

CURRICULUM VITAE

Dr. SEDAT BIRINGEN

Professor, Department of Aerospace Engineering Sciences
University of Colorado at Boulder
Boulder, CO 80309

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Citizenship: United States (Naturalized, 1986)

Marital Status: Married, one child

I. RESEARCH INTERESTS

Computational Fluid Mechanics, Transition and Turbulence, Flow Control, Atmospheric Boundary Layers and Wind Energy, Numerical Heat Transfer, Biological Fluid Dynamics.

II. EDUCATION

D.Sc. in Applied Mechanics, Universite Libre de Bruxelles, Belgium.

Diploma, von Karman Institute for Fluid Dynamics, Bruxelles, Belgium.

B.S., M.S.in Mechanical Engineering, Robert College, Istanbul, Turkey.

III. PROFESSIONAL EXPERIENCE

1993-	Professor, Aerospace Engineering Sciences, University of Colorado, Boulder.
1995-1996	(Interim) Assistant Vice Chancellor for Research, University of Colorado, Boulder.
1986-1993	Associate Professor, Aerospace Engineering Sciences, University of Colorado, Boulder.
1984-1986	Associate Professor, Department of Mechanical Engineering, University of New Hampshire, Durham.
1981-1984	Affiliated Research Scientist, NASA/Langley Research Center (also Research Associate Professor, Old Dominion University, Norfolk, Virginia).
1978-1981	Research Scientist and Program Manager, Nielsen Engineering and Research, Inc., Mountain View, California.
1975-1978	Assistant Professor, Bogazici University (Robert College), Istanbul, Turkey.
1994-1995	Visiting Professor, Dept. Mechanical Engng., Columbia University and Comp. Math Group, Princeton University.

1977-1978 Visiting Professor, Department of Mechanical Engineering,
Stanford University.

IV. CURRENT RESEARCH INTERESTS

Computational Study of Laminar Flow Transition and Transition Control in Compressible Shear Flows. Application to Parallel Processing.
Direct Simulation of Complex Turbulent Flows: Application to Environmental Problems, Planetary Boundary Layer and Oceanographic Flows, Wind Energy.
Advanced Aeroacoustic Nacelle Development.
Supersonic Transport Design: Fast Boundary Layer Calculation Procedures.
Flow Modeling in the Pulmonary Artery.

V. PROFESSIONAL ASSOCIATIONS

American Physical Society, Division of Fluid Dynamics
American Institute of Aeronautics and Astronautics
American Society of Mechanical Engineers
Sigma XI

VI. FELLOWSHIPS AND HONORS

1991 AIAA Associate Fellow
1991 Research and Creative Work Award, University of Colorado at
 Boulder
1977-1978 AID Fellowship, Stanford University
1975 D.Sc. Conferred with the Greatest Distinction, Universite Libre de
 Bruxelles
1970-1971 NATO Fellowship, von Karman Institute for Fluid Dynamics
1968 Dean's List With High Honors, Robert College

VII. PROFESSIONAL ACTIVITIES

Reviewer: Journal of Fluid Mechanics
 Physics of Fluids
 Journal of Computational Physics
 AIAA Journal
 Journal of Computational and Applied Mathematics
 International Journal for Numerical Methods in Fluids
 Computers and Fluids
 International Journal of Heat and Mass Transfer
 Journal of Crystal Growth
 National Science Foundation (panel and proposals)
 National Aeronautics and Space Administration
 University of Western Ontario (Academic Development Fund
 Project Review)

Israel Science Foundation proposal review
Department of Energy (panel)
American Association for the Advancement of Science
(consultant)

Invited Lecturer, Short Course on "Boundary Layer Turbulence," The University of Tennessee Space Institute, October 1986.

Invited Lecturer, Seminar Series on "Turbulent Flow Computation," NASA/Langley Research Center, April 1982.

Invited Lecturer, presentation on "Transition Simulation," at the Society of Automotive Engineers Aerotech 1988 Meeting, Anaheim, California, October 1988.

Invited Lecturer, Gordon Research Conference on "Gravitational Effects on Physico-Chemical Systems," New Hampshire, June 16-21, 1991.

Invited Panelist on, "Turbulence Modeling of Environmental Flows," 28th National Heat Transfer Conf., San Diego, California, August 9-12, 1992.

Invited Workshop Participation

NASA/Langley Workshop on "Laminar Flow Control," 1981.

NASA/Langley Workshop on "Laminar Flow/Drag Reduction," 1983.

NASA/Langley Workshop on "Stability and Transition," 1989.

NASA Workshop on "Unsteady Pressure Loads", 1990.

ONR Workshop on "Ship-Wake Hydrodynamics", 1991.

Consulting, NASA /Langley Research Center, Aerothermodynamics Branch, 1988.

Consulting, NASA Headquarters, 1995.

United Nations Scientific Consultant to Turkey , 1991, 1996.

Organizer and session chair , "Stability and Transition in Shear Flows," IMACS 1st International Conference on Computational Physics, June 11-16, 1990, University of Colorado, Boulder.

Chair of session, "Boundary Layer Receptivity," APS 35th Ann. Meeting, Division of Fluid Dynamics, Nov. 18-20, 1990, Cornell University, Ithaca, New York.

Chair of session, "Boundary Layer Control," APS 36th Ann. Meeting, Division of Fluid Dynamics, Nov. 24-26, 1991, Scottsdale, Arizona.

Host to Dr. William E. Zorumski, Senior Scientist, Acoustics Division, NASA Langley Research Center during his leave of absence on the Floyd Thompson Fellowship, 1990-1991.

Organizer, International Workshop on "Industrial and Environmental Applications of direct and Large Eddy Simulation," Istanbul, August 5-7, 1998.

Member of Scientific Committee, Second AFOSR International Conference on DNS and LES," June 7-9, 1999.

Chair of session, "Computational Acoustics," APS 43rd Ann. Meeting, Division of Fluid Dynamics, Philadelphia, 1998.

VIII. INVITED SEMINARS

University of California, Berkeley; Mechanical Engineering Dept. Seminar, 1981.
University of California, Berkeley; Mechanical Engineering Dept. Seminar, 1984.
Office of Naval Research, David Taylor Naval Ship Development Center Seminar, 1984.
Stanford University; Mechanical Engineering Dept. Seminar, 1978.
United Technologies; Computational Fluids Group Seminar, 1979.
Acurex; Computational Group Seminar, Mt. View, California, 1978.
NASA/Lewis Research Center; Computational Group Seminar, 1978.
Texas A&M University; Mechanical Engineering Dept. Seminar, 1981.
Texas A&M University; Mechanical Engineering Dept. Seminar, 1984.
NASA/Langley Research Center; Airfoil Aerodynamics Branch Seminar, 1981.
NASA/Langley Research Center; Transonic Aerodynamics Division Seminar, 1984.
NASA/Langley-ICASE; Lecturer in Short Course on "Turbulent Flow Computation",
1982.
Tufts University; Mechanical Engineering Dept. Seminar, 1982.
Rutgers University; Mechanical and Aerospace Dept. Seminar, 1982.
Case Western Reserve University; Mechanical and Aerospace Engng. Dept. Seminar,
1983.
University of New Hampshire; Physics Dept. Seminar, 1985.
University of Tennessee Space Institute; Lecturer in Short Course on "Boundary Layer
Turbulence," 1987.
Society of Automotive Engineers; Invited Presentation at Annual Meeting, 1988.
NASA/Langley Research Center; Aerothermodynamics Branch seminar, 1988.
Old Dominion University; Mechanical Engineering Dept. Seminar, 1989.
NCAR, Atmospheric Turbulence Group, 1990.
Institute for Computer Applications in Science and Engineering (ICASE), 1990.
Middle East Technical University, Ankara, Turkey; School of Natural Sciences Seminar,
1991.
Middle East Technical University, Ankara, Turkey; Mechanical Engineering Dept
Seminar, 1991.
Bosphorus University, Istanbul, Turkey; Mechanical Engng. Dept. Seminar, 1991.
Imperial College of Science, Technology and Medicine, London; Aeronautics Dept.
Seminar, 1991.
David Taylor Research Center Seminar, 1991.
University of Miami; Mechanical Engineering Seminar, 1992.
Southern Methodist University, Mechanical Engineering Seminar, 1994.
Columbia University, Mechanical Engineering Seminar, 1994.
Princeton University, Applied Math Group Seminar, 1994.
Columbia University, Applied Physics Seminar, 1995.

City University, Levitch Institute Seminar, 1995.
Bogazici University, Istanbul, School of Engng. Seminar, 1996.
Istanbul Technical University, Invited Talk, International Workshop on Turbulence
Modeling and Vortex Dynamics, 1996.
University of Miami, Mechanical Engng. Seminar, 1998.

University of Maryland, Mech. Engng. Seminar, 1998
University of Colorado, CAS Seminar, 2002
Kansas State University, Mechanical Engineering Seminar, 2001.
University of Southern Illinois, Mechanical Engineering Seminar, 2004.
University of South Carolina, Mechanical Engineering Semiar, 2005.
Wayne State University, Mechanical Engineering Seminar, 2006.
Istanbul Technical University, Aersospace Engineering Seminar, 2010

IX. SERVICE (At the University of Colorado)

Departmental Level

Graduate Committee, 1986-1987.
Facilities Committee, 1986-1987.
Curriculum and Teaching Committee, 1987-1988 (chair), 1997 -
Budget Committee, 1988-1989.
Budget and Finance Committee (Chair), 1989-1990.
Long-Range Planning Committee, 1988-1989.
Extracurricular Committee, 1988-1989.
Self-Study Committee, 1988-1989, 1996-1997.
Long Range Space Allocation Committee 1990-1991.
Curriculum and Teaching Committee, 1991-1993, 1997 -
Chair, Curriculum and Teachinbg Committee, 1991-1992.
Departmental Executive Committee, 1993-1994. 1999-
Faculty Performance Evaluation Committe, 1995 - 1997
Chair, Ad-hoc committee on "Aeronautics Strategy"
Curriculum and Teaching Committee
ABET Committee
Several tenure and promotion committees (also chair)
Also, Chair Graduate Committee 1985-1986 (at the University New Hampshire)

College Level

Lecturer in High School Honors Institute, Summer 1987.
Coordinator for the Aerospace Engineering Sciences Program, High School Honors
Institute, Summer 1988 and Summer 1989.
College Ad-Hoc Committee on the Merger of Aerospace and Mechanical
Engineering Departments, 1988-1989.
Aerospace Engineering Sciences Chairman Search Committee, 1989-1990.
Participation in the Engineering Development Council Retreat, October 1988.
Participation in Capital Campaign Priorities Retreat, December 1990.
Freshman Preceptor , 1990.
Participation in the Engineering Development Council Retreat, April 1990.
College First Level Review Committee for Tenure and Promotion, 1996 -
Chair, College First Level Review Committee for Tenure and Promotion, 1997 - 1999.
College First Level Review Committee for Tenure and Promotion, 2007-2008.

Campus Level

University Energy Conservation Committee, 1988-1989.
Reviewer, Undergraduate Research Opportunities Program, 1987- .
Committee on Research and Creative Work, 1995-1996.
Chancellor's Standing Committee on Conflict of Interest, 1995-1997.
Graduate School Fellowship Committee, 1995 - 1999
Graduate School Executive Committee, 1995 - 1999
Administrator Appraisal Program Committee 2000-
Boulder Campus Faculty Assembly , 2004-
Advisory Board Member GLOW (Graduate Learning Opportunities Worldwide (2007-2008)).

Community

Participation as a professional resource for the MAST Hotline (organized by the Mathematics and Science Teaching Center, Greeley, Colorado to assist mathematics and science teachers in rural areas).

X. TEACHING (G: Graduate, U: Undergraduate)

Advanced Computational Fluid Mechanics (G),	Turbulent Flow Computation (G)
Introduction to Turbulence (G)	Advanced Fluid Mechanics (G)
Environmental Fluid Dynamics (G)	Macroscopic Physics of Fluids (G)
Computational Fluid Mechanics (G/U)	Fluid Mechanics (U)
Thermodynamics and Heat Transfer (U)	Aerodynamics I (U)
Mechanics I - Statics (U)	Mechanics II - Dynamics (U)
Numerical Mathematics (U/G)	Compressible Flow (U/G)
Viscous Flows (G)	

I co-developed the new integrated undergraduate (sophomore) course, ASEN 2002, "Introduction to Thermodynamics and Aerodynamics", which is a 5 credit hour course with hand-on laboratory training. I was responsible for the thermal-fluids section of the new upper level curriculum.

XI. STUDENT SUPERVISION

Ph.D Theses

- A. *Saati*, "Numerical Simulation of Compressible Couette Flow Stability," (1991).
- Gokhan Danabasoglu*, "Spatial Simulation of Transition in Wall-Bounded Shear Flows: Active Control and Effects of Surface Roughness," (1992).
- L. *Joel Peltier*, "Numerical Simulation of Time-Dependent Thermocapillary Convection in Single and Encapsulated Fluid Layers," (1992).
- Asmund Huser*, "Direct Simulation of Turbulent Flow in a Square Duct," (1992).

Ferhat Hatay, "Direct Numerical Simulation of Transitional and Turbulent Compressible Wall Shear Layers," (1994).

Stuart Marlatt, "Direct Numerical Simulation of Ekman Layer Transition and Turbulence," (1994).

Eileen Saiki, "Spatial numerical solution of boundary layer transition: effects of a spherical particle," (1995).

Robert Reichert, "Numerical simulation of compressible flows with application to noise control," (1998).

Scott Waggy, "Simulation of the stably stratified atmospheric boundary layer: effects of topography and surface cooling on turbulence dynamics." (expected 2011).

Alec Kucala, "Nocturnal jets in the atmospheric boundary layer." (expected 2014).

M.S. Theses

Oktay Ozcan, "A Hot-Wire Method for Three-Dimensional Turbulent Flows," (1977).

Josef Levi, "Calculation of Turbulent Boundary Layers With a Three-Equation Model of Turbulence," (1977).

Sirri Eker, "Three-Dimensional Numerical Simulation of Rayleigh-Benard Convection With Variable Viscosity," (1986).

Michael J. Caruso, "Laminar Flow Control and Flow Visualization in Plane Shear Flows," (1986).

William E. Nutt, "Transition Control in Plane Channel Flow," (1985).

Clint Cruikshanks, "Modeling of Pulsating Flow in Arteries," (1997)

Mark Donohue, "Boundary Layer Modeling for Supersonic Turbulent Flows With Cross-Flow Effects." (2002).

Alec Kucala, "Wind Energy." (2011)

Undergraduate Research Projects

Keith Wilkins (UROP student), "Influence of Gravity Modulation on Transport Properties," (1988-1989).

Todd Eastman, (UROP student) "A Finite Difference Method With Direct Solvers for Thermally-Driven Cavity Problems," (1988-1989).

Andy Brunn (UROP student), "Turbulent Boundary Layer Calculation," (1987-1988).

Robert Reichert (UROP student), "Flow Visualization in Particle-Wave Interaction in Boundary Layers," (1990-1991).

Alexi Rakow (UROP student), "Flow Visualization," (1996-1997).

Mark Donohue, "Aircraft Icing." (1999-2000).

Farheen Rizvi (UROP student), “Low Reynodsl Number Airfoil Design,” (2007-2008).
Brandon Yonko (UROP student),”Transition and Turbulence Control,” (2007-2008).
Nick Little, Mikhael Kosyan, Trent Hanson, Peter van Dyke (UROP students), “Efficient Design of Wind Turbine Blades,” (2007-2008).

Post-Doctoral Research Associate Supervision

<i>Dr. Ferhat Hatay</i>	Ph.D. University of Colorado, 1994	1995-1997
<i>Dr. Peter O’Sullivan</i>	Ph.D. Brown University, 1993	1996-1998
<i>Dr. James Howard (part-time)</i>	Ph.D. University of Wisconsin	1998- 2003

In addition, served on more than 30 M.S. and Ph.D. committees of graduate students from different engineering departments.

XII. PUBLICATIONS

Books

Introduction to Computational Methods in Fluids by Example.

S. Biringen and C.-Y. Chow, Wiley (2011).

Industrial and Environmental Applications of Direct and Large Eddy

Simulation: Proc. Workshop Held in Istanbul, Turkey, 5-7 August, 1998.

S. Biringen et al. (ed), Springer, 1999.

Refereed Journal Articles

Biringen, S. 1978 Calculation of axisymmetric jets and wakes with a three- equation model of turbulence.

J. Fluid Mech. **86**, 52-67.

Biringen, S. and Levi, J. 1978 Calculation of two-dimensional turbulent boundary layers.

AIAA Journal **16**, 1016-1019.

Biringen, S. and Reynolds W.C. 1981 Large-eddy simulation of the shear-free turbulent boundary layer.

J. Fluid Mech. **103**, 53-63

Biringen, S. 1981 A note on the stability of the one-dimensional model convection-diffusion equation.

J. Comp. Appl. Math. **7**, 17-20.

Biringen, S. 1984 Numerical simulation of inlet flow fields.

J. Aircraft **21**, 244-249.

Biringen, S. and Maestrello, L. 1984 Development of spot-like turbulence in plane channel flow.

Phys. Fluids **27**, 318-321.

Biringen, S. 1984 Final stages of transition in plane channel flow.

J. Fluid Mech. **148**, 413-442.

Biringen, S. 1984 Active control of laminar flow transition by periodic suction-blowing.

Phys. Fluids **27**, 1345-1347.

- Biringen, S. and Abdol -Hamid, K. 1985 A turbulent transport model for free-shear flows.
AIAA Journal. **23**, 1629-1931.
- Biringen, S. 1987 Three-dimensional vortical structures of transition in plane channel flow.
Phys. Fluids **30**, 3359-3368.
- Biringen, S., Nutt, W.E. and Caruso, M.J. 1987 Numerical experiments on transition control by periodic suction-blowing.
AIAA Journal. **25**, 235-244.
- Biringen, S. and Abdol-Hamid, K. 1987 modeling and calculation of turbulent transport in free-shear flows.
Num. Heat Trans. **11**, 57-67.
- Biringen, S. and Cook, C. 1988 On pressure boundary conditions for the incompressible Navier-Stokes equations using non-staggered grids.
Num. Heat Trans. **13**, 241-252.
- Biringen, S. and Kao, K.H. 1989 On the application of pseudo-spectral FFT technique to non-periodic problems.
Int. J. Num. Meth. in Fluids **9**, 1235-1267
- Biringen, S. and Danabasoglu, G. 1989 Oscillatory flow with heat transfer in a square cavity.
Phys. Fluids A **1**, 1796-1812.
- Biringen, S. and Saati, A. 1990 A comparison of several finite-difference methods for viscous and inviscid problems.
J. Aircraft **27**, 90-92.
- Biringen, S. 1990 Numerical simulation of nonlinear structures in final stages of transition in plane channel flow.
AIAA Journal **28**, 365-367.
- Saati, A., Biringen, S. and Farhat, C. 1990 Solving Navier-Stokes equations on a massively parallel processor: beyond the one gigaflop performance.
Int. J. Supercomp. Appl. **4**, 72-80.
- Biringen, S. and Peltier, L.J. 1990 Numerical simulation of 3-D Benard convection with gravitational modulation.
Phys. Fluids A **2**, 754-764.

- Biringen, S. and Laurien, E. 1990 Nonlinear structures of transition in wall-bounded flows.
J. Appl. Num. Math. **7**,129-150.
- Biringen, S. and Danabasoglu, G. 1990 Computation of convective flow with gravity modulation in rectangular cavities.
J. Thermophys. Heat Trans. **4**, 357-365.
- Danabasoglu, G. and Biringen, S. 1990 A Chebyshev matrix method for the spatial modes of the Orr-Sommerfeld equation.
Int. J. Num. Meth. in Fluids **11**, 1033-1037.
- Peltier, L.J., Biringen, S. and Chait, A. 1990 A comparison of finite difference and spectral methods for the three-dimensional diffusion equation.
Num. Heat Trans. B **18**, 205-219.
- Danabasoglu, G., Saati, A. and Biringen, S. 1991 Three-dimensional simulations of incompressible and compressible flow stability.
Computer Phys. Comm. **65**, 76-83
- Danabasoglu, G., Biringen, S. and Streett, C.L. 1991 Spatial simulation of instability control by periodic suction blowing.
Phys. Fluids A **3**, 2138-2147.
- Huser, A. and Biringen, S. 1992 Calculation of wind-driven flow at high Reynolds numbers.
Int. J. Num. Meth. in Fluids **14**, 1087-1109.
- Hatay, F., Biringen, S., Erlebacher, G. and Zorumski, W.E. 1993 Stability of high speed compressible rotational Couette flow.
Phys. Fluids A **5**, 393-404.
- Saiki, E., Biringen, S., Danabasoglu, G. and Street, C.L. 1993 Spatial simulation of transition in plane channel flow: comparison of K- and H-type disturbances.
J. Fluid Mech. **253**, 485-507.
- Peltier, L.J. and Biringen, S. 1993 Time-dependent thermocapillary convection in a rectangular cavity: numerical results for a moderate Prandtl number fluid.
J. Fluid Mech. **257**, 339-358.
- Huser, A. and Biringen, S. 1993 Direct numerical simulation of turbulent flow in a square duct: turbulence statistics and structures.
J. Fluid Mech. **257**, 65-96.

- Danabasoglu G. and Biringen, S. and Streett, C.L. 1994 Application of the spectral multi-domain method to the Navier-Stokes equations.
J. Comp. Phys. **113**, 155-164.
- Huser A., Biringen, S. and Hatay, F. 1994 Direct numerical simulation of turbulent flow in a square duct: Reynolds stress budgets.
Phys. Fluids **6**, 3144-3152.
- Reichert, R. Hatay, F., Biringen, S. and Huser, A. 1994 Application of the proper orthogonal decomposition technique to turbulent flow in a square duct.
Phys. Fluids.**6**, 3086-3092.
- Marlatt, S. and Biringen S. 1995 Spatial instability modes in the laminar Ekman layer.
J. Atmospheric Sciences **51**, 3539-3542.
- Hatay, F. and Biringen S. 1995 Simulation of early transition in compressible, rotating Couette flow: subharmonic development.
Phys. Fluids **7**, 422-433.
- Marlatt, S.W. and Biringen, S. 1995 Numerical simulation of Ekman layer instability.
Phys. Fluids **7**, 449-451.
- Peltier, L.J., Biringen, S. and Farhangnia, M. 1995 Numerical simulation of time-dependent thermocapillary convection in multiple fluid layers.
J. Thermophys. Heat Trans **9**, 702-707.
- Saiki, E. and Biringen, S. 1996 Computation of steady and unsteady flow over a cylinder by a virtual boundary method.
J. Comp. Physics **123**, 450-465.
- Farhangnia, M., Biringen, S. and Peltier, L.J. 1996 Buoyancy-driven turbulent flow in a rectangular cavity.
Int. J. Num. Meth. in Fluids **23**, 1311-1326.
- Huser, A. and Biringen, S. 1996 Direct numerical simulation of turbulent flow in a square duct: dissipation rate budget.
AIAA Journal **34**, 2509 - 2513.
- Saiki, E. and Biringen, S. 1997 Spatial numerical simulation of boundary layer transition: effects of a spherical particle.
J. Fluid Mech. **345**, 133-164.

- Hatay, F., O'Sullivan, P., Biringen, S. and Bandyopadhyay, P. 1998 Numerical simulation of flows driven by applied Lorentz forces.
J. Thermophys. and Heat Trans. **11**, 446-453.
- O'Sullivan, P. and Biringen, S. 1998 Direct simulations of low-Reynolds number turbulent channel flow with EMHD control.
Phys. Fluids **10(5)**, 1169-1181.
- Hatay, F. and Biringen, S. 1999 Direct numerical simulation of low-Reynolds number supersonic wall shear layers I: mean flow and one-point correlations.
Int. J. Fluid Mechanics Research **26(1)**, 1-16.
- Hatay, F. and Biringen, S. 1999 Direct numerical simulation of low-Reynolds number supersonic wall shear layers II: statistical analysis and energy budgets.
Int. J. Fluid Mechanics Research **26(1)**, 17-35.
- Reichert, R.S. and Biringen, S. 2001 Time-domain simulation of acoustic propagation in a lined duct.
Applied Acoustics **62**, 1049-1068.
- O'Sullivan, P.L., Reichert, R.S., Biringen, S. and Howard, J.E. 2001 Applicability of Thompson boundary conditions to obliquely incident acoustic waves.
Applied Acoustics **62**, 1013-1018.
- O'Sullivan, P.L. and Biringen, S. 2001 Numerical experiments on feedback MHD control of large scale coherent structures in channel turbulence.
Acta Mechanica **152**, 9-17.
- O'Sullivan, P.L., Biringen, S. and Huser, A. 2001 *A priori* evaluation of dynamic subgrid models of turbulence in square duct flow.
J. Engng Math. **40**, 91-108.
- Biringen, S., Howard, J.E. and Reichert, R.S. 2005 Simulation of sonic boom interaction with shear turbulence .
Mech. Res. Comm. **32**, 604-609.
- Reichert, R.S. and Biringen, S. 2007 Spatial simulation of compressible plane jets
Mech. Res. Comm. **34**, 249-259.
- Marlatt, S.W., Waggy, S.B. and Biringen, S. 2010 Direct numerical simulation of the turbulent Ekman layer: turbulent energy budgets.
AIAA Thermophys. Heat Trans J. **24**, 544-555.
- Akman, O.E., Biringen, S., Waggy, S.B. 2011 Analysis of signal propagation in an elastic-tube flow model. *Med. Engng. Phys*
(doi:10.1016/J.medengphy.2010.12.011).

Waggy, S., Marlatt, S.W, Biringen, S. 2011 Direct numerical simulation of the turbulent Ekman layer: instantaneous flow structures. *AIAA Thermophys. Heat Trans. J.* (in press).

Marlatt, S.W., Waggy, S.B. and Biringen, S. 2011 Direct numerical simulation of the turbulent Ekman Layer: evaluation of closure models. *J. Atmos. Sci.* (revision submitted).

Marlatt, S.W., Waggy, S.B. and Biringen, S. Direct simulation of the stably capped turbulent Ekman layer (to be submitted).

Waggy, S.B. and Biringen, S. A note on the calculation of compressible laminar boundary layers (to be submitted).

Biringen, S., and Waggy, S.B. Scaling of structure functions in the turbulent Ekman layer (to be submitted).

Publications in Refereed Symposium Proceedings

Biringen, S., Chaussee, D.C. and McMillan, O.J. 1980 Calculation of two-dimensional inlet flow fields by an implicit marching technique.

AIAA 80-0031 .

Biringen, S., and McMillan, O.J. 1981 A numerical simulation of two-dimensional inlet flow fields.

AIAA 81-0187 .

Biringen, S. and Reynolds W.C. 1981 A pressure-strain model for near-wall effects.

AIAA 81-1192 .

Biringen, S. 1983 A numerical simulation of transition in plane channel flow.

AIAA 83-0047 .

Biringen, S. 1984 Simulation of late transition in plane channel flow.

Proc.SECTAM XII (Vol.1), 27-30 (published as a selected paper in the hardbound edition).

Biringen, S., Nutt, W.E. and Caruso, M.J. 1985 Transition control by periodic suction-blowing.

AIAA 85-1700 .

Biringen, S. 1987 Three-dimensional vortical structures of transition in plane channel flow.

AIAA 85-0046 .

Biringen, S. and Kao, K.H. 1988 On the application of pseudo-spectral FFT technique to non-periodic problems.

AIAA 88-0415 .

Biringen, S. and Caruso, M.J. 1988 Vortex breakdown in channel flow transition.

AIAA 88-0404 .

- Danabasoglu, G. and Biringen, S. 1988 Convective flow with g-jitter in rectangular cavities.
AIAA 88-3727 .
- Peltier, S. and Biringen, S. 1989 Computational study of 3-D Benard convection with gravitational modulation.
AIAA 89-0068 .
- Biringen, S., Danabasoglu, G. and Eastman, T.K. 1990 A finite-difference method with direct solvers for thermally-driven cavity problems.
Numerical Simulation Oscillatory Convection in Low-Pr Fluids, NNFM Vol 27, (Ed. Bernard Roux), 35-42, Vieweg, Braunschweig.
- Danabasoglu, G., Biringen, S. and Streett, C.L. 1990 Numerical simulation of spatially-evolving instability.
Instability and Transition (Eds. M.Y. Hussaini and R. Voigt), 394-414, Springer- Verlag, New York.
- Danabasoglu, G. and Biringen, S. 1990 Oscillatory flow with heat transfer in a square cavity.
AIAA 90-0693 .
- Peltier, L.J. and Biringen, S. 1990 On the pressure-velocity gradient correlations in wall-bounded flows.
AIAA 90-0493 .
- Huser, A. and Biringen, S. 1990 Calculation of wind driven cavity flow at high Reynolds numbers.
AIAA 90-1531 .
- Danabasoglu, G., Biringen, S. and Streett, C.L. 1990 Numerical simulation of stability control by periodic suction-blowing.
AIAA 90-1530 .
- Danabasoglu, G., Biringen, S., and Streett, C.L. 1990 Numerical simulation of spatially-evolving transition in plane channel flow.
 Paper presented at the *12th Int. Conf. Num. Meth. in Fluids*, Oxford University, July 9-13.
- Danabasoglu, G., Saati, A. and Biringen, S. 1991 Three-dimensional simulations of incompressible and compressible flow stability.
Computational Physics, 76-83, North Holland (selected papers from the *IMACS 1st International Conference on Computational Physics*, June 11-15, University of Colorado, Boulder).
- Danabasoglu, G., Biringen, S. and Streett, C.L. 1991 Numerical simulation of spatially-evolving instability in plane channel flow.
AIAA 91-0234 .
- Parakash, A., Peltier, L.J., Fujita, D., Koster, J.N. and Biringen, S. 1991 Convection in a two-layer fluid system.
AIAA 91-0313 .
- Danabasoglu, G., Biringen, S. and Streett, C.L. 1992 Simulation of instabilities in a boundary layer with a roughness element.
 Paper presented at the *13th Int. Conf. Num. Meth. in Fluids*, Rome, July 6-10.
- Danabasoglu, G., Biringen, S. and Streett, C.L. 1992 A spectral multi-domain code for the Navier-Stokes equations.

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