

Leonard Louis Van Dommelen

1 Identifying Data

- Born 1953 in the Netherlands. U.S. Citizen. Private pilot.

2 Academic History

2.1 Degrees and Universities Attended

- Ph.D. in Aerospace Engineering, CORNELL UNIVERSITY, May 1981
- ir. in Aerospace Engineering, DELFT UNIVERSITY OF TECHNOLOGY, May 1976

2.2 Scholarship and Academic Honors

- 1999-2000 Teaching Incentive Award
- Discussor at the AFOSR Workshop on Supermaneuverability, April 9-10, 1992.
- Chairman of a session on stability at the 1992 Annual Meeting of the Division of Fluid Dynamics of the American Physical Society.
- Visiting Fellowship, Imperial College of Science and Technology, London, England
- Visiting Research Engineer, Case/NASA Institute for Computational Mechanics in Propulsion
- Several pre-doctoral fellowships at Cornell University
- Graduated Cum Laude from Delft University of Technology

2.3 Other Study and Research Appointments

- Visiting Associate Professor, Department of Mathematics, MIT, Aug 1990 - May 1991.
- Research Assistant, Cornell University
- Research Assistant, Delft University of Technology

3 Employment Record

- Professor Emeritus, Department of Mechanical Engineering, FAMU/FSU College of Engineering. January 2016 - present. (In phased retirement: still teaching classes Fall semesters.)
- Professor, Department of Mechanical Engineering, FAMU/FSU College of Engineering, (Employer: The Florida State University), August 1993 - February 2016.
- Associate Professor, Department of Mechanical Engineering, FAMU/FSU College of Engineering, (Employer: The Florida State University), August 1988 - August 1993.
- Assistant Professor, Department of Mechanical Engineering, FAMU/FSU College of Engineering, (Employer: The Florida State University) June 1985 - August 1988.
- Visiting Assistant Professor, Department of Mechanical Engineering, FAMU/FSU College of Engineering, (Employer: The Florida State University), April 1984 - April 1985
- Research Associate, Department of Mechanical and Aerospace Engineering, Cornell University, May 1981 - February 1984

- Research Associate, Department of Aerospace Engineering, Delft University of Technology, May 1976 - August 1976.

4 Fields of Interest

- Computational Fluid Dynamics
- Theoretical Fluid Dynamics
- Matched Asymptotic Expansions
- Separation of unsteady boundary layers
- Fast determination of velocity fields with sparse vorticity
- Mesh-free numerical methods
- Fractal representation of turbulence
- Nanotechnology
- Quantum mechanics

5 Invited Presentations

- Graduate Seminar, March 5, 1981, Polytechnic Institute of New York
- ICOMP Seminar Series, June 19, 1987, NASA Lewis Research Center
- Seminar, April 15, 1988, Courant Institute of Mathematical Sciences
- Seminar, April 24, 1989, Massachusetts Institute of Technology
- Seminar, November 20, 1995, Department of Chemical Engineering, FAMU-FSU College of Engineering.
- Seminar, February 2, 1996, Department of Mathematics, The Florida State University.
- Seminar, February 2, 1996, Department of Mathematics, The Florida State University.
- Seminar, February 12, 1999, Department of Chemical Engineering, FAMU-FSU College of Engineering.
- Seminar, February 12, 1999, Department of Mathematics, The Florida State University.
- Seminar, Fall 2001, CSIT / Computational Mechanics, The Florida State University.
- Departmental seminar, Fall 2001.
- Seminar, Fall 2004, CSIT / Computational Mechanics, The Florida State University.
- Departmental seminar, Fall 2009.

6 Professional Organizations

6.1 Memberships

- Senior Member of the American Institute of Aeronautics and Astronautics
- Member of the Sigma Xi Society, FAMU Club
- Member of the American Society of Mechanical Engineers
- Member of the American Physical Society, Fluid Dynamics Section
- Associate Member, Committee for the Scientific Investigation of Claims of the Paranormal

6.2 Reviewer

- AIAA Journal
- Automatica
- Computers and Fluids
- International Journal of Computational Fluid Dynamics
- International Journal of Numerical Methods for Heat and Fluid Flow
- Journal of Computational Physics
- Journal of Fluid Mechanics
- Journal of Fluids Engineering
- McGraw-Hill Higher Education
- Physics of Fluids
- Quarterly Journal of Mechanics and Applied Mathematics
- Royal Society, London
- SIAM Journal on Applied Mathematics
- SIAM Journal on Scientific and Statistical Computing
- Supercomputing '89
- Theoretical and Computational Fluid Dynamics
- Zeitschrift für angewandte Mathematik und Physik

7 Contracts and Grants

7.1 Funded

- Vectorized Computation of Three-Dimensional Combustion Processes on a CYBER 205 Computer. May 1985 - Aug. 1985, supported by the U.S. Department of Energy through the Supercomputer Computations Research Institute; \$11,000, (3 man-month effort), PI: Assistant Professor L. Van Dommelen
- Engine Analysis Using Supercomputers. Feb. 1986 - Feb. 1987, Pratt & Whitney; \$40,000, PI: Assistant Professor L. Van Dommelen.
- Computation of Unsteady Vortical Flows. May 1986 and May 1987, NASA Ames Research Center; \$15,000, (2 man-month effort), PI: Assistant Professor L. Van Dommelen (part of a larger NASA Grant)
- Lagrangian Computation of Unsteady Separation. May 1988, Summer 1989, AFOSR; \$40,000, (4 man-month effort), PI: Assistant Professor L. Van Dommelen (part of a larger AFOSR Grant)
- Break-Up of Three-Dimensional Viscous Layers in Fluids. 1989-1990, NAS, NASA Ames; 30 hours Cray 2 time, PI: Assistant Professor L. Van Dommelen
- Lagrangian Computation of Unsteady Separation. Summer 1990, Summer 1991, Summer 1992, AFOSR; \$100,000, (4 man-month effort), PI: Associate Professor L. Van Dommelen (part of a larger AFOSR Grant)
- Numerical Simulation of Compressible Turbulent Flows. 1992-96, NASA Headquarters; \$300,000 for 4 years, PI: Associate Professor L. Van Dommelen (part of the Center for Non-linear and Non-equilibrium Aerosciences.)

- Thrust Induced Effects on Pitch Up Delta Wing Flow Field. 1992-1995, AFOSR; \$725,000 for 3 years, P.I.: Associate Professor L. Lourenco, Co-PI: Professor A. Krothapalli, Associate Professor L. Van Dommelen, Assistant Professor C. Shih.
- Thrust Induced Effects on Pitch Up Delta Wing Flow Field: Control of Stalled Wings. 1993-1995 AFOSR AASERT; \$12,000 per year for 2 years, PI: Associate Professor L. Van Dommelen.
- Neural Network Analysis of Turbulent Flows. Summer 1994, Florida Space Grant Consortium, Undergraduate Space Research Participation Program, \$5,000.00, PI: Professor L. Van Dommelen.
- Neural Network Based Missile Intercept Strategy. 1995. Ballistic Missile Defense Organization, \$100,000, PI: Assistant Professor S. Feteih, Co-PI: Professor L. Van Dommelen.
- Summer Support for Preparing a Web-Assisted or Web-Based Course, Summer 1999, Florida state University, \$5,000.00. PI: Professor L. Van Dommelen
- “Center of Excellence in Computational Mechanics”. Professor C.K.W. Tam, Professor N. Chandra, Professor L. van Dommelen, \$1,000,000 requested. Funded for further development by an amount \$100,000.
- “Examination of Microjet Control of Stall on Helicopter Rotor Blades” Army ARO, W911NF-05-1-0295. 2005-2008, \$40,000 a year for three years. PI: Professor L. Van Dommelen

8 Various Teaching

8.1 Departmental

- Chairman, PhD Committee:
 1. Han Zhao (switched)
 2. Guoan Shen (switched)
 3. Madhavan Poyyapakkam (dropped)
 4. Yuan Xiao (dropped)
 5. Jianguo Chen (switched)
 6. Shankar Subramaniam (1996)
 7. John Forest (switched)
 8. Sean McDonald (switched)
 9. Szu-Chuan Wang (1995)
- Chairman, M.S. Committee:
 1. Lancert Foster (2002)
 2. Jianguo Chen (2001)
 3. Gena Humphrey (1992)
 4. Moorthi Natarajan (1992)
- Chairman, B.S.M.S. Project:
 1. Brad Crawley (2000)
- Member, PhD Committee:
 1. C.R. Ananth (1995)
 2. Sean Barton (2011?)
 3. Fahrad Booeshagi (1997)

4. Jamila Bouhattate (2006)
 5. Xianglei Chen (2004)
 6. Billy Chrisler (1993)
 7. Jie Deng (2008)
 8. Fred Foreman (1995)
 9. Siviram Gogineni (1993)
 10. Yousef Haik (1997)
 11. Vikas Kumar (2008)
 12. Wanlai Lin (1997)
 13. Lily Liu (2006)
 14. Yusheng Luo
 15. Mohamed Mamdouh (2012)
 16. Sirish Namilae (2004)
 17. Madhavan Narayanan (none)
 18. Bejoy Paruthyalappil
 19. Soren Prestemon (2001)
 20. Srujan Rokkam (2011)
 21. Debashis Sadhukan (1992)
 22. Guoan Shen (2006)
 23. Qunying Shen (2012)
 24. Jack Tsai ???
 25. Sreenivasa Voleti (1997)
 26. Hongbo Wang (2011)
 27. Dongming Yuan White (1997)
 28. Zhiyun Xie (1995)
 29. Kai Zhang
- Member, M.S. Committee:
 1. Marwan Al-Haik (1997),
 2. C.R. Ananth (1990),
 3. Frantz Camulaire (1996),
 4. Evans Cobb (1994),
 5. Alex Czernecky (1996),
 6. Upul DeSilva (1993),
 7. Siviram Gogineni (1989),
 8. Todd Hopwood (1997),
 9. Jesse Ingram (1994),
 10. Von Jackson (1996),
 11. Bryan Johnson (1996),
 12. Jeff Martin (1997),
 13. Paul Phillipot (switched),
 14. Chris Ross (1993),

15. Debashis Sadhukan (1994),
 16. Mohammed Reza Vaghar (1992),
 17. Camille L. Wardrop (1992),
 18. Mei Ha Wong (1994).
- Undergraduate Mentor:
 1. Comas Haynes (1992-1994)
 2. Mike Holland (1994),
 3. Alfred Green (Spring 1997)
 - Engelhart Design Project Member Chika Okoro, Leonard Young. (Briefly)
 - Academic advisor, 1984-present
 1. 30 undergraduates average. (Currently about 15.)
 - chairman, Honors Project:
 1. David Gladwin

8.2 College

- Member, Honors Project:
 1. Clayton A Smith (ChE 1988)
 2. James Dylan Bolden (ChE, 1996),
 3. Mellisa Mills (ChE, 1993,1994),
 4. Sharon Sauer (ChE, 1993).
- Member, PhD Committee:
 1. C.C. Lin (IE, 1994),
 2. Paul Varghese (IE, 1995).
- Member, M.S. Committee:
 1. Maria Bosch (ChE),
 2. Atul Nagarkar (ChE, 1994).
 3. Zheng Chen (ChEm 1995)

9 Various Service

Dates shown where known

9.1 Departmental

- System manager, MicroVAX I and MicroVAX II computers. 1984-1989.
- Faculty Search Committee, Member. Various years.
- Promotion and Tenure Committee, Member or Chairman. 1990-present.
- Committee on Computer Equipment, Chairman or Member, 1984-present
- Thermal Sciences Faculty Positions Search Committee, member, 1997.

- Three-Year Assistant Professor Review Committee, member, 1994-1999
- Controls position committee, 1999-2000.
- Director, Software Department, Hardware Department, Acoustic Engineer, User Support Department, Janitorial Department, Fund Raising Department, Administrative Department, Public Relations Department, Sales Department, Investor, M.S.M.E. Online distance learning program. 1999-2001
- Graduate Committee, Member, 1995-Fall 2000.
- Faculty Evaluation/Merit Raise Committee, member, 1995-2004.
- Computer skills competency requirement coordinator. 1996-?
- Coordinator, Ph.D. Qualifying exam, 1997-Spring 2001.
- Webmaster, Departmental Web page, 1998-2005.
- Web page programmer, Departmental Web page, 1998-2005.
- Advisor, Graduate Committee, 2001
- Member, Graduate Committee, 2002-2004
- Math section coordinator, Ph.D. preliminary exam. 1990-2004, 2007-present.
- Abet EC 2000 facilities committee, member, 2002.
- P&T Review Committee, Spring 2003.
- Senior exit interviews, 2008, 2009, 2010

9.2 College

- Scholarship and Awards (1985-1986), Member.
- Curriculum Committee (1985-1986), Member.
- College Policy Committee (1985 - 1986), Member.
- Promotion and Tenure Committee of Chemical Engineering. 1990
- Computer Committee (-1994), Member or Secretary.
- College Promotion and Tenure Committee, 1998.
- Library committee, member or chair, 1999-2010.
- Engineering Math committee 2002-2003
- EMSC committee 2003-?
- FE Exam Fluid Dynamics review section 2003-2004
- FE Exam thermodynamics review section 2010

9.3 University

- University Telephone Recruitment Campaign 1987.
- University Grievance Committee (1985 - 1986), Member.
- Faculty-to-Faculty Articulation Visits to Regional Community/Junior Colleges, (Spring 1985).
- SCRI Faculty Associate. 1984-end.
- SCRI Colloquium and Seminars Committee, 1998
- CSIT Faculty Associate.
- Committee on Faculty Research Support, 1997.
- Engineering Mathematics Courses Committee, Member. Various years.
- FSU M.S.I.E. Program Review Committee 1998-1999
- Panama City Faculty Mechanical Engineering faculty member search committee 2000
- Faculty Senate Library Committee member 2001-2004
- Faculty Senate Library Steering Committee member 2001-2003
- Faculty Senate Library Collections Committee chair 2001-2003
- Rewrote Faculty Senate Library Committee web page 2001
- Founding member, Center for Computational Mechanics 2005
- Webmaster, Center for Computational Mechanics 2005
- Faculty Senate 2002-2004
- FSU GPC DSC Review committee member, Fall 2012

9.4 Other

- Examination supervisor, UF continuing education student, 1986.
- Refresher course in numerical methods at the Department of Transportation in Tallahassee. ?
- Judge, ASME Student Section Prize. ?
- Organizer for the United Way Fund drive for the Department of Mechanical Engineering. ?
- Judge, Capital Regional Science Fair, 1985-2009.
- Judge, Chiles High School Science Fair, 2002.

10 Publications

10.1 Articles in Refereed Journals and Books

10.1.1 pending/unpublished

1. Van Dommelen, L. (1996) Note on inviscid singularities and turbulence. Submitted to the Journal of Fluid Mechanics. (Proposes a possible mechanics for turbulence in the inertial range. I do not like the paper and I am no longer working on it.)

2. Van Dommelen, L. L. & Shankar S. (1996) Aerodynamic forces are not affected by initial separation. Submitted to the *Physics of Fluids*. (Discovery of a new expression for aerodynamic forces and its application to initial separation. Needs to be resubmitted to a journal whose referees still see the value of theoretical work. Some day when I have nothing to do.)
3. Van Dommelen, L. (2001) Boundary layer recirculation. Patent pre-application. Withdrawn.
4. Van Dommelen, L. (2003) Physical Interpretation of the Virial Stress. Submitted to the *Proc. Roy. Soc. London A*. (This was the first paper to expose a crackpot theory on virial stress developed at Georgia tech. It was probably not a good idea to sent it to the same journal that published the crackpot theory. The same incompetent referees may have been assigned; furthermore, the editor got personal. In any case, I am no longer trying to enter the molecular dynamics field, and the same conclusions have by now been published by others. See for example Subramaniyan, A.K., and Sun, C.T., (2008) “Continuum interpretation of virial stress in molecular simulation, *International Journal of Solids and Structures*, **45**, 4340-4346. There may also be a paper by M. Ravi & P. Sharma. I was also told there is a reference to my paper on Wikipedia.)
5. Van Dommelen, L. (2008) Manipulation of separation by three-dimensional wall transpiration. Rejected by *Journal of Fluid Mechanics*. (Demonstrates that transverse blowing can prevent separation, but only if it is on short spanwise scales. Nothing wrong with the paper except maybe a bit too informal and expansive writing style. Rewritten, and now includes computations that show the removal of separation directly. Rejected again by JFM. Accepted by the European Journal of Mechanics, see “published.”

10.1.2 published

1. Van Dommelen, L. L. & Shen, S. F. (1980) The spontaneous generation of the singularity in a separating laminar boundary layer. *Journal of Computational Physics* **38** 125-140. (A numerical study to show that unsteady boundary layer equations develop singular behaviour in finite time).
2. Van Dommelen, L. L. & Shen, S. F. (1982) The genesis of separation. In *Symposium on Numerical and Physical Aspects of Aerodynamic Flows*, (T. Cebeci, Ed.) 293-311. Springer-Verlag. (The physical structure of the singularity). (Invited)
3. Van Dommelen, L. L. & Shen, S. F. (1983) Boundary layer separation singularities for an upstream moving wall. *Acta Mechanica* **49** 241-254. (A mixed analytical/numerical study arguing that separation processes are viscous when in upstream motion along the wall).
4. Van Dommelen, L. L. & Shen, S. F. (1983) An unsteady interactive separation process, *AIAA Journal* **21** 358-362. (A study proposing an alternative structure for interactive separation based on numerical and analytical arguments).
5. Van Dommelen, L. L. & Shen, S. F. (1984) Interactive separation from a fixed wall. In *Second Symposium On Numerical and Physical Aspects of Aerodynamic Flows* (T. Cebeci, Ed. 393-402. Springer-Verlag. (Proposes a new computational procedure for the computation of steady separation processes using least squares).
6. Van Dommelen, L. L. & Shen, S. F. (1985) The flow at a rear stagnation point is eventually determined by exponentially small values of the velocity. *Journal of Fluid Mechanics* **157** 1-16. (An analytical study and numerical validation correcting previous theory about an ‘exact’ solution of the Navier-Stokes equations).
7. Van Dommelen, L. L. (1986) Computation of unsteady separation using Lagrangian procedures. In *Symposium on Boundary Layer Separation*, International Union of Theoretical and Applied Mechanics, Aug. 26-28, 1986, London, England, 73-87. Springer-Verlag. (Review of, and new computations with, Lagrangian procedures). (Invited)
8. Van Dommelen, L. L. & Rundensteiner, E. A. (1989) Fast solution of the two-dimensional Poisson equation with point-wise forcing. *Journal of Computational Physics* **83** 126-147. (A numerical procedure to solve the Poisson equation quickly on supercomputers).

9. Van Dommelen, L. L. & Cowley, S. J. (1990) On the Lagrangian description of unsteady boundary layer separation. Part 1. General theory. *Journal of Fluid Mechanics* **210** 593-626. (A study proposing a generalized theory to predict unsteady three-dimensional separation).
10. Van Dommelen, L. L. (1990) On the Lagrangian description of unsteady boundary layer separation. Part 2. The spinning sphere. *Journal of Fluid Mechanics* **210** 627-645. (A numerical study verifying and extending part 1).
11. Cowley, S. J., Van Dommelen, L. L. & S. T. Lam (1990) On the use of Lagrangian variables in unsteady boundary-layer separation. *Phil. Trans. R. Soc. Lond. A* **333** 343-378. (Reviews earlier work, defines a new simplified model to study pressure interactions in unsteady flow, and numerically studies the question how weak separations behave). (Invited)
12. Van Dommelen, L. L. (1991) Lagrangian Description of Unsteady Separation. *Lectures in Applied Mathematics* **28** 701-718. (Reviews how the concept of separation developed, and attempts to explain the modern definition in non-mathematical terms). (Invited)
13. Shih, C., Lourenco, L., Van Dommelen, L. & Krothapalli, A. (1992) Unsteady flow past an airfoil pitching at a constant rate. *AIAA Journal* **30** 1153-1161. (A combined experimental, numerical, and theoretical study of unsteady stall of wings).
14. Van Dommelen, L. L. & Wang, S.-C. (1994) Determining Unsteady 2D and 3D Boundary Layer Separation. *Symposium on Aerodynamics and Aeroacoustics* (K. Y. Fung, Ed.) 187-206. World Scientific Publishing. (Proposes practical criteria to diagnose unsteady separation).
15. Van Dommelen, L. L. & Shankar, S. (1995) Two Counter-Rotating Diffusing Vortices. *Physics of Fluids* **7** 808-819. (Uncovers counter-intuitive limiting behaviors in decaying flows).
16. Whitley, N., Van Dommelen, L. & Krothapalli, A. (1996) A determinate model of thrust augmenting ejectors. *Theoretical and Computational Fluid Dynamics* **8** 37-55. (The effects of forward velocity on thrust augmenting ejectors using one-dimensional compressible flow analysis).
17. Shankar, S. & Van Dommelen, L. L., (1996) A New Diffusion Procedure for Vortex Methods. *Journal of Computational Physics* **127** 88-109. (Proposes a new, grid-free method to represent diffusion processes).
18. Shankar, S. & Van Dommelen, L. (1996) A new diffusion scheme in vortex methods for three-dimensional incompressible flows. *2nd International Workshop on Vortex Flows and Related Numerical Methods, Montreal, Canada, August 20-24, 1995*.
19. Atik, H., Kim, C.-Y., Van Dommelen, L., & Walker, J.D.A. (2005) Boundary-layer separation control on a thin airfoil using local suction. *Journal of Fluid Mechanics* **535** 415-443.
20. Atik, H., & Van Dommelen, L., (2008) Autogenous suction to prevent boundary layer separation. *J. Fluids Engineering* **130** 011201-1 to 8.
21. Van Dommelen, L. (2011) A Boosted P' Method for Fully Parabolized Flows. *Numerical Heat Transfer, Part B: Fundamentals* **59** 245-258
22. Yapalparvi, R & Van Dommelen, L. (2012) Numerical Solution of Unsteady Boundary-Layer Separation in Supersonic Flow: Upstream moving wall, *Journal of Fluid Mechanics* **706** 413-430.
23. Van Dommelen, L.L. & Yapalparvi, R (2014) Laminar boundary-layer separation control by Görtler-scale blowing, *European Journal of Mechanics B. Fluids*. **46C** 1-16.

10.2 Other Published Works

10.2.1 Papers Presented in International Meetings

Invited

1. Feteih, S, Van Dommelen, L, and Tsai, J-H, IFAC '96: 13th World Congress, International Federation of Automatic Control, June 30-July 5, 1996. (Added 4/26/2016??)
2. Van Dommelen, L. L. (1993) Lagrangian computation of 3D unsteady separation. International Workshop on Advances in Analytical Methods in Aerodynamics, Miedzyzdroje, Poland, July 12-14, 1993.

Refereed

1. Van Dommelen, L. L. & Shen, S. F. (1980) The birth of separation. *XVth International Congress on Theoretical and Applied Mechanics*, IUTAM, Toronto, Canada, August 17-23, 1980. (Proposing an unsteady separation singularity). (Abstract)
2. Shih, C., Lourenco, L., Krothapalli, A. & Van Dommelen, L. (1990) Unsteady Flow Past An Airfoil Pitched at Constant Rate. International Symposium on Nonsteady Fluid Dynamics, ASME Meeting, Toronto, Canada 1990.
3. Shankar, S. & Van Dommelen, L. (1995) A new diffusion scheme in vortex methods for three-dimensional incompressible flows. 2nd International Workshop on Vortex Flows and Related Numerical Methods, Montreal, Canada, August 20-24, (1995).
4. Zhao, H. & Van Dommelen, L. (2007) Manipulation of Separation by Transverse Blowing. Ninth International Conference of Fluid Control, Measurement, and Visualization. FLUCOME 2007, Tallahassee, Florida, USA September 16-19, 2007

Other

1. Van Dommelen, L. L. & Shen, S. F. (1977) The laminar boundary layer in Lagrangian description. Presented at the *XIIIth Biennial Symposium on Advanced Methods and Problems in Fluid Mechanics*, Olsztyn-Kortewo, Poland, 1977. (Analytical and numerical study of the boundary layer equations in Lagrangian form) (Manuscript unpublished)

10.2.2 Papers Presented in National Meetings

Invited

1. Van Dommelen, L. L., (1987) Lagrangian Techniques For Unsteady Flow Separation. *Forum on Unsteady Flow Separation*, 1987 ASME Applied Mechanics, Bioengineering and Fluids Engineering Conference, June 14-17, 1987, Cincinnati, OH., 81-84. ASME, FED Vol. 52

Refereed

1. Van Dommelen, L. L. & Shen, S. F. (1982) A bifurcation-free interaction solution for steady separation from a downstream moving wall. *AIAA paper 82-0347*, 20th AIAA Aerospace Sciences Meeting, Orlando, FL, Jan. 1982. (6 pages)
2. Krothapalli, A., Karamcheti, K. & Van Dommelen, L. (1985) The influence of forward flight on thrust augmenting ejectors. *AIAA paper 85-1589*, 18th AIAA Fluid Dynamics, Plasma Dynamics and Lasers Conference, July 1985. (11 pages)
3. Van Dommelen, L. L. (1985) Vectorized Lagrangian Computation of unsteady separating flows. *AIAA paper 85-1492-CP*, 7th Computational Fluid Dynamics Conference, Cincinnati, Ohio, Aug. 1985. (8 pages)

4. Van Dommelen, L. L. (1986) Fast vortex summation on vector computers. Impact of supercomputing on Air Force research and development II, Eglin Air Force Base, Nov. 3-5 1986. (No manuscript)
5. Shankar, S., Wang, S.-C. & Van Dommelen, L. L. (1995) Simulating Diffusion In Vortex Methods Using A Vorticity Redistribution Technique. Forum on Vortex Methods for Engineering Applications, Feb. 22-24 1995, Albuquerque, NM. 105-124.
6. Van Dommelen, L.L., Chandra, N. & Haik, Y. (1999) FAMU-FSU M.S.M.E. Online Program. 2000 ASEE Annual Conference and Exposition, June 18-21, 2000, St. Louis, MO.
7. Van Dommelen, Leon & Yapalparvi, Ramesh (2014) A Theoretical Model for Microjet Separation Control. 7th AIAA Flow Control Conference, AIAA Aviation and Aeronautics Forum and Exposition, June 16-20, 2014, Atlanta, GA.

Other

1. Van Dommelen, L. L. (1984) Revised description of unsteady flow at a rear stagnation point. 37th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **29**. (Abstract)
2. Van Dommelen, L. L. (1985) Adaptive-panel vortex summation for the CYBER 205. 38th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **30**. (Abstract)
3. Van Dommelen, L. L. (1986) Lagrangian techniques for unsteady separation. 39th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **31**. (Abstract)
4. Van Dommelen, L. L. (1988) Lagrangian computation of 3-D unsteady separation. *Unsteady Phenomena in Turbomachinery*, ICOMP workshop, NASA-Lewis, Cleveland, OH, July 20, 1988. (Invited, no manuscript)
5. Van Dommelen, L. L. (1989) Generalized structures for 3-D unsteady separation. 42th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **34**. (Abstract)
6. Cowley, S. J. & Van Dommelen, L. L. (1990) Unsteady separation. Workshop on *Analytical Methods In Unsteady Separation*, Columbus, OH, Jan 25-26, 1990. (Invited)
7. Van Dommelen, L. L. (1990) Lagrangian Methods For Unsteady Separation. Presented at the AMS-SIAM Summer Seminar, Seattle, WA, June 18-29, 1990. (Invited)
8. Lourenco, L. M., Van Dommelen, L. L., Shih, C. & Krothapalli, A. (1990) Unsteady Flow Past an Airfoil at Constant Pitch Rate. Workshop on Physics of Forced Unsteady Separation, NASA-Ames Research Center, April 17-19, 1990.
9. Van Dommelen, L. L. & Lourenco, L. (1991) A mesh-free redistribution technique. 44th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **36**. (Abstract)
10. Wang, S. & Van Dommelen, L. L. (1991) Manipulation of leading edge stall of thin wings. 44th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **36**. (Abstract)
11. Van Dommelen, L. L. (1992) Discussion, Quasi-Two-Dimensional Flow Structure, Numerical and Analytical. *AFOSR Workshop on Supermaneuverability: Physics of Unsteady Flows Past Lifting Surfaces at High Angle of Attack*, April 9-10, 1992, Lehigh University, Bethlehem, PA. (Invited)
12. Shankar, S. & Van Dommelen, L. L. (1994) A Redistribution Technique for Vortex Methods. 47th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **39**. (Abstract)
13. Van Dommelen, L. L., (1994) About inviscid processes in homogeneous turbulent flows. 47th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **39**. (Abstract)
14. Van Dommelen, L. L. (1995) Second order effects on unsteady separation. 48th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **40**. (Abstract)

15. Van Dommelen, L. L. (1998) Towards a Fractal Description of Turbulence. 51th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **43**. (Abstract)
16. Chen, Jianguo & Van Dommelen, L. L. (2001) An Iterated ADI Scheme for the Lagrangian Boundary Layer equations. 54th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **46**. (Abstract)
17. Van Dommelen, L. L. (2001) Recirculation for Leading Edge Stall. 54th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **46**. (Abstract)
18. Van Dommelen, L. L. and Zhao, H. (2006) Manipulation of separation by transverse blowing, 59th Annual Meeting Div. Fluid Dynamics, *Bulletin of the American Physical Society* **46**. (Abstract)

10.2.3 Papers Presented in Regional Meetings

Invited

1. Van Dommelen, L. L. (1989) Some experiments on a vortex redistribution method. American Mathematical Society regional meeting, Hoboken, NJ, Oct 21-22, 1989. (Invited)

Refereed

1. Shen, G. A. & Van Dommelen, L. L. (2004) Are pure carbon nanotubes a good material for hydrogen storage? SECTAM XXII, Tuskegee, AL, Aug.15-17, 2004.

10.2.4 Papers Presented in Special Meetings

Invited

1. Van Dommelen, L. L. (1992) Manipulation of Separated Flows. Presented at the *Symposium and Banquet in Honor of Professor Shan-fu Shen*, May 2, 1992, Cornell University, Ithaca, NY 14853. (Invited)
2. Van Dommelen, L. L. (1993) Determining Unsteady 2D and 3D Boundary Layer Separation. Presented at the *Symposium on Aeroacoustics and Aerodynamics* March 1-2, 1993, University of Arizona, Tucson, AZ. (Invited)

10.3 Technical Reports and Theses by Students

1. Van Dommelen, L. L. (1976) Onderzoek naar de geschiktheid van een bolsonde voor richtingsmetingen en de bepaling van het getal van Mach, by een nominaal getal van Mach 3, met inbegrip van de invloed van de diameter van de drukgaatjes. II-thesis, Delft University of Technology, 1976. (Experimental study of the usefulness of spherical head sensors for directional measurements in supersonic flows) (73 pages)
2. Van Dommelen, L. L. & Bannink, W. J. (1976) On the numerical computation of the supersonic flow about blunted cones at small angles of incidence. *VTH-Report LR 225*, Delft University of Technology, Holland, 1976. Also *I2-thesis*. (Numerical solution of the full three-dimensional inviscid transonic/supersonic flow equations and experimental validation) (63 pages)
3. Van Dommelen, L. L. (1981) Unsteady boundary separation. *Ph.D. thesis*, Cornell University, Ithaca, NY, May 1981. (243 pages)
4. Van Dommelen, L. L. & Cowley, S. J. (1989) On the Lagrangian description of unsteady boundary layer separation. Part 1. General theory. NASA TM 102026, ICOMP-89-8. (See J. Fluid Mech. paper)
5. Van Dommelen, L. L. (1989) On the Lagrangian description of unsteady boundary layer separation. Part 2. The spinning sphere. NASA TM 102027, ICOMP-89-9. (See J. Fluid Mech. paper)

6. Van Dommelen, L. L. & E. A. Rundensteiner, E. A. (1988) Fast, adaptive summation of point forces in the two-dimensional Poisson equation. FSU-SCRI-88-113. (See J. Comp. Phys. paper)
7. Van Dommelen, L. L. (1989) A vortex redistribution technique. Fluid Mechanics Research Laboratory, report FMRL-TR 3, 1989. (Discretization of diffusion on a set of arbitrarily distributed points)
8. Van Dommelen, L. L. (1989) Least maximum solution of underdetermined linear systems. Fluid Mechanics Research Laboratory, report FMRL-TR 4, 1989. (Solution of an underdetermined system of equations).
9. Cowley, S. J., Van Dommelen, L. L. & Lam, S. T. (1990) On the use of Lagrangian variables in descriptions of unsteady boundary-layer separation. ICASE Report 90-47, 1990. (See Trans. Roy. Soc. Paper)
10. Humphrey, Gena Mae. Application of the Method of Characteristics to Axi-Symmetric Jets. M.S. thesis, FAMU-FSU College of Engineering, Spring 1992.
11. Wang, Szu-Chuan. Control of Dynamic Stall. Ph.D. thesis, FAMU-FSU College of Engineering, Fall 1995.
12. Shankar, Subramaniam. A new Mesh-Free Vortex Method Ph.D. thesis, FAMU-FSU College of Engineering, Fall 1996.
13. Van Dommelen, Leon. Towards a Fractal Representation of Turbulent Flows FMRL Report LVD98A, March 5 1998. Updated November 14 1998.

10.4 Important Web Documents

1. Van Dommelen, Leon. (2003-) Thermodynamics study aids¹
2. Van Dommelen, Leon. (2004-) Fundamental Quantum Mechanics for Engineers.²
3. Van Dommelen, Leon. (2005-) LaTeX2HTML-FU³
4. Van Dommelen, Leon. (2013-) l2h, a simple LaTeX shell⁴

¹<http://www.eng.fsu.edu/~dommelen/courses/eml3100/aids>

²<http://www.eng.fsu.edu/~dommelen/quantum>

³<http://www.eng.fsu.edu/~dommelen/l2hfu>

⁴<http://www.eng.fsu.edu/~dommelen/l2h>