster, “Investigation of a new model for bubbly cavitating flow,” in *CAV2012: Eighth International Symposium on Cavitation*, Singapore, 2012.
- [C115] T. Hagstrom, D. Appelö, T. Colonius, M. Inkman, and C. Y. Jang, “Simulation of compressible flows using Hermite methods,” in *ACOUSTICS 2012 HONG KONG*, vol. 131, 2012, pp. 3429–3429. DOI: [10.1121/1.4708863](https://doi.org/10.1121/1.4708863).
- [C114] C. Y. Jang, D. Appelö, T. Colonius, T. Hagstrom, and M. Inkman, “An analysis of dispersion and dissipation properties of Hermite methods and its application to direct numerical simulation of jet noise,” in *18th AIAA/CEAS Aeroacoustics Conference (33rd AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2012. DOI: [10.2514/6.2012-2240](https://doi.org/10.2514/6.2012-2240).
- [C113] J. Regele, J. Rabinovitch, T. Colonius, and G. Blanquart, “Numerical modeling and analysis of early shock wave interactions with a dense particle cloud,” in *42nd AIAA Fluid Dynamics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2012. DOI: [10.2514/6.2012-3161](https://doi.org/10.2514/6.2012-3161).
- [C112] D. Rodríguez, A. Sinha, G. Brès, and T. Colonius, “Parabolized stability equation models in turbulent supersonic jets,” in *18th AIAA/CEAS Aeroacoustics Conference (33rd AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2012. DOI: [10.2514/6.2012-2117](https://doi.org/10.2514/6.2012-2117).
- [C111] D. Appelö, M. Inkman, T. Hagstrom, and T. Colonius, “Hermite methods for aeroacoustics: Recent progress,” in *17th AIAA/CEAS Aeroacoustics Conference (32nd AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2011. DOI: [10.2514/6.2011-2757](https://doi.org/10.2514/6.2011-2757).
- [C110] G. Brès, E. Fares, D. Williams, and T. Colonius, “Numerical simulations of the transient flow response of a 3d, low-aspect-ratio wing to pulsed actuation,” in *41st AIAA Fluid Dynamics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2011. DOI: [10.2514/6.2011-3440](https://doi.org/10.2514/6.2011-3440).
- [C109] A. Cavalieri, P. Jordan, T. Colonius, and Y. Gervais, “Axisymmetric superdirectivity in subsonic jets,” in *17th AIAA/CEAS Aeroacoustics Conference (32nd AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2011. DOI: [10.2514/6.2011-2743](https://doi.org/10.2514/6.2011-2743).
- [C108] V. Coralic and T. Colonius, “Numerical simulation of bubble dynamics in deformable vessels,” in *161st Meeting of the Acoustical Society of America*, vol. 129, 2011, pp. 2375–2375. DOI: [10.1121/1.3587690](https://doi.org/10.1121/1.3587690).
- [C107] A. Fedorov, G. Brès, M. Inkman, and T. Colonius, “Instability of hypersonic boundary layer on a wall with resonating micro-cavities,” in *49th AIAA Aerospace Sciences Meeting including the New Horizons Forum and Aerospace Exposition*, American Institute of Aeronautics and Astronautics, 2011. DOI: [10.2514/6.2011-373](https://doi.org/10.2514/6.2011-373).

- [C106] Y. Feldman, A. Samanta, T. Colonius, M. Pauken, J. Hall, and J. Jones, “Numerical and experimental modeling of natural convection for a cryogenic prototype of a Titan Montgolfiere,” in *11th AIAA Aviation Technology, Integration, and Operations (ATIO) Conference*, American Institute of Aeronautics and Astronautics, 2011. DOI: [10.2514/6.2011-6869](https://doi.org/10.2514/6.2011-6869).
- [C105] D. Hartmann and T. Colonius, “A projection method for multiphase flows,” in *20th AIAA Computational Fluid Dynamics Conference*, American Institute of Aeronautics and Astronautics, 2011. DOI: [10.2514/6.2011-3831](https://doi.org/10.2514/6.2011-3831).
- [C104] D. Rodríguez, A. Samanta, A. Cavalieri, T. Colonius, and P. Jordan, “Parabolized stability equation models for predicting large-scale mixing noise of turbulent round jets,” in *17th AIAA/CEAS Aeroacoustics Conference (32nd AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2011. DOI: [10.2514/6.2011-2838](https://doi.org/10.2514/6.2011-2838).
- [C103] K. Ando, T. Sanada, K. Inaba, J. Shepherd, T. Colonius, and C. Brennen, “Shock theory of a bubbly liquid in a deformable tube,” in *7th International Conference on Multiphase Flow*, 2010.
- [C102] D. Appelö, T. Colonius, T. Hagstrom, and M. Inkman, “Development of arbitrary-order hermite methods for simulation and analysis of turbulent jet noise,” in *IUTAM Symposium on Computational Aero-Acoustics for Aircraft Noise Prediction*, vol. 6, 2010, pp. 19–27. DOI: [10.1016/j.proeng.2010.09.003](https://doi.org/10.1016/j.proeng.2010.09.003).
- [C101] G. Brès, D. Williams, and T. Colonius, “Numerical simulations of natural and actuated flow over a 3-d, low-aspect-ratio airfoil,” in *40th Fluid Dynamics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2010. DOI: [10.2514/6.2010-4713](https://doi.org/10.2514/6.2010-4713).
- [C100] T. Colonius, A. Samanta, and K. Guðmundsson, “Parabolized stability equation models of large-scale jet mixing noise,” in *IUTAM Symposium on Computational Aero-Acoustics for Aircraft Noise Prediction*, vol. 6, 2010, pp. 64–73. DOI: [10.1016/j.proeng.2010.09.008](https://doi.org/10.1016/j.proeng.2010.09.008).
- [C99] W. T. Joe, T. Colonius, and D. G. MacMynowski, “Optimized waveforms for feedback control of vortex shedding,” in *Active Flow Control II*, vol. 108, 2010, pp. 391–404. DOI: [10.1007/978-3-642-11735-0_25](https://doi.org/10.1007/978-3-642-11735-0_25).
- [C98] Y. Khalighi, F. Ham, P. Moin, S. K. Lele, T. Colonius, R. H. Schlinker, R. A. Reba, and J. Simonich, “Unstructured large eddy simulation technology for prediction and control of jet noise,” in *Proceedings of the Asme Turbo Expo 2010, Vol 1*, 2010, pp. 57–70. DOI: [10.1115/gt2010-22306](https://doi.org/10.1115/gt2010-22306).
- [C97] F. Ladeinde, K. Alabi, T. Colonius, K. Guðmundsson, R. Schlinker, and R. Reba, “An integrated rans-pse-wave packet tool for the prediction of subsonic and supersonic jet noise,” in *16th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2010. DOI: [10.2514/6.2010-4021](https://doi.org/10.2514/6.2010-4021).
- [C96] K. Sanada, K. Ando, and T. Colonius, “Numerical analysis of high speed droplet impact,” in *7th International Conference on Multiphase Flow*, Tampa, FL, 2010.
- [C95] K. Taira, C. W. Rowley, and T. Colonius, “Lock-on to a high-lift state with oscillatory forcing in a three-dimensional wake flow,” in *Active Flow Control II*, vol. 108, 2010, pp. 81–93. DOI: [10.1007/978-3-642-11735-0_6](https://doi.org/10.1007/978-3-642-11735-0_6).

- [C94] K. Taira, C. Rowley, and T. Colonius, “Feedback control of high-lift state for a low-aspect-ratio wing,” in *48th AIAA Aerospace Sciences Meeting Including the New Horizons Forum and Aerospace Exposition*, American Institute of Aeronautics and Astronautics, 2010. DOI: [10.2514/6.2010-357](https://doi.org/10.2514/6.2010-357).
- [C93] D. Williams, W. Kerstens, J. Pfeiffer, R. King, and T. Colonius, “Unsteady lift suppression with a robust closed loop controller,” in *Active Flow Control II*, vol. 108, 2010, pp. 19–30. DOI: [10.1007/978-3-642-11735-0_2](https://doi.org/10.1007/978-3-642-11735-0_2).
- [C92] D. Williams, W. Kerstens, J. Pfeiffer, R. King, G. Tadmor, T. Colonius, S. Buntain, and V. Quach, “Closed-loop control of a wing in an unsteady flow,” in *48th AIAA Aerospace Sciences Meeting Including the New Horizons Forum and Aerospace Exposition*, American Institute of Aeronautics and Astronautics, 2010. DOI: [10.2514/6.2010-358](https://doi.org/10.2514/6.2010-358).
- [C91] D. Williams, W. Kerstens, J. Pfeiffer, R. King, and T. Colonius, “Closed loop control of a wing’s lift for ‘gust’ suppression,” in *5th Flow Control Conference*, American Institute of Aeronautics and Astronautics, 2010. DOI: [10.2514/6.2010-4969](https://doi.org/10.2514/6.2010-4969).
- [C90] K. Ando, T. Colonius, and C. Brennen, “Shock propagation in polydisperse bubbly flows,” in *CAV2009: Seventh International Symposium on Cavitation*, Ann Arbor, MI, 2009.
- [C89] D. Appelo, T. Colonius, J. Nott, and J. Hall, “Computational modeling and experiments of natural convection for a Titan Montgolfiere,” in *AIAA Balloon Systems Conference*, American Institute of Aeronautics and Astronautics, 2009. DOI: [10.2514/6.2009-2806](https://doi.org/10.2514/6.2009-2806).
- [C88] G. Brès, M. Inkman, T. Colonius, and A. Fedorov, “Alternate designs of ultrasonic absorptive coatings for hypersonic boundary layer control,” in *39th AIAA Fluid Dynamics Conference*, American Institute of Aeronautics and Astronautics, 2009. DOI: [10.2514/6.2009-4217](https://doi.org/10.2514/6.2009-4217).
- [C87] J. Franck and T. Colonius, “Oscillatory control and the effects of actuation frequency on a wall-mounted hump,” in *39th AIAA Fluid Dynamics Conference*, American Institute of Aeronautics and Astronautics, 2009. DOI: [10.2514/6.2009-4019](https://doi.org/10.2514/6.2009-4019).
- [C86] K. Guðmundsson and T. Colonius, “Parabolized stability equation models for turbulent jets and their radiated sound,” in *15th AIAA/CEAS Aeroacoustics Conference (30th AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2009. DOI: [10.2514/6.2009-3380](https://doi.org/10.2514/6.2009-3380).
- [C85] W. T. Joe, T. Colonius, and D. MacMynowski, “Optimized control of vortex shedding from an inclined flat plate,” in *39th AIAA Fluid Dynamics Conference*, American Institute of Aeronautics and Astronautics, 2009. DOI: [10.2514/6.2009-4027](https://doi.org/10.2514/6.2009-4027).
- [C84] E. Johnsen, T. Colonius, and R. Cleveland, “Damage potential of the shock-induced collapse of a gas bubble,” in *CAV2009: Seventh International Symposium on Cavitation*, Ann Arbor, MI, 2009.
- [C83] J. Krimmel and T. Colonius, “In vivo simulation of shock wave lithotripsy: Wave focusing in inhomogeneous materials,” in *157th Meeting of the Acoustical Society of America*, vol. 125, 2009, pp. 2623–2623. DOI: [10.1121/1.4783996](https://doi.org/10.1121/1.4783996).
- [C82] R. H. Schlinker, R. A. Reba, J. C. Simonich, T. Colonius, K. Guðmundsson, and F. Ladeinde, “Towards prediction and control of large scale turbulent structure supersonic jet noise,” in *Proceedings of the Asme Turbo Expo 2009, Vol 1*, 2009, pp. 217–229. DOI: [10.1115/gt2009-60300](https://doi.org/10.1115/gt2009-60300).

- [C81] R. Schlinker, J. Simonich, D. Shannon, R. Reba, T. Colonius, K. Gudmundsson, and F. Ladeinde, “Supersonic jet noise from round and chevron nozzles: Experimental studies,” in *15th AIAA/CEAS Aeroacoustics Conference (30th AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2009. DOI: [10.2514/6.2009-3257](https://doi.org/10.2514/6.2009-3257).
- [C80] K. Taira and T. Colonius, “On the effect of tip vortices in low-Reynolds-number post-stall flow control,” in *47th AIAA Aerospace Sciences Meeting including The New Horizons Forum and Aerospace Exposition*, American Institute of Aeronautics and Astronautics, 2009. DOI: [10.2514/6.2009-376](https://doi.org/10.2514/6.2009-376).
- [C79] D. Williams, V. Quach, W. Kerstens, S. Buntain, G. Tadmor, C. Rowley, and T. Colonius, “Low Reynolds number wing response to an oscillating freestream with and without feed forward control,” in *47th AIAA Aerospace Sciences Meeting including The New Horizons Forum and Aerospace Exposition*, American Institute of Aeronautics and Astronautics, 2009. DOI: [10.2514/6.2009-143](https://doi.org/10.2514/6.2009-143).
- [C78] G. Brès, T. Colonius, and A. Fedorov, “Interaction of acoustic disturbances with micro-cavities for ultrasonic absorptive coatings,” in *5th AIAA Theoretical Fluid Mechanics Conference*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-3903](https://doi.org/10.2514/6.2008-3903).
- [C77] —, “Stability of temporally evolving supersonic boundary layers over micro-cavities for ultrasonic absorptive coatings,” in *5th AIAA Theoretical Fluid Mechanics Conference*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-4337](https://doi.org/10.2514/6.2008-4337).
- [C76] S. Brunton, C. Rowley, K. Taira, T. Colonius, J. Collins, and D. Williams, “Unsteady aerodynamic forces on small-scale wings: Experiments, simulations, and models,” in *46th AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-520](https://doi.org/10.2514/6.2008-520).
- [C75] J. Franck and T. Colonius, “Large-eddy simulation of separation control for compressible flow over a wall-mounted hump,” in *46th AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-555](https://doi.org/10.2514/6.2008-555).
- [C74] W. T. Joe, K. Taira, T. Colonius, D. MacMynowski, and G. Tadmor, “Closed-loop control of vortex shedding on a two-dimensional flat-plate airfoil at a low Reynolds number,” in *46th AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-634](https://doi.org/10.2514/6.2008-634).
- [C73] E. Johnsen and T. Colonius, “Damage potential of single-bubble collapse in shockwave lithotripsy,” in *Acoustics 2008 Paris*, vol. 123, 2008, pp. 3368–3368. DOI: [10.1121/1.2933980](https://doi.org/10.1121/1.2933980).
- [C72] J. Krimmel and T. Colonius, “Numerical simulation of shock wave generation and focusing in shock wave lithotripsy,” in *Acoustics 2008 Paris*, vol. 123, 2008, pp. 3367–3367. DOI: [10.1121/1.2933977](https://doi.org/10.1121/1.2933977).
- [C71] M. Munson, W. Dickson, T. Colonius, and M. Gharib, “A new low Reynolds number facility for active flow control applications,” in *46th AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-694](https://doi.org/10.2514/6.2008-694).
- [C70] C. Rowley, S. Ahuja, K. Taira, and T. Colonius, “Closed-loop control of leading edge vorticity on a 3d wing: Simulations and low-dimensional models,” in *38th Fluid Dynamics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-3981](https://doi.org/10.2514/6.2008-3981).

- [C69] R. Schlinker, J. Simonich, R. Reba, T. Colonius, and F. Ladeinde, “Decomposition of high speed jet noise: Source characteristics and propagation effects,” in *14th AIAA/CEAS Aeroacoustics Conference (29th AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-2890](https://doi.org/10.2514/6.2008-2890).
- [C68] G. Tadmor, D. Williams, J. Collins, T. Colonius, and C. Rowley, “Control of a semi-circular planform wing in a "gusting" unsteady free stream flow ii: Modeling and feedback design,” in *38th Fluid Dynamics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-3977](https://doi.org/10.2514/6.2008-3977).
- [C67] G. Tadmor, D. Bissex, B. Noack, M. Morzynski, T. Colonius, and K. Taira, “Fast approximated pod for a flat plate benchmark with a time varying angle of attack,” in *4th Flow Control Conference*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-4191](https://doi.org/10.2514/6.2008-4191).
- [C66] —, “Temporal-harmonic specific pod mode extraction,” in *4th Flow Control Conference*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-4190](https://doi.org/10.2514/6.2008-4190).
- [C65] D. Williams, J. Collins, C. Jankhot, T. Colonius, and G. Tadmor, “Control of flow structure on a semi-circular planform wing,” in *46th AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-597](https://doi.org/10.2514/6.2008-597).
- [C64] D. Williams, J. Collins, G. Tadmor, and T. Colonius, “Control of a semi-circular planform wing in a "gusting" unsteady freestream flow: I-experimental issues,” in *38th Fluid Dynamics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2008. DOI: [10.2514/6.2008-3976](https://doi.org/10.2514/6.2008-3976).
- [C63] S. Ahuja, C. Rowley, I. Kevrekidis, M. Wei, T. Colonius, and G. Tadmor, “Low-dimensional models for control of leading-edge vortices: Equilibria and linearized models,” in *45th AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2007. DOI: [10.2514/6.2007-709](https://doi.org/10.2514/6.2007-709).
- [C62] G. Brès and T. Colonius, “Direct numerical simulations of three-dimensional cavity flows,” in *13th AIAA/CEAS Aeroacoustics Conference (28th AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2007. DOI: [10.2514/6.2007-3405](https://doi.org/10.2514/6.2007-3405).
- [C61] —, “Three-dimensional linear stability analysis of cavity flows,” in *45th AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2007. DOI: [10.2514/6.2007-1126](https://doi.org/10.2514/6.2007-1126).
- [C60] K. Guðmundsson and T. Colonius, “Spatial stability analysis of chevron jet profiles,” in *13th AIAA/CEAS Aeroacoustics Conference (28th AIAA Aeroacoustics Conference)*, American Institute of Aeronautics and Astronautics, 2007. DOI: [10.2514/6.2007-3599](https://doi.org/10.2514/6.2007-3599).
- [C59] E. Johnsen and T. Colonius, “Numerical study of the collapse of a bubble subjected to a lithotripter pulse,” in *Renal Stone Disease, 1st Annual International Urolithiasis Research Symposium*, vol. 900, 2007, pp. 360–363.
- [C58] E. Johnsen, T. Colonius, W. Kreider, and M. R. Bailey, “Non-spherical collapse of an air bubble subjected to a lithotripter pulse,” in *Proceedings of the ASME International Mechanical Engineering Congress and Exposition 2007, Vol 2*, 2007, pp. 285–294. DOI: [10.1115/imece2007-43156](https://doi.org/10.1115/imece2007-43156).

- [C57] K. Taira, W. Dickson, T. Colonius, M. Dickinson, and C. Rowley, “Unsteadiness in flow over a flat plate at angle-of-attack at low Reynolds numbers,” in *45th AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2007. DOI: [10.2514/6.2007-710](https://doi.org/10.2514/6.2007-710).
- [C56] D. Williams, S. Doshi, J. Collins, and T. Colonius, “Control of the spanwise distribution of circulation on naca 0012 and flat plate wings,” in *45th AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2007. DOI: [10.2514/6.2007-1121](https://doi.org/10.2514/6.2007-1121).
- [C55] K. Guðmundsson and T. Colonius, “Linear stability analysis of chevron jet profiles,” in *Proceedings of the ASME Fluids Engineering Division Summer Conference, Vol 2*, 2006, pp. 497–504. DOI: [10.1115/fedsm2006-98485](https://doi.org/10.1115/fedsm2006-98485).
- [C54] E. Johnsen and T. Colonius, “Compressible multicomponent flow calculations and shock-bubble interaction,” in *CAV2005: Sixth International Symposium on Cavitation*, Wageningen, The Netherlands, 2006.
- [C53] E. Johnsen and T. Colonius, “Numerical study of the collapse of a bubble subjected to a lithotripter pulse,” in *Proc. 4th Joint Meeting: ASA and ASJ*, vol. 120, 2006, pp. 3065–3065. DOI: [10.1121/1.4787344](https://doi.org/10.1121/1.4787344).
- [C52] T. Suzuki and T. Colonius, “Relation between instability waves and low-frequency jet noise investigated with phased-microphone arrays,” in *44th AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2006. DOI: [10.2514/6.2006-622](https://doi.org/10.2514/6.2006-622).
- [C51] R. Reba, S. Narayanan, T. Colonius, and T. Suzuki, “Modeling jet noise from organized structures using near-field hydrodynamic pressure,” in *11th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2005. DOI: [10.2514/6.2005-3093](https://doi.org/10.2514/6.2005-3093).
- [C50] H. Ran and T. Colonius, “Numerical simulation of sound radiated from a turbulent vortex ring,” in *10th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2004. DOI: [10.2514/6.2004-2918](https://doi.org/10.2514/6.2004-2918).
- [C49] T. Suzuki and T. Colonius, “Identification of jet instability waves and design of a microphone array,” in *10th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 2004. DOI: [10.2514/6.2004-2960](https://doi.org/10.2514/6.2004-2960).
- [C48] T. Suzuki, T. Colonius, and D. MacMartin, “Closed-loop control of vortex shedding in a separated diffuser using an inverse method,” in *42nd AIAA Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2004. DOI: [10.2514/6.2004-577](https://doi.org/10.2514/6.2004-577).
- [C47] V. Theofilis and T. Colonius, “Three-dimensional instabilities of compressible flow over open cavities: Direct solution of hte biglobal eigenvalue problem,” in *34th AIAA Fluid Dynamics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2004. DOI: [10.2514/6.2004-2544](https://doi.org/10.2514/6.2004-2544).
- [C46] M. R. Bailey, R. O. Cleveland, T. Colonius, L. A. Crum, A. P. Evan, J. E. Lingeman, J. A. McAteer, O. A. Sapozhnikov, and J. C. Williams, “Cavitation in shock wave lithotripsy: The critical role of bubble activity in stone breakage and kidney trauma,” in *2003 IEEE Ultrasonics Symposium Proceedings, Vols 1 and 2*, 2003, pp. 724–727. DOI: [10.1109/ultsym.2003.1293503](https://doi.org/10.1109/ultsym.2003.1293503).

- [C45] M. R. Bailey, L. A. Crum, O. A. Sapozhnikov, A. P. Evan, J. A. McAteer, T. Colonius, and R. O. Cleveland, “Cavitation in shock wave lithotripsy,” in *146th Meeting of the Acoustical Society of America*, vol. 114, 2003, pp. 2417–2418. DOI: [10.1121/1.4778635](https://doi.org/10.1121/1.4778635).
- [C44] F. Bertolotti and T. Colonius, “On the noise generated by shear-layer instabilities in turbulent jets,” in *41st Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2003. DOI: [10.2514/6.2003-1062](https://doi.org/10.2514/6.2003-1062).
- [C43] T. Colonius and M. Tanguay, “Cloud cavitation effects in shockwave lithotripsy,” in *146th Meeting of the Acoustical Society of America*, vol. 114, 2003, pp. 2452–2452. DOI: [10.1121/1.4779511](https://doi.org/10.1121/1.4779511).
- [C42] Y. A. Pishchalnikov, J. A. McAteer, A. P. Evan, O. A. Sapozhnikov, R. O. Cleveland, T. Colonius, M. R. Bailey, and L. A. Crum, “Dynamics of concerted bubble cluster collapse in shock wave lithotripsy,” in *146th Meeting of the Acoustical Society of America*, vol. 114, 2003, pp. 2386–2386. DOI: [10.1121/1.4777748](https://doi.org/10.1121/1.4777748).
- [C41] A. Preston, T. Colonius, and C. Brennen, “Reduced-order modeling of diffusive effects on the dynamics of bubbles,” in *CAV2003: Fifth International Symposium on Cavitation*, Osaka, Japan, 2003.
- [C40] R. Reba, S. Narayanan, T. Colonius, and M. Dunlop, “A study of the role of organized structures in jet noise generation,” in *9th AIAA/CEAS Aeroacoustics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2003. DOI: [10.2514/6.2003-3314](https://doi.org/10.2514/6.2003-3314).
- [C39] T. Suzuki and T. Colonius, “Large-scale unsteadiness in a two-dimensional diffuser: Numerical study toward active separation control,” in *41st Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2003. DOI: [10.2514/6.2003-1138](https://doi.org/10.2514/6.2003-1138).
- [C38] T. Suzuki, T. Colonius, and D. MacMartin, “Inverse technique for vortex imaging and its application to feedback flow control,” in *33rd AIAA Fluid Dynamics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2003. DOI: [10.2514/6.2003-4260](https://doi.org/10.2514/6.2003-4260).
- [C37] M. Tanguay and T. Colonius, “Progress in modeling and simulation of shock wave lithotripsy (SWL).,” in *CAV2003: Fifth International Symposium on Cavitation*, Osaka, Japan, 2003.
- [C36] V. Theofilis and T. Colonius, “An algorithm for the recovery of 2- and 3d global instabilities of compressible flow over 2d open cavities,” in *33rd AIAA Fluid Dynamics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2003. DOI: [10.2514/6.2003-4143](https://doi.org/10.2514/6.2003-4143).
- [C35] T. Colonius and J. Freund, “Pod analysis of sound generation by a turbulent jet,” in *40th AIAA Aerospace Sciences Meeting & Exhibit*, American Institute of Aeronautics and Astronautics, 2002. DOI: [10.2514/6.2002-72](https://doi.org/10.2514/6.2002-72).
- [C34] —, “Reconstruction of large-scale structures and acoustic radiation from a turbulent $M = 0.9$ jet using proper orthogonal decomposition,” in *Advances in Turbulence IX*, I. Castro, P. Hancock, and T. Thomas, Eds., 2002.
- [C33] T. Colonius, C. W. Rowley, J. B. Freund, and R. M. Murray, “On the choice of norm for modeling compressible flow dynamics at reduced-order using the pod,” in *Proceedings of the 41st IEEE Conference on Decision and Control, Vols 1-4*, 2002, pp. 3273–3278. DOI: [10.1109/cdc.2002.1184376](https://doi.org/10.1109/cdc.2002.1184376).

- [C32] T. Colonius and M. Tanguay, “Numerical simulation of shock and bubble dynamics in shockwave lithotripsy,” in *143rd Meeting of the Acoustical Society of America*, vol. 112, 2002, pp. 2290–2290. DOI: [10.1121/1.4779204](https://doi.org/10.1121/1.4779204).
- [C31] K.-J. Oh and T. Colonius, “Large eddy simulation of the compressible flow over an open cavity,” in *ASME 2002 Joint U.S.-European Fluids Engineering Division Conference*, ASME International, 2002. DOI: [10.1115/fedsm2002-31352](https://doi.org/10.1115/fedsm2002-31352).
- [C30] Y. A. Pishchalnikov, O. A. Sapozhnikov, J. C. Williams, A. P. Evan, J. A. McAteer, R. O. Cleveland, T. Colonius, M. R. Bailey, and L. A. Crum, “Cavitation bubble cluster activity in the breakage of stones by shock wave lithotripsy,” in *143rd Meeting of the Acoustical Society of America*, vol. 111, 2002, pp. 2461–2461. DOI: [10.1121/1.4778494](https://doi.org/10.1121/1.4778494).
- [C29] A. Preston, T. Colonius, and C. E. Brennen, “A reduced-order model of heat transfer effects on the dynamics of bubbles,” in *ASME 2002 Joint U.S.-European Fluids Engineering Division Conference*, ASME International, 2002. DOI: [10.1115/FEDSM2002-31026](https://doi.org/10.1115/FEDSM2002-31026).
- [C28] C. W. Rowley, D. Williams, T. Colonius, R. Murray, D. MacMartin, and D. Fabris, “Model-based control of cavity oscillations. ii - system identification and analysis,” in *40th AIAA Aerospace Sciences Meeting & Exhibit*, American Institute of Aeronautics and Astronautics, 2002. DOI: [10.2514/6.2002-972](https://doi.org/10.2514/6.2002-972).
- [C27] M. Tanguay and T. Colonius, “Numerical investigation of bubble cloud dynamics in shock wave lithotripsy,” in *ASME 2002 Joint U.S.-European Fluids Engineering Division Conference*, ASME International, 2002. DOI: [10.1115/FEDSM2002-31010](https://doi.org/10.1115/FEDSM2002-31010).
- [C26] V. Theofilis, S. Sherwin, and T. Colonius, “A unifying perspective of linear flow instabilities,” in *First Symposium on Global Flow Instability and Control*, Crete, Greece, 2002.
- [C25] D. Williams, C. W. Rowley, T. Colonius, R. Murray, D. MacMartin, D. Fabris, and J. Albertson, “Model-based control of cavity oscillations. i - experiments,” in *40th AIAA Aerospace Sciences Meeting & Exhibit*, American Institute of Aeronautics and Astronautics, 2002. DOI: [10.2514/6.2002-971](https://doi.org/10.2514/6.2002-971).
- [C24] T. Colonius, C. Rowley, and V. Theofilis, “Global instabilities and reduced-order models of cavity flow oscillations,” in *First Symposium on Global Flow Instability and Control*, 2001.
- [C23] T. Colonius, “An overview of simulation, modeling, and active control of flow/acoustic resonance in open cavities,” in *39th Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2001. DOI: [10.2514/6.2001-76](https://doi.org/10.2514/6.2001-76).
- [C22] —, “Computation of the sources of sound in turbulent flow,” in *141st Meeting of the Acoustical Society of America*, vol. 109, 2001, p. 1. DOI: [10.1121/1.4744852](https://doi.org/10.1121/1.4744852).
- [C21] J. Eldredge, T. Colonius, and A. Leonard, “A vortex particle method for compressible flows,” in *15th AIAA Computational Fluid Dynamics Conference*, American Institute of Aeronautics and Astronautics, 2001. DOI: [10.2514/6.2001-2641](https://doi.org/10.2514/6.2001-2641).
- [C20] K. Mohseni, T. Colonius, and J. Freund, “On the role of nonlinearity in Mach wave radiation in a Mach = 1.92 jet,” in *39th Aerospace Sciences Meeting and Exhibit*, American Institute of Aeronautics and Astronautics, 2001. DOI: [10.2514/6.2001-377](https://doi.org/10.2514/6.2001-377).
- [C19] A. Preston, T. Colonius, and C. Brennen, “Toward efficient computation of heat and mass transfer effects in the continuum model for bubbly cavitating flows,” in *CAV 2001: Fourth International Symposium on Cavitation*, Pasadena, CA, 2001.

- [C18] C. Rowley, T. Colonius, and R. Murray, “Dynamical models for control of cavity oscillations,” in *7th AIAA/CEAS Aeroacoustics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2001. DOI: [10.2514/6.2001-2126](https://doi.org/10.2514/6.2001-2126).
- [C17] M. Tanguay and T. Colonius, “Numerical simulation of bubbly cavitating flow in shock wave lithotripsy,” in *CAV 2001: Fourth International Symposium on Cavitation*, Pasadena, CA, 2001.
- [C16] A. Preston, T. Colonius, and C. Brennen, “A numerical investigation of unsteady bubbly cavitating nozzle flows,” in *Fourth International Symposium on Numerical Methods for Multiphase Flow*, 2000.
- [C15] C. Rowley, T. Colonius, and R. Murray, “Pod based models of self-sustained oscillations in the flow past an open cavity,” in *6th Aeroacoustics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 2000. DOI: [10.2514/6.2000-1969](https://doi.org/10.2514/6.2000-1969).
- [C14] C. Brennen, T. Colonius, Y.-C. Wang, and A. Preston, “Cloud cavitation phenomena,” in *Twenty-Second Symposium on Naval Hydrodynamics*, The National Academies Press, 1999. DOI: [10.17226/9771](https://doi.org/10.17226/9771).
- [C13] T. Colonius, A. Basu, and C. Rowley, “Computation of sound generation and flow/acoustic instabilities in the flow past an open cavity,” in *Third ASME/JSME Joint Fluids Engineering Conference*, 1999.
- [C12] T. Colonius, “Direct numerical simulation of sound generation in turbulent shear flows,” in *137th Meeting of the Acoustical Society of America*, vol. 105, 1999, pp. 1007–1007. DOI: [10.1121/1.425824](https://doi.org/10.1121/1.425824).
- [C11] T. Colonius, A. Basu, and C. Rowley, “Numerical investigation of the flow past a cavity,” in *5th AIAA/CEAS Aeroacoustics Conference and Exhibit*, American Institute of Aeronautics and Astronautics, 1999. DOI: [10.2514/6.1999-1912](https://doi.org/10.2514/6.1999-1912).
- [C10] C. Brennen, T. Colonius, and F. d’Auria, “Computing shock waves in cloud cavitation,” in *Third International Symposium on Cavitation*, Grenoble, France, 1998.
- [C9] T. Colonius, C. Brennen, and F. d’Auria, “Computation of shock waves in cavitating flows,” in *Third International Symposium on Numerical Methods in Multiphase Flow*, 1998.
- [C8] T. Colonius, K. Mohseni, J. Freund, S. Lele, and P. Moin, “Evaluation of noise radiation mechanisms in turbulent jets,” in *Proceedings of the 1998 Summer Program*, Center for Turbulence Research, 1998.
- [C7] C. Rowley and T. Colonius, “Numerically nonreflecting boundary conditions for multi-dimensional aeroacoustic computations,” in *4th AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 1998. DOI: [10.2514/6.1998-2220](https://doi.org/10.2514/6.1998-2220).
- [C6] T. Colonius, “Numerically nonreflecting boundary and interface conditions,” in *2nd AIAA/CEAS Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 1996. DOI: [10.2514/6.1996-1661](https://doi.org/10.2514/6.1996-1661).
- [C5] T. Colonius, S. Lele, and P. Moin, “The sound generated by a two-dimensional shear layer: A comparison of direct computations and acoustic analogies,” in *1st AIAA/CEAS Aeroacoustics Conference*, 1995.
- [C4] —, “The sound generated by a two-dimensional shear layer: The far field directivity from computations and acoustic analogies,” in *Computational Aeroacoustics*, vol. 219, ASME, 1995.

- [C3] T. Colonius, S. Lele, and P. Moin, “Direct computation of the sound generated by two-dimensional shear layer,” in *15th Aeroacoustics Conference*, American Institute of Aeronautics and Astronautics, 1993. DOI: [10.2514/6.1993-4328](https://doi.org/10.2514/6.1993-4328).
- [C2] T. Colonius, S. Lele, and P. Moin, “Boundary conditions for direct computation of aerodynamic sound generation,” in *DGLR/AIAA 14th Aeroacoustics Conference*, 1992.
- [C1] T. Colonius, S. Lele, and P. Moin, “Scattering of sound waves by a compressible vortex,” in *29th Aerospace Sciences Meeting*, American Institute of Aeronautics and Astronautics, 1991, AIAA–1991–0494. DOI: [10.2514/6.1991-494](https://doi.org/10.2514/6.1991-494).

Book Chapters

- [B4] K. Ando, T. Colonius, and C. E. Brennen, “Shock propagation in polydisperse bubbly liquids,” in *Bubble Dynamics and Shock Waves*. Springer, 2013, pp. 141–175. DOI: [10.1007/978-3-642-34297-4_5](https://doi.org/10.1007/978-3-642-34297-4_5).
- [B3] T. Colonius, “Computational aeroacoustics,” in *Von Karman Institute for Fluid Dynamics Lecture Series 2006-05*. von Karman Institute for Fluid Dynamics, 2006, ch. Computational aeroacoustics: overview and numerical methods.
- [B2] —, “Advances in aeroacoustics,” in *Von Karman Institute for Fluid Dynamics Lecture Series 2001-02*. von Karman Institute for Fluid Dynamics, 2001, ch. Fundamentals of Aeroacoustics.
- [B1] —, “Aeroacoustics and active noise control,” in *Von Karman Institute for Fluid Dynamics Lecture Series 1997-07*. von Karman Institute for Fluid Dynamics, 1997, ch. Computational aeroacoustics.

PhD Thesis

- [T1] T. Colonius, “Direct computation of aerodynamic sound generation,” PhD thesis, Stanford University, 1994.

Doctoral students (as advisor)

- [Adv20] J. Choi, “Unsteady aerodynamics and optimal control of an airfoil at low Reynolds number,” PhD thesis, California Institute of Technology, 2016.
- [Adv19] S. Liska, “Fast lattice green’s function methods for viscous incompressible flows on unbounded domains,” PhD thesis, California Institute of Technology, 2016.
- [Adv18] J. Meng, “Numerical simulations of droplet aerobreakup,” PhD thesis, California Institute of Technology, 2016.
- [Adv17] A. Towne, “Advancements in jet turbulence and noise modeling: Accurate one-way solutions and empirical evaluation of the nonlinear forcing of wavepackets,” PhD thesis, California Institute of Technology, 2016.
- [Adv16] H.-C. Tsai, “Numerical investigation of vertical-axis wind turbines at low Reynolds number,” PhD thesis, California Institute of Technology, 2016.
- [Adv15] V. Coralic, “Simulation of shock-induced bubble collapse with application to vascular injury in shockwave lithotripsy,” PhD thesis, California Institute of Technology, 2015.

- [Adv14] K. Ando, “Effects of polydispersity in bubbly flows,” PhD thesis, California Institute of Technology, 2010.
- [Adv13] K. Guðmundsson, “Instability wave models of turbulent jets from round and serrated nozzles,” PhD thesis, California Institute of Technology, 2010.
- [Adv12] W. T. Joe, “Optimized feedback control of vortex shedding on an inclined flat plate,” PhD thesis, California Institute of Technology, 2010.
- [Adv11] J. Krimmel, “Numerical simulation of wave focusing and scattering in shock wave lithotripsy,” PhD thesis, California Institute of Technology, 2010.
- [Adv10] J. Franck, “Large-eddy simulation of flow separation and control on a wall-mounted hump,” PhD thesis, California Institute of Technology, 2009.
- [Adv9] E. Johnsen, “Numerical simulations of non-spherical bubble collapse with applications to shockwave lithotripsy,” PhD thesis, California Institute of Technology, 2008.
- [Adv8] K. Taira, “The immersed boundary projection method and its application to simulation and control of flows around low-aspect-ratio wings,” PhD thesis, California Institute of Technology, 2008.
- [Adv7] G. Brès, “Numerical simulations of three-dimensional instabilities in cavity flows,” PhD thesis, California Institute of Technology, 2007.
- [Adv6] H. Ran, “Numerical study of the dynamics and sound generation of a turbulent vortex ring,” PhD thesis, California Institute of Technology, 2005.
- [Adv5] A. Preston, “Modeling and computation of bubbly cavitating flow,” PhD thesis, California Institute of Technology, 2004.
- [Adv4] M. Tanguay, “Numerical simulation and analysis of shockwave lithotripsy,” PhD thesis, California Institute of Technology, 2004.
- [Adv3] J. Eldredge, “A dilating vortex particle method for compressible flow with application to aeroacoustics,” PhD thesis, California Institute of Technology, 2001.
- [Adv2] C. Rowley, “Modeling, simulation, and control of cavity flow oscillations,” PhD thesis, California Institute of Technology, 2001.
- [Adv1] K. Mohseni, “A: universality in vortex formation; B: evaluation of Mach wave radiation in a supersonic jet.,” PhD thesis, California Institute of Technology, 2000.

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