Curriculum Vitae

Ann M. Anderson

Department of Mechanical Engineering
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Education

Ph.D. in Mechanical Engineering, Stanford University, 1990
Thesis Advisor: Professor Robert J. Moffat
Thesis Title: *Convective Heat Transfer from Arrays of Non-Uniformly Heated Modules: Experiments and Models.*
MS in Mechanical Engineering, Stanford University, 1985.
BS in Mechanical Engineering, *summa cum laude,* Tufts University, 1984.

Professional Experience

9/92-present **Union College**, Schenectady, NY.
- 7/14-present Thomas J. Watson, Sr. and Emma Watson-Day Chair of Mechanical Engineering
- 5/06-present Agnes S. Macdonald Professor of Mechanical Engineering
- 9/05-5/06 Professor of Mechanical Engineering
- 9/01-9/05 Chair of Mechanical Engineering Department
  Thomas J. Watson, Sr. and Emma Watson-Day Associate Professor
- 9/98-9/01 Associate Professor of Mechanical Engineering
- 9/92-9/98 Assistant Professor of Mechanical Engineering

10/13-present **Sunthru LLC**, Saratoga, NY.
Chief Technical Officer

9/98-12/98 **University of Florence**, Florence, Italy
Visiting Professor in the Department of Energetics "S. Stecco"

6/90-6/92 **International Business Machines**, Enterprise Systems, Poughkeepsie, NY.
Staff Engineer in the Air Cooling/Acoustics Development Department.

1/86-6/90 **Stanford University**, Stanford, CA.
Research Assistant in the heat transfer lab of Professor R.J. Moffat.

6/88-9/88 **International Business Machines,** Systems Technology, Endicott, NY.
Engineer in the Air Cooling Department.

6/85-1/86 **Garrett Turbine Engine Company**, Phoenix, AZ.
Engineer in the Fans and Installations Department.

HONORS and AWARDS

Elected to Tau Beta Pi, 1982
Recipient of Tufts University Alumni Association Award for Outstanding Seniors, 1984
Elected to Sigma Xi, 1988
Elected to Pi Tau Sigma, 1993
Tufts University Achievement in Mechanical Engineering Practice Award, 2000
Juliette Low Women of Distinction Award (Girl Scouts, Mohawk Pathways Council), 2004
Agnes S. Macdonald Professor of Mechanical Engineering (named 5/06)
Stillman Teaching Award (finalist), 2006, 2011

Grants

External

- National Science Foundation, 2014, "STTR Phase I: High Performance Windows for Daylighting"$224,480 (w/ BK Keramati)
- National Science Foundation, 2013, *MRI: Acquisition of a Multi-Material 3D Printer to Enable Novel Multi-disciplinary Research and Research Training* $333,531 (w/ J Rieffel & S Rice).
- National Science Foundation, 2013, *I-Corps: Rapid Supercritical Fabrication of Aerogels* $50,000 (w/ MK Carroll).
- National Science Foundation, 2012, *MRI: Development of an Instrument for Testing Catalytic Aerogel Materials* $276,477 (w/ MK Carroll & BA Bruno). (funded at $276,477)
- National Science Foundation, 2012, *RUI: Catalytic Aerogel Materials* $418,823 (w/ MK Carroll & BA Bruno). (funded at $ 298,677)
- National Science Foundation, 2008, *RUI: Tailored Aerogel Materials* $393,507 (w/ MK Carroll). (funded at $310,000)
- National Science Foundation, 2007, *RUI/MRI "MRI: Collaborative Facility for Research on Aerogel Materials,"* $172,574
- National Science Foundation, 2005, RUI: *Aerogel-Platform Gas Sensors*, $402,217 (w M.K. Carroll), (funded at $276,700)
- National Science Foundation, 2002, *RUI/MRI: Acquisition of Equipment to Establish an Aerogel Fabrication, Characterization and Applications Laboratory*, $320,653 (including Union matching funds, W/ MK Carroll, RD Wilk and ME Hagerman).
- General Electric Company, 1999, *Flow Characterization of a Combustion Swirler using Particle Image Velocimetry*, $8,000.
- National Science Foundation, 1999, *Integration of a Particle Image Velocimetry System into Undergraduate Fluid Mechanics Education*, $109,100(including Union matching funds).
- National Science Foundation, 1998, *Integration of a Liquid Crystal Thermography System into Undergraduate Heat Transfer Instruction*, $34,850 (including Union matching funds).
- General Electric Company, 1996, *The Effects of Turbulence Promotion on Heat Transfer in Small Rectangular Passages – A Continuation Study*, $27,000.
- National Science Foundation, 1995, *A Planning Study on Bio-Heat Transfer Applications in the Human Body*, $18,000.
- General Electric Company, 1993, *The Effects of Turbulence Promotion on Heat Transfer in Small Rectangular Passages*, $40,000.

Internal

- Union College, FRF, 2013, *Video Publication of Aerogel Rapid Supercritical Extraction Fabrication Protocol $2400 (w/ MK Carroll)*
- Union College, IEF, 2013, *Acquistion of Audience Response Clickers for Use in the Introduction to Engineering Course. $3000 (w/ D Hodgson)*
- Union College, IEF, 2012, *Upgrades to the Mechanical Engineering Wind and Water Channel Labs $2500*
- Union College, FRF, 2010, *Aerogels as Catalysts: Development of a Collaborative Research Project $7000 (w/ BA Bruno and MK Carroll)*
- Union College, FRF, 2007, *Development of a Light Transmission Based Thermochromic Liquid Crystal Temperature Sensor, $3000*

Union College, FRF, 2006, *Development of a Light Transmission Based Thermochromic Liquid Crystal Temperature Sensor, $3000*
Union College, FRF, 2004, *Fabrication and Characterization of Silica Aerogels, $3000*
Union College, IEF, 2004, *Development of Computational Fluid Dynamics Models for the RaceCar Aerodynamics Lab in MER033 Fluid Mechanics, $1854*
Union College, IEF, 2004, *Construction and Maintenance of a Web Site for Undergraduate Research at Union College (with Tom Werner)*
Union College, FRF, 2002, *Fabrication and Characterization of Silica Aerogels, $2200*
Union College IEF, 2001, *RaceCar Aerodynamics Project, $2000*
Union College IEF, 2000, *Introduction of CFD in Fluid Mechanics Course, $2000*
Union College IEF, 1999, *Support for a Mechanical Engineering Seminar Series, $2000*
Union College IEF, 1998, *Development of Two New Studio Based Lab Exercises for N205*, $2144.
Union College FRF, 1998,*Measurement of Superposition Kernel Functions in a Turbulent Channel Flow using Liquid Crystal Thermography, $3000*
Union College IEF, 1997, *Development of a Data Acquisition System for Use in the N205 Studio Classroom*, $4000.
Union College FRF, 1997,*Workshop on the Future of Bio-Thermal Engineering*, $655
Union College FRF, 1996, *Elements of a General Correlation for Turbulent Heat Transfer*, $3000.
Union College IEF, 1996, *Development of an LDA Laboratory Exercise for Use in Fluid Mechanics (MER033)*, $2000.
Union College FRF, 1995, *Liquid Crystal Temperature Visualization*, $1050.
Union College IEF, 1995, *Heat Transfer Enhancement Techniques*, $1516.
Union College IEF, 1995, *Modern Developments in Boiling Heat Transfer*, $1000.
Union College FRF, 1994, *Motorized Translation System*, $2120.
Union College FRF, 1993, *Thermocouple Calibration Facility*, $2965.
Union College FRF, 1992, *Electronics Cooling Applications*, $3000.

Courses Taught

Undergraduate:	Exploring Engineering, Heat Transfer, Fluid Mechanics, Advanced Fluid Mechanics, Thermodynamics, Advanced Thermodynamics, Sophomore Research Seminar, Engineering Reliability, Engineering Economics, Design of Thermal Fluid Systems, Statics, Particle Mechanics, Senior Project, Aerogels (Scholars Research Seminar)
Graduate:	Convective Heat Transfer, Conduction Heat Transfer

College Service

Departmental:

- Initiated and co-chaired department meetings on Undergraduate and Graduate Curriculum issues (1994-present)
- Advised undergraduate mechanical engineering students (1992-present)
- Served on 4 MS thesis committees (1995/96, 1996/97)
- Advised 2 MS thesis candidates (1996/97, 2001/02)
- Taught sessions for the PE and EIT review courses (1992-present)
- Served on departmental search committee (1995/96), (1999/00 chair)
- Started and Organized Departmental Seminar Series (1999/00)
- Department Chair (2001-2005, 2014-present)

- Mechanical Engineering Industrial Advisory Council Liaison (2001-2005)
- Chair Search Committee (2005/6)
- Assessment Coordinator (2006-2007, 2008-2011): Coordinated writing of 2008 ABET self study
- Member Search Committee (2010, 2013, 2014)

College Wide:

- General Education Board (1993/94, 1994/95, 1999-2003)
- Faculty Advisor to SWE (1994 - 2002)
- Participated in Admissions Events: Summer Open House, Accepted Students Days, CRUUSH and other Panels (1992-present)
- Student Internal Education Fund Committee (1995-2002)
- Watson Committee (1996/97, 2000-2005, 2007-2010)
- Head Librarian Search Committee (1996/97)
- Secretary of Union College Sigma Xi Chapter (1996 - 2002)
- Participated in Development of New Engineering Curriculum (Math/Science working group 1994/95, Liaison to integrated Math/Science group 1995/96, 1996/97, Development of New Mechanics Course 1995/96, 1996/97)
- Ad-Hoc Tenure Committees (1999/00 (Adrian), 2001/02 (Keat), 2009/10 (Tyler))
- Re-Appointment Review Committee, (2002 Krouglicof (Chair), 2005 Hsiao, 2006 Rapoff, 2010 Hodgson (Chiar))
- Engineering Division Faculty Loading Committee (1999/00) (J. Spinelli Chair)
- Dean of Faculty Search Committee (1999/00) (R Wells, Chair)
- Academic Affairs Council Sub Committee on Allocation of Tenure Lines (2001/02) (A. Taylor Chair)
- General Education Revision Sub-Committee (2003-2005) (K. Brison Chair)
- Academic Reputation Committee (2004/05) (T. Werner Chair)
- Goldwater Faculty Representative (2003-2005)
- Presidential Search Committee (2005) (F. Messa, chair)
- Academic Advising Committee (2006) (K. Rosenthal, chair)
- Faculty Trustee, P&P Member (2006-2009)
- VP Admissions Search Committee (2008, D Klein chair)
- NSF CT Scholars Director, Class of 2011 (2007 – 2011)
- Organizing Committee, Engineering and Liberal Education Conference, (2008-2009)
- Academic Affairs Committee (2009- 2011)
- Center II Space Committee Departmental Rep (2011)
- Division IV Library Liaison (2011-2012)
- Dean of Academic Departments Search Committee (2012-13) (T. McCarty Chair)
- Chair of Campus Watson Selection Committee (2013-present)

Professional Activities

- Member of ASME, Heat Transfer Division (1982 to present)
  - Reviewer for the *Journal of Heat Transfer, Journal of Electronics Packaging, ASME National Heat Transfer Conference and ASME IMECE* (1990-04)
  - Session Chair at the National Heat Transfer Conference (1995-97, 1998)
  - Session Chair at ASME IMECE (2003, 2004, 2007, 2008)
- Member of ASME K-21 Committee on Heat Transfer Education (1995 to present)
  - Chair 2005-2008, Vice Chair 2002-2005
- Member of ASME K-16 Committee - Heat Transfer in Electronics (1995 to present)
- Member of MRE, ISGS
- Chair of Student Session on Undergraduate Research in Heat Transfer (1996 to 1998)
- Board of Governors, National Conference of Undergraduate Research (2000 to 2006)
- Reviewer for the National Science Foundation (1996, 1997, 1999, 2002, 2004)
- Member of: International Sol Gel Society, American Society for Engineering Educators (ASEE), Tau Beta Pi, Pi Tau Sigma

Consulting Activities

Lorex Inc., Poughkeepsie, NY, 1993, *Fluid mechanics analysis of a flow meter.*
General Electric, Schenectady, NY, 1994, *Heat transfer enhancement in cooling channels.*
Lorex Inc., Poughkeepsie, NY, 1995, *Heat transfer from a printed circuit board.*
XC Associates, Troy, NY, 1996, *Heat transfer in composite printed circuit boards.*
Lorex Inc., Poughkeepsie, NY, 1999-2000, *Design of a Gas Based Seal for Process Gas Separation*

Patents

1. Ben M. Gauthier*, Ann M. Anderson, Smitesh Bakrania*, Mary K. Mahony, and Ronald B. Bucinell 'Method And Device For Fabricating Aerogels And Aerogel Monoliths Obtained Thereby' U.S. Patent No. 7,384,988 Issued 6/10/08. (filed 8/03, published 6/05).
2. Ann M. Anderson, Timothy B. Roth*, Smitesh Bakrania*, 'Light Transmission Based Liquid Crystal Temperature Sensor,' U.S. Patent application filed December 2004. 60/733,186. Published July 2007.

Refereed Technical Journal Publications

1. Moffat, R.J., and Anderson, A.M., 1990, "Applying Heat Transfer Coefficient Data to Electronics Cooling," *Journal of Heat Transfer*, Vol. 112, pp 882-890.
2. Anderson, A.M. and Moffat, R.J., 1991, "Direct Air Cooling of Electronic Components: Reducing Component Temperatures by Controlled Thermal Mixing," *Journal of Heat Transfer*, Vol. 113, pp 56-62.
3. Anderson, A.M., and Moffat, R.J., 1992a, "The Adiabatic Heat Transfer Coefficient and the Superposition Kernel Function: Part 1 - Data for Arrays of Flat Packs for Different Flow Conditions," *Journal of Electronics Packaging*, Vol. 114, p 14-21.
4. Anderson, A.M., and Moffat, R.J., 1992b, "The Adiabatic Heat Transfer Coefficient and the Superposition Kernel Function: Part 2 - Modeling Flat Pack Data as a Function of Channel Turbulence," *Journal of Electronics Packaging*, Vol. 114, p 22-28.
5. Anderson, A.M., 1994, "Decoupling Convective and Conductive Heat Transfer Using the Adiabatic Heat Transfer Coefficient," *Journal of Electronics Packaging*, Vol. 116, pp 310-316.

6. Maciejewski, P.K., and Anderson, A.M., 1996, "A General Correlation for Turbulent Heat Transfer", *Journal of Heat Transfer*, Vol. 118, pp 287-293.
7. Anderson, A.M., 1997, "A Comparison of Computational and Experimental Results for Flow and Heat Transfer From an Array of Heated Blocks," *Journal of Electronics Packaging*, Vol. 119, pp 32-39.
8. Denninger, M.J., and Anderson, A.M., 1999, "An Experimental Study on the Relationship Between Velocity Fluctuations and Heat Transfer in a Turbulent Air Flow (ASME-GT-108*)," J. Turbomachinery*, Vol 121, No2, pp 288-295.
9. Rice, S.K., Collins, D. and Anderson, A.M., 2001, "Functional Significance of Variation in Bryophyte Canopy Structure" *American Journal of Botany*, Vol 88, No 9., pp 1568-1576.
10. Gauthier*, B.M., Bakrania*, S.D., Anderson, A.M., Carroll, M.K., 2004, "A Fast Supercritical Extraction Technique for Aerogel Fabrication." *J. of Non-Crystalline Solids*, 350, 238-243.
11. Plata*, D.L., Briones*, Y.J., Wolfe*, R.L., Carroll, M.K., Bakrania*, S.D., Mandel*, S.G., Anderson, A.M., 2004, "Aerogel-Platform Optical Sensors for Oxygen Gas." *J. of Non-Crystalline Solids*, 350, 326-335.
12. Anderson, A.M., Bakrania*, S.D., Konecny*, J., Gauthier*, B.M., Carroll, M.K., 2004, "Detecting Sol-Gel Transition using Light Transmission," *J. Non-Crystalline Solids*, 350, 259-265.
13. Bharara. M, Cobb, J.E., Claremont, D.J., Anderson, A.M., 2005, Thermo-chromic Liquid Crystal Thermography: Application in neuropathic assessment of Diabetic foot, *Thermology International* 15(4) 154-155.
14. Bharara. M, Cobb, J.E., Anderson, A.M., Claremont, D.J., 2007, Characterisation and Calibration of Three Physical Forms of Thermochromic Liquid Crystals, *Imaging Science Journal*, 55, 4, 232-241.
15. Roth, T. B., and Anderson, A. M., 2007, "The Effects of Film Thickness, Light Polarization and Light Intensity on the Light Transmission Characteristics Of Thermochromic Liquid Crystals," *J. of Heat Transfer*, Vol. 129, No 3, pp. 372-378.
16. Roth, T. B., and Anderson, A. M., 2008, "A Light Transmission Based Liquid Crystal Thermography System," *Journal of Heat Transfer*, Vol 130, Issue 1, 014503 (4 pages).
17. Anderson, A.M., Roth, T.B. Ernst, M.E. and Carroll, M.K, 2008, "Saturated Liquid Densities and Vapor Pressures of Tetramethyl Orthosilicate Measured using a Constant Volume Apparatus," *J. Chem. Eng. Data*, 53, 4, 1015 - 1020, 2008, 10.1021/je700443d
18. Roth, T.B, Anderson, A.M. and Carroll, M.K, 2008, "Analysis of a Rapid Supercritical Extraction Aerogel Fabrication Process: Prediction of Thermodynamic Conditions During Processing," *J. Non-Crystalline Solids*, Vol 354/31 pp 3685-3693.
19. Ann M. Anderson, Caleb W. Wattley* and Mary K. Carroll, 2009, "Silica aerogels prepared via rapid supercritical extraction: Effect of process variables on aerogel properties," *J. Non-Crystalline Solids*, Vol 355/2 pp 101-108.
20. Michael S. Bono*, Jr., Ann M. Anderson, Mary K. Carroll, 2010 "Alumina Aerogels Prepared via Rapid Supercritical Extraction." *Journal of Sol-Gel Science and Technology*, Volume 53, Number 2, 216-226.
21. Ann M. Anderson, Mary K. Carroll, Emily C. Green*, Jason T. Melville*, Michael S. Bono*, 2010, "Hydrophobic Silica Aerogels Prepared via Rapid Supercritical Extraction." *Journal of Sol-Gel Science and Technology*, Volume 53, Number 2, 199-207.
22. Ondrej Nikel, Ann M. Anderson, Mary K. Carroll and William D. Keat, 2011, "Effect of Uni-axial Loading on the Nanostructure of Silica Aerogels." *Journal of Non-Crystalline Solids*, 2011, 357(16-17), 3176-3183.
23. Lauren B. Brown, Ann M. Anderson, Mary K. Carroll, 2012, "Fabrication of titania and titania–silica aerogels using rapid supercritical extraction." *Journal of Sol-Gel Science and Technology, 10.1007/s10971-012-2741-7*.

24. Mary K. Carroll, Ann M. Anderson, Caroline A. Gorka.* 2014 "Preparing Silica Aerogel Monoliths via a Rapid Supercritical Extraction Method." Journal of Visualized Experiments, 84, DOI: 10.3791/51421.
25. Suzanne K. Estok*, Thomas A. Hughes IV, Mary K. Carroll and Ann M. Anderson, 2014, "Fabrication and Characterization of TEOS-Based Silica Aerogels Prepared using Rapid Supercritical Extraction." *Journal of Sol-Gel Science and Technology* (2014) 70:371-377.
26. Justin E. Rodriguez, Ann M. Anderson, and Mary K. Carroll, 2014, "Hydrophobicity and Drag Reduction Properties of Surfaces Coated with Silica Aerogels and Xerogels." *Journal of Sol-Gel Science and Technology*, 71:490-500.

Book Chapters

1. Ann M. Anderson & Mary K. Carroll, 2011, Hydrophobic silica aerogels: Review of synthesis, properties and applications. M.A. Aegerter, N. Leventis, Nicholas and M. Koebel (Eds.) *Aerogels Handbook*. Springer.
2. Mary K Carroll & Ann M, Anderson, 2011, Aerogels as platforms for chemical sensors. M.A. Aegerter, N. Leventis, Nicholas and M. Koebel (Eds.) *Aerogels Handbook*. Springer.
3. Ann M. Anderson, Bradford A. Bruno, and Lilla Safford Smith, 2011, Viscosity measurement *Handbook of measurement in science and engineering*. Chichester, UK: Wiley.

Refereed Technical Conference Publications In Printed Proceedings

1. Anderson, A.M., and Moffat, R.J., 1987, "Buoyancy-Induced Forced Convection on an Isolated Plate, Rough and Smooth," *Proceedings of the 37th Electronics Components Conference,* pp 539-544. (Presented by AMA at the 37th Electronics Components Conference, Boston, May.)
2. Moffat, R.J., and Anderson, A.M., 1988, "Experimental Methods for Air Cooling of Electronic Components - 1988," *Proceedings of the 3rd International Symposium on Transport Phenomena in Thermal Control,* pp 209-235. (Presented by RJM at the 3rd International Symposium on Transport Phenomena in Thermal Control, Taipei, August.)
3. Moffat, R.J., and Anderson, A.M., 1988, "Applying Heat Transfer Coefficient Data to Electronics Cooling," *Symposium on Fundamentals of Forced Convection Heat Transfer,* ASME HTD-Vol. 101, pp 33-43. (Presented by AMA at the ASME Winter Annual Meeting, Chicago, December.)
4. Anderson, A.M. and Moffat, R.J., 1988, "Direct Air Cooling of Electronic Components: Reducing Component Temperatures by Controlled Thermal Mixing," *Symposium on Fundamentals of Forced Convection Heat Transfer,* ASME HTD-Vol. 101, pp 9-16. (Presented by AMA at the ASME Winter Annual Meeting, Chicago, December.)
5. Anderson, A.M., 1989, "The Prediction of Temperatures in Non-Uniformly Heated Arrays of Electronic Components with Variable Row and Column Spacing," *IEPS Proceedings of the Technical Conference,* Vol. 1391, pp 899-912. (Presented by AMA at the International Electronics Packaging Symposium, San Diego, September.)
6. Anderson, A.M. and Moffat, R.J., 1990, "A New Type of Heat Transfer Correlation for Air Cooling of Regular Arrays of Electronic Components," *Thermal Modeling and Design of Electronic Systems and Devices,* ASME HTD-Vol. 153, pp 26-40. (Presented by AMA at the ASME Winter Annual Meeting, Dallas, November.)
7. Anderson, A.M., 1992, "Decoupling Convective and Conductive Heat Transfer Using the Adiabatic Heat Transfer Coefficient," *Advances in Electronic Packaging,* EEP-Vol. 1-1, pp 171-178. (Presented by AMA at the 1st Joint ASME/JSME Conference on Electronic Packaging, Milipitas, CA, April.)
8. Anderson, A.M., 1993, "A Comparison of Computational and Experimental Results for Flow and Heat Transfer From an Array of Heated Blocks," *Advances in Electronics Packaging,* ASME

EEP-Vol. 4-2, pp 583-591. (Presented by AMA at the ASME International Electronics Packaging Conference, Binghamton, September.)

9. Plotnik*, A.M., and Anderson, A.M., 1995, "Using Computational Fluid Dynamics to Design Heat Transfer Enhancement Methods for Cooling Channels," *Computers in Engineering - 1995*, pp 341-350. (Presented by AMP at the Computers in Engineering Conference, Boston, September.)
10. Anderson, A.M., 1995, "A Numerical Study of Buoyancy-Induced Forced Convection on an Isolated Vertical Plate," *Proceedings of the 30th National Heat Transfer Conference*, ASME HTD-Vol. 303, pp 95-103. (Presented by AMA at the National Heat Transfer Conference, Portland, August.)
11. Wheeler*, C.A. and Anderson, A.M., 1995, "Heat Transfer Enhancement in an Electronic Cooling Channel," *Proceedings of the 30th National Heat Transfer Conference*, ASME HTD-Vol. 313,pp 3-10. (Presented by AMA at the National Heat Transfer Conference, Portland, August.)
12. Voegler*, G.R., and Anderson, A.M., 1996, "Liquid Crystal Visualization and Computer Modeling of Enhanced Heat Transfer on a Flat Plate in Forced Convection," *Proceedings of the 31st National Heat Transfer Conference*, ASME HTD-Vol. 331, pp 123-129. (Presented by GRV at the National Heat Transfer Conference, Houston, August.)
13. Kotsyuba*, O., De Voe*, C.F., and Anderson A.M., 1997, "Design and Development of a Thermal Sensation Tester," *ASME HTD-Vol. 344*, pp. 117-123. (Presented by OK at the National Heat Transfer Conference, Baltimore, August.)
14. Denninger, M.J., and Anderson, A.M., 1997, "An Experimental Study on the Relationship between Velocity Fluctuations and Heat Transfer in a Turbulent Air Flow," *ASME paper Number GT-108*. (Presented by AMA at 1998 ASME Gas Turbine and Aeroengine Congress, Exposition and Users Symposium, Stockholm).
15. Anderson, A.M., and Maciejewski, P.K., 1999, "The Local Variable Model For Turbulent Heat Transfer" *Proceedings of 33rd National Heat Transfer Conference*, (Presented by AMA a the National Heat Transfer Conference, Albuquerque, New Mexico).
16. Post*, M.L., and Anderson, A.M., 2000, " Measurements of the effect of turbulence on the wall temperature downstream of a heated strip," *Proceedings of 34th National Heat Transfer Conference* (presented by AMA at the 2000 ASME National Heat Transfer Conference, Pittsburgh, PA)
17. Lussier*, B. A., Lupino*, G., and Anderson, A.M., 2000, "The Design of a Liquid Crystal Flow Visualization Surface, " *Proceedings of the ASME IMECE (*presented by GL at the 2000 ASME IMECE).
18. Allen*, J.R., Anderson, A.M., 2001, "Design And Development Of A Jet Impingement Facility For Experimental Studies", *Proceedings of the ASME IMECE, (*Presented by SB at the 2001 ASME IMECE).
19. Anderson, A. M., Gauthier*, B.M, and Donnellan*, K.D., 2002, Heat Transfer From A Dimpled Surface With And Without Free Stream Turbulence In A Thermally Developing Flow, *Proceedings of the 12th International Heat Transfer Conference*, (Presented at the 12th Annual IHTC, Grenoble).
20. Anderson, A.M., and Chapin*, D.M., 2002, The Effects of Dimpled Surface Geometry on Heat Transfer in an Impinging Jet Flow, *Proceedings of IMECE'02:2002 ASME International Mechanical Engineering Congress & Exposition* New Orleans, Louisiana, November 17-22, 2002
21. Bakrania*, S. and Anderson, A.M, 2002, A Transient Technique for Calibrating ThermoChromic Liquid Crsytals: The Effects of Surface Preparation, Lighting and Overheat, *Proceedings of IMECE'02:2002 ASME International Mechanical Engineering Congress & Exposition* New Orleans, Louisiana, November 17-22, 2002. (Presented by SB)

* Undergraduate Student Co-Author

22. Arthur, K* and Anderson, A.M., 2004, Too Hot To Handle? An Investigation Into Safe Touch Temperatures, *Proceedings of IMECE2004, 2004 ASME International Mechanical Engineering Congress and RD&D Expo*, November 13-19, 2004, Anaheim, California USA
23. Roth, T.B. and Anderson, A.M., 2005, "Light Transmission Characteristics of Thermochromic Liquid Crystals," *Proceedings of IMECE2005: Paper IMECE2005-81812,* Nov 5-11, 2005, Orlando Florida
24. Roth, T.B. and Anderson A.M., 2006, "Liquid Crystal Thermography Using Light Transmission," *Proceedings of the ASME/AIAA Themophysics Conference*, San Francisco, AIAA Paper 2006-3097. (abstract review only).
25. Pasquerella, D., and Anderson A.M., 2007, "A Comparison of Chiral Nematic and Cholesteric Thermochromic Liquid Crystals for Use in a Light Transmission Based Temperature Sensing System," *Proceedings of IMECE2007Paper:* IMECE2007-41855, Nov 2007, Seattle, WA.
26. Austin, B., and Anderson, A.M., 2007 "The Alula and its Aerodynamic Effect on Avian Flight," *Proceedings of IMECE2007Paper:* IMECE2007-41693, Nov 2007, Seattle, WA.
27. Ondrej Nikel*, Ann M. Anderson and Mary K. Carroll "Optical Investigation of Gelation During Rapid Supercritical Extraction Processing of Silica Aerogels." Polymer Preprints, 2008, 49(2), 560-561. (abstract review only)
28. Nicholas J. H. Dunn*, Mary K. Carroll and Ann M. Anderson, "Characterization of Alumina and Nickel-Alumina Aerogels Prepared via Rapid Supercritical Extraction." Polymer Preprints, 2011, 52(1), 250-251.
29. Mary K. Carroll and Ann M. Anderson, "Use of a Rapid Supercritical Extraction Method to Prepare Aerogels from Various Precursor Chemistries." Polymer Preprints, 2011, 52(1), 31-32.
30. BA Bruno, JE Madero, SJ Juhl, J Rodriguez, NJH Dunn, MK Carroll & AM Anderson, 2012, "Alumina-Based Aerogels as Three-Way Catalysts," Proceedings of the 9th Int'l Congress on Catalysis and Automotive Pollution Control (CAPoC9), August 29-31, Brussels, Belgium

Refereed Pedagogical Conference Publications In Printed Proceedings

1. Anderson, A.M., and Wilk, R.D., 2000, "The Use of Hands -On Table Top Laboratories in Undergraduate Thermal-fluid Science Courses", *Proceedings of the 2000 ASEE Conference* (presented at the 2000 ASEE Annual Conference, St Louis MO).
2. Anderson, A. M., Keat, W.M., and Wilk, R.D.,2001, A Complementary Sequence in Thermal/Fluids and Mechanical Systems for Senior Capstone Design, *Proceedings of the 2001 ASEE Annual Conference*, (Presented at the 2001 ASEE Annual Conference, June 2001, Albuquerque)
3. Wilk, R.D, Bucinell, R.B., Anderson, A.M, and Thomas, W.W., 2001, Preparing Engineering Students to Work in a Global Environment: The Union College Model, *Proceedings of the 2001 ASEE Annual Conference*, (Presented at the 2001 ASEE Annual Conference, June 2001, Albuquerque).
4. Wilk, R.D. and Anderson, A.M., 2001, Designing a Senior Experience in Mechanical Engineering: Culmination of an Undergraduate Program, Preparation for Professional Life, and Reinforcing the Foundation for Continued Learning, *Proceedings of the 2001 ASEE Annual Conference*, (Presented at the 2001 ASEE Annual Conference, June 2001, Albuquerque).
5. Anderson, A.M., and Losaw*, Jeremy, 2002, Using Race Car Aerodynamics to Teach Students About Fluid Mechanics, *Proceedings of the 2002 ASEE Annual Conference*, (Presented at the 2002 ASEE Annual Conference, June 2002, Montreal).
6. Wilk, R.D. and Anderson, A.M., 2002, Development of Communication Skills Across the Engineering Curriculum, *Proceedings of the 2002 ASEE Annual Conference*, (Presented at the 2002 ASEE Annual Conference, June 2002, Montreal).

7. Bucinell, R. B., and Anderson, A. M., 2003, Statics as a Special Case of Dynamics An Alternative Approach to Teaching Mechanics, *Proceedings of the 2003 ASEE Annual Conference*, (Presented at the 2003 ASEE Annual Conference, June 2003, Nashville).
8. Anderson, A. M., and Wilk, R. D., 2003 Tools for Assessing Student Outcomes: Use of Faculty and Student Assessments *Proceedings of the 2003 ASEE Annual Conference*, (Presented at the 2003 ASEE Annual Conference, June 2003, Nashville).
9. Bruno, Brad A., and Anderson, Ann M., 2005, "Using Objective-Driven Heat Transfer Lab Experiences To Simultaneously Teach Critical Thinking Skills And Technical Content, " *Proceedings of IMECE2005: Paper IMECE2005-82689*, Nov 5-11, Orlando Florida.

Other Publications/Presentations

1. Anderson, A.M., and Moffat, R.J., 1990, "Convective Heat Transfer From Arrays of Modules with Non-Uniform Heating: Experiments and Models," Rept No HMT-43, Department of Mechanical Engineering, Stanford University, Stanford, CA. (Ph.D. Thesis)
2. Anderson, A.M., 1993, "Heat Transfer Enhancement in a Generator Cooling Channel, Part 1," report submitted to General Electric.
3. Anderson, A.M., 1993, "Heat Transfer Enhancement in a Generator Cooling Channel, Part 2," report submitted to General Electric.
4. Anderson, A.M., 1993, "Heat Transfer Enhancement in a Generator Cooling Channel, Part 3," report submitted to General Electric.
5. Anderson, A.M., 1994, "Review of: Experimental Methods for Engineers, by J. P. Holman" *Experimental Thermal and Fluid Science*, Vol. 9, p 250.

Student Project Supervision

Senior Projects:

1. Scott Day, 1993, *Electronic Cooling Test Plate*
2. Dave Higbie, 1993, *Design, Construction, and Qualification of a Wind Tunnel for Electronics Cooling Research*
3. Tony Milko, 1993, *Modeling Air Flow Distribution in a Card Cage*
4. Carla Stenzel, 1994, *Heat Transfer Enhancement Techniques in Electronics Cooling Applications*
5. Aaron Plotnik, 1994, *A Study of Enhanced Heat Transfer in a Narrow Channel Using CFD Modeling*, (Presented at ASME Computers in Engineering Conference)
6. Andrea Light, 1994, *Design and Construction of a Wind Tunnel for Electronics Cooling Research*
7. Charles Wheeler, 1995, *An Experimental Investigation of Heat Transfer Enhancement in an Electronics Cooling Channel* (Presented at NCUR and ASME National Heat Transfer Conference).
8. Josh Kane, 1995, *Computational Analysis of Fluid Flow and Application to Sailboat Keel Optimization*
9. Paul Pranys, 1995, *Thermochromic Liquid Crystal Visualization Project*
10. Corinne De Voe, 1996, *The Design and Development of a Thermal Sensation Tester*, (Presented as ASME Regional Student Conference)
11. Laura Burzesi, 1996, *Enhancing Heat Transfer Using Grooved Surfaces*
12. Gretchen Voegler, 1997, *Heat Transfer Enhancement on a Printed Circuit Board*, (Presented at NCUR)
13. Olga Kotsyuba, 1997, *The Design and Modeling of a Thermal Sensation Tester,* (Presented at ASME National Heat Transfer Conference)

14. Jennifer Lelas, 1997, *Design and Development of a Phantom Model for Hyperthermia Cancer Treatment,* (Presented at NCUR)
15. Steven Weed, 1997, *Design and Development of a Blood Heat Exchanger*
16. Mark D'Ambruoso, 1998, *Flotherm Modeling of a Pentium Heat Sink*
17. Steve Baumgartner , 1999, *Design and Development of a Smoke Flow Visualization System*
18. Brett Lussier, 1999, *Surface Flow Visualization and Heat Transfer Measurements Using Liquid Crystals*
19. Sahar Elkenani, 1999, *Determination of the Safe Touch Temperature*
20. Martiqua Post, 1999, *The Effect of Turbulence on Thermal Influence Factors Using Liquid Crystal Image Processing* (Presented at NCUR, and at 2000 ASME National Heat Transfer Conference)
21. Matthew Bazydlo, 2000, *Heat Transfer and Economic Analysis of a Heat Exchanger Used on Backpacking Cook Sets*.
22. Gina Lupino, 2000, *Flow Visualization Using Liquid Crystal Thermography and Particle Image Velocimetry* (Presented at NCUR).
23. Jason Allen, 2001, *Development of A Jet Impingement Facility for Liquid Crystal and PIV Studies.* (Presented at NCUR)
24. Andrew Beebe, 2001, *Computational Modeling of the Heat Transfer From Low Pressure Drop Devices*
25. Katherine Donnellan, 2001, *Heat Transfer Enhancement from Dimpled Surfaces in the Presence of Free Stream Turbulence*
26. Tom Case, 2002, *Design and Manufacture of a Water Brake Dynamometer and a Study on the Use of Thermal Barrier Coatings*
27. JR Fowler, 2002, *Fluid Analysis of Sailboat Keels: A 3 Keel Comparison*
28. Ben Gauthier, 2002, *Development of the Union Rapid Supercritical Extraction (RSCE) Aerogel Fabrication Method.*. (Presented at NCUR)
29. Jeremy Losaw,2002, *Aerodynamic Characterization of a 1/12 Scale Radio Controlled Car with NASCAR and LeMans Style Bodies.* (Presented at NCUR)
30. Whitney Peck 2002, *Interfacing 3D Solid Modeling with Computational Fluid Dynamics*
31. Smitesh Bakrania, 2003, *The Effect of Water, Catalyst and Solvent Content on Silica-Aerogel Density, Conductivity and Porosity* (Presented at NCUR)
32. Marissa Post, 2004, *Density Dependence of Select Properties of Silica Aerogels*
33. Jennifer Panik, 2004, *The Design and Development of a Water Tunnel for Flow Visualization*
34. Katie Arthur, 2004, *An Investigation into Safe Touch Temperatures*
35. Brent Hardenburg, 2004, *Rolling Road Surface for Wind Tunnel Model Racecar Analysis*
36. Dan Archibald, 2005, *Aerodynamics of a Modern Sports Car*
37. Shira Mandel, 2005, *The Effects of Chemical Precursors on the Physical Properties of Aerogels*
38. Eric Jacobs, 2005, *Shelby Cobra Aerodynamics and Design of a Hard Top*
39. Greg Scott, 2005, *The Design and Aerodynamic Analysis of Dimples on Golf Balls*
40. John Gallagher, 2005, *Fluid Dynamic Analysis and Comparison of Different Windsurfing Fins*
41. Tim Roth, 2006, *Development of an Analytical Model for the Union RSCE Aerogel Fabrication Process*
42. Scott Wheeler, 2006, *Design of a Tsunami Wave Tank*
43. Otto Jakutowicz, 2006, *Light Based Experiments on Aerogels*
44. David Korim, 2006, *Microscopic Imaging of Aerogel Microstructure Before and After Compression*
45. Matt Ernst, 2007, *Optimization Of Aerogel Properties For Transparent Insulation In A Window Design*
46. Bridget Austin, 2007, *The Alula and its Aerodynamic Effect on Avian Flight*
47. Jason Melville, 2007, *Fabrication and Characterization of Hydrophobic Aerogels*

48. Cooper Hammarlund, 2007, *Application of Drag Reduction Techniques to the Design of a More Aerodynamic Ski Helmet*
49. Dean Pasquerella, 2008, *Development of a Thermochromic Liquid Crystal Temperature Sensor*
50. Emily Green, 2008, *Sol-Gel Processing of Energetic Materials*
51. Sean Maginess, 2008, *Hydrophobic Aerogels: Reducing Hydrodynamic Drag*
52. Caleb Wattley, 2008, *Oil Spill Cleanup with Hydrophobic Aerogels*
53. Matt Sherman, 2009, *Modifying the Mechanical Strength of Silica Aerogels*
54. Michael Bono, 2009, *Fabrication of an Aerogel Composite Catalytic Converter*
55. Rob Powell, 2009, *The Hydrodynamics Of A Humpback Whale Flipper Used To Improve Airplane Wing Aerodynamics*
56. Caileigh Warren, 2009, *Design Of A Fiber Placement Nozzle Used In Manufacture Of Composite Parts*
57. *Sarah Schinasi, 2010, Drag Reduction using Aerogel Based Superhydrophobic Surfaces*
58. *Michael Wakita, 2010, Redesign of a Bear Spray Nozzle*
59. Collin Doyle, 2010, *Investigating possibilities of aerogel heat shields For Space Shuttle Applications*
60. Designing and Building a System for Testing Aerogels as Three-Way Catalysts*catalytic capabilities of Aerogels.*
61. Justin Rodriguez, 2011, *Design and Testing of Catalytic Aerogels for Vehicle Emissions*
62. Liz Bocchino, 2011, *Comparison of Horizontal Ground Source (Geothermal) Heat Pump Layouts for Optimal Performance and Thermal Efficiency*
63. Lauren Brown, 2011, *Testing the Photocatalytic Oxidation Abilities of Titania-Silica Aerogels Fabricated using Rapid Supercritical Extraction*
64. Robin Barabasz, 2011 *Superhydrophobic Aerogel Surface Coatings for Drag Reduction*.
65. Steven Gacin, 2012, *Aerodynamic Design of a Human Powered Vehicle*
66. Michael Posilovic, 2012, *Improving the Aerodynamics of Tractor Trailers*
67. Christopher Heske, 2012, *Design and Fabrication of a Simulated Test Flow Fixture to Characterize Flow Aerogel Material*
68. Cassie Angelakis, 2012, *Modeling Mechanotransduction in Bone*
69. Matt Wahl, 2013, *Measurement of Skin Friction Drag on Hydrophobic Silica Aerogel Surfaces with Potential Application to Technical Swimsuit Design*
70. Paul Brockman, 2013, *The Redesign of the Union Catalytic Testbed: Redesigning the Heating and Testing Systems*
71. Rachel Brown, 2013, *Design and Analysis of the Human Powered Vehicle Fairing for the ASME HPVC*
72. Ralph Cueva, 2013, *Instrumentation And Thermodynamic Analysis Of A Gas-Turbine Engine For Advancing Nox Reduction*
73. Tim Craig, 2013, *Atomic Force Microscopy Imaging of Hydrophobic Aerogels*
74. Junior Rivas, 2014, *Designing and Building a System for Testing Aerogels as Three-Way Catalysts*
75. Leah Smith, 2014, *Preparation and Characterization of Vanadia-Silica and Vanadia-Titania-Silica Aerogels*
76. Dylan Magida, 2014 *Hull Design of a Radio-Controlled Boat Using 3D Printing*

Master's Theses:

1. Mike Denninger, 1997, *An Experimental Study on the Relationship Between Velocity Fluctuations and Heat Transfer in a Turbulent Channel Flow*
2. Katherine Donnellan, 2002, *Enhancement Heat Transfer for Flow In A Dimpled Tube For A Variety Of Dimple Geometry*

3. Ondrej Nikel, 2008, *Effect of Compression Loading on the Pore Distribution of Silica Aerogels.*
4. *Justin Rodriguez (MS Project) 2012, Hydrophobic Aerogels for Drag Reduction*

Supervision of Union Scholars Projects:

1. Patrick Allen, ME ’06 *Aerodynamics of Frisbees*
2. Amanda Manganello, ME ’06 *Kinematics of Roller Coasters*
3. Shira Mandel, ME/Chem ‘05
4. Lauren Brown, ME ’11, *RSCE Processing of Titania Aerogels*
5. Leah Smith, ME/Chem ’14 *Suitability of Silica Aerogels for Oil and Chemical Spill Clean-up Applications*
6. Lutao, Xie, ME ’14, *An exploration of textural properties of the lightest solid Material-“frozen smoke”*
7. Yi Cao, ME/CHEM’15, *Effective Coating of Catalytic Active Aerogels*
8. Andrew Suozzi, ME ’16, *Thermal Conductivity of TMOS & TEOS Aerogels Measured Using Union College’s Vacuum System & Made Using Union College’s RSCE Method*
9. Ryan Bouck, ME ’16, *Investigating the Role of the Aerogel Matrix in Co-Al Aerogel Structure, Properties, and Interface in Catalytic Applications*
10. Adam Forti, ME ’17, *Coating Cordierite Monoliths With Cobalt-Alumina*

Supervision of Undergraduate Research Projects (non-course credit activities):

1. Charles Wheeler, ME ‘95
   - Summer 1993, *The Effects of Turbulence Promotion on Heat Transfer in Small Rectangular Passages*, funded by General Electric
   - Summer 1994, *An Experimental Investigation of Heat Transfer Enhancement in an Electronics Cooling Channel,* funded by Union College
2. Charles Howarth, ME ‘96
   - Summer 1993, *The Effects of Turbulence Promotion on Heat Transfer in Small Rectangular Passages*, funded by General Electric
3. Laura Burzesi, ME ‘96
   - Summer 1995, *Enhancing Heat Transfer Using Grooved Surfaces,* funded by Union College
4. Gretchen Voegler, ME ‘97
   - Summer 1995, *A Planning Study on Bio-Heat Transfer Applications in the Human Body* and Liquid *Crystal Visualization and Computer Modeling of Enhanced Heat Transfer on a Flat Plate in Forced Convection* , funded by the National Science Foundation, (Presented at ASME National Heat Transfer Conference)
5. Olga Kotsyuba, ME ‘97
   - Summer 1996, *The Design and Modeling of a Thermal Sensation Tester,* funded by Union College
6. Martiqua Post, ME ‘99
   - Summer 1998, *The Effect of Turbulence on Thermal Influence Factors Using Liquid Crystal Image Processing* (Funded by Union College)
7. Bryan Roy, ME ‘00
   - Summer 1997, *An Experimental Study on the Relationship Between Velocity Fluctuations and Heat Transfer in a Turbulent Channel Flow,* funded by Union College
8. Gina Lupino, ME ‘00
   - Summer 1999, *Design and Construction of a TEU Based Heat Conduction Experiment,* (funded by Union College)

9. Jason Allen, ME ‘01
    - Summer 2000, *PIV Studies* (funded by Union College)
10. Ben Gauthier, ME ‘02
    - 1999 (winter break), *Flow Characterization of a Combustion Swirler Using Particle Image Velocimetry,* (funded by General Electric)
    - 2000 (winter break), *Heat Transfer From A Dimpled Surface With And Without Free Stream Turbulence In A Thermally Developing Flow,*
    - Summer 2001, *Heat Transfer From A Dimpled Surface With And Without Free Stream Turbulence In A Thermally Developing Flow* (funded by Union College)
    - Summer 2002, *Aerogel Fabrication Techniques* (funded by Watson Chair endowment)
11. Jean-Marc Gourlet, Exchange Student
    - 1999 (winter break), F, *Flow Characterization of a Combustion Swirler Using Particle Image Velocimetry,* (funded by General Electric)
12. David Chapin, ME ‘02
    - Summer 2001, *The Effects of Dimpled Surface Geometry on Heat Transfer in an Impinging Jet Flow* (funded by Union College)
13. Smitesh Bakrania, ME ‘03
    - Summer 2000, A Study of Liquid Crystal Thermography Application Techniques (funded by NSF)
    - 2000 (winter break), Development of a Transient Liquid Crystal Calibration System (funded by NSF)
    - Summer 2002, *Development of a Liquid Crystal Calibration System* (funded by Union College)
14. Jennifer Panik, ME ‘04
    - Summer 2002, *A Windtunnel Investigation of Bird Flight with PIV* (funded by NSF)
    - Summer 2003, *A Wind tunnel Investigation of Bird Flight with PIV (Part 2)* (funded by Union College)
15. Shira Mandel, ME ‘05
    - Summer 2003, *“A Comparison of Dye Entrapment in Aerogels Fabricated Using the Union RSCE Versus Conventional Techniques* (funded by Union College AIRE grant for Union Scholars)
16. Jan Konecny, Exchange Student (Czech Tech)
    - Summer 2003, *“Application of a Light Transmission Method to Determine Sol-Gel Transition,*” (funded by Union College)
17. Bobby Dunton, ME ‘05
    - Summer 2003, *Thermal and Mechanical Characteristics of Aerogels* (funded by Watson Chair endowment)
    - Academic Year 03/04 *Aerogel Fabrication Techniques*
    - Academic Year 04/05 *Aerogel Fabrication Techniques*
18. Joel Beal, ME ‘05
    - Summer 2004 *Strength Characteristics of Silica Aerogels*(funded by Union College)
19. Bryan Campbell, ME ‘06
    - Academic Year 03/04 *Development of CFD models for RC Race Cars*
    - Summer 2004 PIV Studies of RC Race Cars, Bird Wings (funded by Watson Chair endowment)
    - Academic Year 04/05 *PIV Modeling and Wind Tunnel Airfoil Testing*
20. Timothy Roth, ME ‘06
    - Academic Year 03/04 *Development of CFD models for RC Race Cars* (funded by Watson Chair endowment)

- Summer 2004 *CFD Modeling of flow past RC RaceCars* (funded by Watson Chair endowment)
- Academic Year 04/05 *Investigation of the Light Transmission Properties of Thermochromic Liquid Crystals* (funded by Watson Chair endowment)
- Summer 2005, *Investigation of the Light Transmission Properties of Thermochromic Liquid Crystals (*funded by Schiff Summer research Grant)
- Academic Year 05/06 *Investigation of the Light Transmission Properties of Thermochromic Liquid Crystals* (funded by AMA Research Account)

21. David Korim, ME '06
    - Academic Year 03/04 *Aerogel Fabrication Techniques* (funded by Watson Chair endowment)
    - Summer 2004 *Aerogel Fabrication Technique* (funded by Union College)
    - Academic Year 04/05 *Aerogel Fabrication Techniques*(funded by Watson Chair endowment)
22. Cory Spicer, ME '06
    - Summer 2004 *Investigation of the Light Transmission Properties of Thermochromic Liquid Crystals* (funded by Union College)
23. Scott Wheeler, ME'06
    - Summer 2005, Aerogel Characterization
24. Manish Bharara, Phd Student from U of Bournemouth
    - Summer 2005, Liqud Crystal Thermography
25. Caleb Wattley, ME '08
    - Summer 2006, Aerogel Characterization
    - Academic Year 2006/07 Aerogel Characterization
    - Summer 2007: Effect of Processing Parameters on Aerogel Properties (Funded by NSF)
26. Matthew Ernst, ME '07
    - Spring 2006: Aerogel Processing
    - Summer 2006: Aerogel Processing (Funded by UC Summer Program)
27. Dean Pasquerella, ME '08
    - Summer 2006, TLCs (Funded by Personal Research Account)
    - Academic Year 2006/07
28. Xiao Xe Le, ME '08
    - Academic Year 2006/07, Aerogel Characterization
29. Nikel Ondrej (exchange student from Prague)
    - Academic Year 2006/07, Aerogel Characterization
    - Summer 2007: Design of an Optically Accessible Mold (Funded by NSF)
    - Summer 2008: Design of an Optically Accessible Mold (Funded by NSF)
30. Emily Green, ME '08
    - Academic Year 2006/07, Aerogel Characterization
    - Summer 2007: Hydrophobic Aerogels (Funded by UC Summer Program)
31. Michael Bono, ME '09
    - Summer 2007: SEM Images of Aerogels & Alumina Aerogels (Funded by UC Summer Program)
    - Academic Year 2006/7
    - Summer 2008 RSCE processing of Alumina Aerogels (Funded by UC Summer Program)
32. Matt Sherman, ME '09
    - Summer 2007: SEM Images of Aerogels & Alumina Aerogels (Funded by UC Summer Program)

33. Lauren Brown, ME ‘11
    - Summer 2007: SEM Images of Aerogels & Alumina Aerogels (Funded by Union College)
    - Summer 2008: TI and Ti Si Aerogels (Funded by NSF)
34. Emmet O’Connell, ME ‘11
    - Summer 2010, Design of catalytic Test bed (Funded by Union College)
    -
35. Robin Barabasz
    - Summer 2010, Drag Reduction through the use of Hydrophobic Aerogels (Funded by NSF)
36. Steven Gacin – 2009/10 Academic Year, 2010/11 Academic Year (Hydrophobic Aerogels)
37. Justin Rodriguez, ME ‘11
    - Summer 2010 – CFD tutorials (Funded by V. Barr CPATH NSF grant)
    - Summer 2012, Drag reduction of aerogel coated surfaces (Funded by NSF)
38. James Walker – Spring 2010 (Hydrophobic Aerogels)
39. David Carabis
    - Summer 2011 – PCO test facility Design,
    - 2011/12 Academic Year
    - Summer 2012 – Design of A Gas Mixing System
    - 2012/13 Academic Year, Catalytic Testing, Gas Mixing System
    - Summer 2013 Aerogel Windows, Catalytic Testing
40. Leah Smith
    Summer 2011Effects of Temperature on Hydrophobicity of TMOS/MTMS based aerogels
    Summer 2013 Vanadia Aerogels
41. Mike Posilovic, Summer 2011
42. Justin Rodriguez, Dave Carabis, Summer 2012, Design of a gas Mixing System 2012/134 Academic Year
43. Tom Swanton, Summer 2012, Design of an Aerogel Flow-Through Apparatus
44. Rob Wagner, Summer 2012, Design of a Water Channel
45. Yi Cao, Summer 2012, Improved Method for TiSi Aerogels
46. Junior Rivas, Summer 2013, Design of a Catalytic Test Bed
47. Evan States, Summer 2013, Water Channel Modification and Superhydrophobic Aerogels for Drag Reduction
48. Ryan Bouck, Summer 2013, Catalytic Aerogels
49. Matthew Goff, Summer 2014, Automation of Catalytic Test Bed
50. Adam Forti, Summer 2014, Coating Cordierite with Aerogels
51. Ben Silberman, Summer 2014, Development of Aerogel Windows
52. Ryan Bouck, Summer 2014, Catalytic Aerogels
53. Jennifer Ventrella Summer 2014, Development of Aerogel Windows