Randy D. Weinstein, Ph.D.

Vice Provost for Teaching and Learning
Professor of Chemical and Biological Engineering
Villanova University
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Villanova, PA 19085
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EDUCATION:

1998 **Massachusetts Institute of Technology**, Ph.D., Chemical Engineering
1993 **University of Virginia**, B.S., Chemical Engineering with High Distinction

PROFESSIONAL EXPERIENCE:

2021-present **Villanova University**, Vice Provost for Teaching and Learning
2016-2021 **Villanova University**, Associate Vice Provost for Teaching and Learning
April 2018- July 2020 **Villanova University**, Interim Dean of Engineering
2012-2016 **Villanova University**, Associate Dean of Academic Affairs, College of Engineering
2007-2012 **Villanova University**, Chair, Chemical and Biological Engineering
2007-present **Villanova University**, Professor of Chemical and Biological Engineering
2009-2012 **Villanova University**, Inaugural Program Director, Sustainable Engineering
2004-2007 **Villanova University**, Associate Professor of Chemical and Biological Engineering
2005-2007 **Villanova University**, Associate Research Professor of Chemistry
1998-2004 **Villanova University**, Assistant Professor of Chemical and Biological Engineering

CONSULTANT EXPERIENCE:

2015-2017 **College Board**
2007 **ECOR Solutions, Inc.**
2006-2008 **Ablaze Development Corporation**
2003 **k Technology Corporation**
1999-2002 **Lucent Technologies**

REPORTING UNITS:

As Interim Dean:
Five Departments/Programs in Engineering
Six Research Centers
Two faculty associate deans
Three staff direct reports

As Vice Provost for Teaching and Learning:
Academic Support for Athletes
Center for Access, Success, and Achievement
Learning Support Services
Office of Education Abroad
Professional and Personal Development Program
Tutoring Center

University Honors Program
Villanova Institute for Teaching and Learning
Writing Center

SIGNIFICANT PROFESSIONAL EXTERNAL ACTIVITIES:

Academy for Innovation in Higher Education Leadership, 2017-2018
Chair, "Free Forum on Engineering Education: The Junior and Senior Years," AIChE Annual Meeting, San Francisco, CA, 2016.
College Board's Advanced Placement Program® (AP®) Engineering Curriculum Development and Assessment Committee (CDAC), 2015-2016
College Board's Advanced Placement Program® (AP®) Engineering Higher Education Advisory Panel, 2015
Chair, "Free Forum on Engineering Education: The First Year and Sophomore Year," AIChE Annual Meeting, Salt Lake City, UT, 2015.
Co-Chair, "Best Practices of Online Courses and Virtual Environments," AIChE Annual Meeting, Salt Lake City, UT, 2015.
Management Development Program, Harvard Graduate School of Education, 2014
National Effectiveness Teaching Institute-2, 2014
Reviewer for approximately 150 journal publications and grant proposals
Grand Master Alchemist (President), Alpha Chi Sigma, 2012-2014
Foundation Member, Alpha Chi Sigma Educational Foundation, 2010-present
Grand Collegiate Alchemist (1st Vice President), Alpha Chi Sigma, 2010-2012
Grand Master of Ceremonies (3rd Vice President), Alpha Chi Sigma, 2008-2010
Co-Chair, "Thin Films, Coatings, and Interfacial Phenomena Using Compressible or Supercritical Fluids," AIChE Annual Meeting, Philadelphia, PA, 2008.
Chair, High Pressure Group (1f) of AIChE, 2005-2007.
Chair, "Thin Films and Coatings Using near and Supercritical Fluids," AIChE Annual Meeting San Francisco, CA, 2006.
Vice-Chair, High Pressure Group (1f) of AIChE, 2003-2005.
Co-Chair, "Synthesis and Coating via Supercritical Processing," AIChE Annual Meeting, Austin, TX, 2004.
Chair, "Materials Processing in Supercritical Fluids I," AIChE Annual Meeting, San Francisco, CA, 2003
Chair of the District Counselors, Alpha Chi Sigma, 2004-2006
Atlantic Central District Counselor (ACDC), Alpha Chi Sigma, 2002-2008
Professional Representative, Alpha Chi Sigma, 2002
Chair, "Materials Processing in Supercritical Fluids II," AIChE Annual Meeting, Indianapolis, IN, 2002
Advisor Villanova Student Chapter of Tau Beta Pi, 2001-present
Group 1f (High Pressure) session coordinator for AIChE Annual Meeting, Indianapolis, IN, 2002.
Co-Chair, "Materials Processing in Supercritical Fluids II" and "Benign Synthesis in Supercritical Fluids," AIChE Annual Meeting, Reno, NV, 2001
Co-Chair**, "**Thermodynamics & Processing with Supercritical Fluids," AIChE Annual Meeting, Los Angeles, CA, 2000

Chair, “Chemistry of Supercritical Fluid Extraction,” AIChE Annual Meeting, Dallas, TX, 1999
National Effectiveness Teaching Institute-1, 1999
Advisor Villanova Student Chapter American Institute of Chemical Engineers, 1998-2015

SIGNIFICANT PROEFESSIONAL INTERNAL ACTIVITIES:

Villanova IT Strategic Planning Advisory Council, 2025-present
AI Task Force, chair, 2024-present
CIO search committee, 2024
Online Learning Group, chair, 2023-present
Behavioral Intervention Team (backup member), 2023-present
University-Industry Partnership Committee, co-chair, 2023-present
Learning Management System Change and Implementation Team, co-chair, 2023-present
Presidential Task Force on Post-Covid Operations, chair, 2021
University Community First (Covid) Committee, 2020-2022
University Stainability Leadership Council, 2018-present
University Strategic Planning Team, Accountable Executive, 2018-present
Ignite Your Strengths Steering Committee, 2018-present
University Council of Deans, 2018-2020
University Data Governance Committee, 2017-present
Faculty Guidance Committee for the Learning Management System, 2017-2019
University CARE Team, identifying and referring students of concern, 2016-2018
University Space Steering Committee, 2016-2018
University Council on Information Technology, 2016-2020
University Assessment Committee, 2014-present
Task Force on Carnegie Reclassification, 2014-2015
University Core Curriculum Committee, 2014-2016
University Retention Committee, 2013-present
Task Force on the Online Undergraduate Degree for Adult Part-Time Students, 2013
Faculty Senate, Academic Policies Committee, 2012-2016
TedxVillanovaU speaker, 2012
Lindback Selection Committee, 2011-2018
Honors Council for the Villanova Honors Program, 2011-2015
Instructor for LEAD, engineering program for minority high school students, 2010-2013
Guest lecturer, An Introduction to Global Interdisciplinary Studies, 2009-2025
Freshman Engineering Curriculum Committee, 2008-2016
Faculty panel on Teaching Philosophy for the Admissions Office for accepted students, 2005-2016
Faculty instructor for “A Day in the Life of a Villanova Student” for underrepresented prospective students, 2006-2012
Faculty presenter for “Villanova Works,” a program for high school guidance counselors, 2005-2012
Teaching Award Subcommittee of the Committee of Faculty of the University Senate, 2009-2012
Search committee for Director of Public Safety, 2007-2008
Board of Trustees Committee on Student Life, 2007-2009

President's Strategic Planning Committee, 2007-2009
Chair, Chemical and Biological Engineering Faculty Search Committee, 2006-2007
Engineering Undergraduate Strategic Planning Committee, 2006-2007
Instructor for VESTED, engineering program for minority high school students, 2005-2009
Founding member and instructor, Theater, Science, and Magic summer camp for high school students, 2005-2008
Developed and ran new interdisciplinary freshman engineering project and competition required of all freshman engineers, 2005-2009

SIGNIFICANT HONORS:

American Society of Engineering Education Corcoran Award, sponsored by Eastman Chemical Company, for the most outstanding article published in *Chemical Engineering Education*, 2016
Lindback Award for Teaching Excellence at Villanova University, 2010
Finalist, Final Toast for Seniors, 2010
Honor Roll Advisor for AIChE, 2005-2009
Inaugural Innovative Teaching Award, Villanova University, 2008
Semi-finalist for the Lindback Award for Teaching Excellence at Villanova University, 2005, 2007, 2008, and 2009.
Farrell Award to recognize personal concern for students and exceptional dedication to the Villanova University College of Engineering, 2001
Society of Graduate Fellows for Sustainability, 1996-1998
Martin Fellow for Environmental Research, 1997-1998
MIT Department of Chemical Engineering Special Service Award, 1995
Alumni/ae Association Student Recruiter Award, 1995
Alpha Chi Sigma National Leadership Award, 1992 & 1993
UVA Chemical Engineering Faculty Award, 1993
Dow Chemical Outstanding Junior Chemical Engineering Award, 1992

PROFESSIONAL SOCIETIES:

American Society for Engineering Education, 1998
American Chemical Society, 1998
Sigma Xi Scientific Research Society, 1996
Tau Beta Pi Professional Engineering Society, 1992
Golden Key National Honor Society, 1992
American Institute of Chemical Engineers, 1991
Phi Eta Sigma Freshman Honor Society, 1990
Alpha Chi Sigma, 1990

RESEARCH INTERESTS:

Research has been focused on environmentally benign chemical processing, nanomaterials, thermal management of electronic devices, and innovation in the undergraduate classroom. Supercritical carbon dioxide is being used to create self-assembled monolayers (SAMs) and polymeric films on various metal surfaces for corrosion resistance and electrochemical modifications. This environmentally friendly solvent is also being used to make drug delivery

devices by implanting various pharmaceuticals into biocompatible polymeric devices as well as into chewing gum. Various reactions and nanomaterial synthesis processes are also being explored in sub- and supercritical carbon dioxide in attempts to better understand these unique fluids. Methods of static and transient thermal management are being studied in portable electronic devices to improve user comfort as well as the electronic reliably. Efforts are focused on using nanomaterials to improve heat transfer in such devices. Nanomaterials are being used as catalysts for a variety of chemical transformations. Inverted classrooms are being studied to gather data to support improved student comprehension, increased student responsibility for their own learning, and effective use of faculty time.

TEACHING INTERESTS:

Courses taught include chemical engineering thermodynamics II, modeling and numerical methods I, chemical engineering laboratory II and III, chemical engineering research I and II, engineering interdisciplinary projects II, graduate thermodynamics, introduction to engineering, and nanomaterials and surface science. Interests include blending technology into the classroom, inverting the classroom, and using multidisciplinary projects as the basis for learning.

SELECTED PUBLICATIONS (Peer Reviewed):

1. "Using Proactive Just-in-Time Instruction to Improve Student Performance in an Inverted Classroom," R.D. Weinstein, *Chemical Engineering Education*, **2023**, *57,* 79.
2. "Improved Performance via the Inverted Classroom," R.D. Weinstein, *Chemical Engineering Education*, **2015,** *49*, 141.
3. "Photocatalytic Oxidation of Dimethyl Methylphosphonate in Aqueous Suspensions of TiO_2," R. Greeley, R.D. Weinstein, A. Grannas, D.W. Skaf, *J Chem Eng & Process Technologies*, **2015**, *6*, 1000235.
4. "A Core Course Component in a Project-Based First-Year Engineering Experience," R. Caverly, J. O'Brien, S. Park, E. Char, H. Fulmer, R. Weinstein, *Proceedings of the 122nd ASEE Annual Conference and Expedition*, **2015**.
5. "Angewandte Elektrochemie: Vom Lego-car-race in Villanova zum Seig bei FormelEIns in Berlin (Applied Electrochemisty: From Lego-car-race in Villanova to Seig Formula One in Berlin)," B. Brase, R.D. Weinstein, Chemie in der Shule, **2013**, *62*, 24.
6. "Selective Decomposition of Isopropanol Using as Prepared and Oxidized Graphite Nanofibers," A.R. Ferens, R.D. Weinstein, R. Guiliano, J.A. Hull, *Carbon*, **2012**, *50*, 192.
7. "The Shape Stabilization of Paraffin Phase Change Material to Reduce Graphite Nanofiber Settling during the Phase Change Process," R. Ehid, R.D. Weinstein, A.S. Fleischer, *Energy Conservation and Management*, **2012**, *57*, 60.
8. "A Direct Comparison of Three Different Material Enhancement Methods on the Transient Thermal Response of Paraffin Phase Change Material Exposed to High Heat Fluxes," K. Chintakrinda, R.D. Weinstein, A.S. Fleischer, *International Journal of Thermal Sciences*, **2011**, *50*, 1639.
9. "Quantification of the Impact of Embedded Graphite Nanofibers on the Transient Thermal Response of Paraffin Phase Change Material Exposed to High Heat Fluxes," K. Chintakrinda, R.D. Weinstein, A.S. Fleischer, *J. Heat Transfer*, **2012,** *134*, 071901.

10. "Oxidative Dehydrogenation of Ethanol to Acetaldehyde and Ethyl Acetate by Graphite Nanofibers," R.D. Weinstein, A.J. Ferens, R.J. Orange, P. Lamaire, *Carbon*, **2011**, *49*, 701.
11. "Liquid and Supercritical Carbon Dioxide Assisted Implantation of Ketoprofen into Biodegradable Sutures," R.D. Weinstein, K.R. Muske, S.A. Martin, D.D. Schaeber, *Ind. Eng. Chem. Res.*, **2010**, *49*, 7281.
12. "Project-Based Freshman Engineering: The Core Course," R.H. Caverly, H.M. Fulmer, S. Santhanam, P. Singh, J.C. O'Brien, G.F. Jones, E.S. Char, F.J. Mercede, R.D. Weinstein, J.R. Yost, Proceedings of the 2010 ASEE Conference, Louisville, KY, June 20-23, 2010.
13. "An Investigation into the Solidification of Nano-Enhanced Phase Change Material for Transient Thermal Management of Electronics," O. Sanusi, A.S. Fleischer, R.D. Weinstein, 2010 Itherm Conference, Las Vegas, NV, June 2-5, 2010
14. "Introduction to Engineering: A Freshman Year Multidisciplinary Engineering Course and Competition," J.R. Yost, R.D. Weinstein, Proceedings of the *Mid Atlantic Regional Meeting of ASEE*, **2008**.
15. "Transient Thermal Management Using Phase Change Materials with Embedded Graphite Nanofibers for Systems with High Power Requirements," A.S. Fleischer, K. Chintakrinda, R.D. Weinstein, CA. Bessel, 2008 Itherm Conference, Orlando, FL, May 28-31, 2008.
16. "Transient Thermal Performance of Phase Change Materials with Embedded Graphite Nanofibers," T. Kopec, A.S. Fleischer, R.D. Weinstein, C.A. Bessel, in Thermes 2007: Thermal Challenges in Next Generation Systems, Garimella, S.V. and Fleischer, A.S. eds, Millipress, Rotterdam, The Netherlands.
17. "The Removal of Copper with Dialkyldithiocarbamate Ligands in Condensed Carbon Dioxide," R.D. Weinstein, J.G. Richards, C.A. Bessel, W.H. Hanlon, D.W. Skaf, *Chem. Eng. Techol.*, **2008,** *31*, 575.
18. "An Experimental Study of Minimum-time Optimal High Pressure Gas Storage System Recharging," A.E. Witmer, K.R. Muske, R.D. Weinstein, M.A. Simeone, Proceedings of the 2007 American Control Conference, **2007**, 1365.
19. "The Experimental Exploration of Embedding Phase Change Materials with Graphite Nanofibers for the Thermal Management of Electronics," R.D. Weinstein, T.C. Kopec, A.S. Fleischer, E. D'Addio, C.A. Bessel, *J. Heat Transfer,* **2008,** *130,* 042045**.**
20. "Characterization of Self-Assembled Monolayers from Lithium Dialkyldithiocarbamate Salts," R.D. Weinstein, J. Richards, S.D. Thai, D.M. Omiatek, C.A. Bessel, C.J. Faulkner, S. Othman, G.K. Jennings, *Langmuir*, **2007**, *23*, 2887.
21. "Solubility of Felodipine and Nitrendipine in Liquid and Supercritical Carbon Dioxide by Cloud Point and UV Spectroscopy," R.D. Weinstein, W.H. Hanlon, J.P. Donohue, M. Simeone, A. Rotzich, K.R. Muske, *J. Chem. Engr. Data,* **2007**, *52*, 256.
22. "Diffusion of Liquid and Supercritical Carbon Dioxide into a Chitosan Sphere," R.D. Weinstein, J. Papatolis, *Ind. Eng. Chem. Res.*, **2006**, *45*, 8651.
23. "Thermal Analysis of Phase Change Materials with Embedded Graphite Nanofibers for Thermal Management of Electronics," T.C. Kopec, R.D. Weinstein, A.S. Fleischer, E. D'Addio, C.A. Bessel, 2006, Proceedings of IMECE2006, **2006**.
24. "PIVOTS: Service Learning at the Science, Theatre & Magic Boundary," M. A. Papalaskari, K. Hess, D. Kossman, S. Metzger, A. Phares, R. Styer, C. Titone, T. Way , R. Weinstein, F. Wunderlich, *36th Annual ASEE/IEEE Frontiers in Education Conference*, **2006**, TH2-18.

25. "The Use of Dialkyldithiocarbamate and Bis(acetylacetone)ethylenediimine Ligands for Copper Chelation in Supercritical Carbon Dioxide," A. Dunbar, D. M. Omiatek, S. D. Thai, C. E. Kendrex, L. L. Grotzinger, W. J. Boyko, R.D. Weinstein, D. W. Skaf, C. A. Bessel, G. M. Denison, J. M. DeSimone, *Ind. Eng. Chem. Res.*, **2006**, *45*, 8779.
26. "The Kinetics of the Oxidation and Chelation of Cu(0) and Cu_2O in Hexanes or Condensed Carbon Dioxide by t-Butylperacetate and 1,1,1-Trifluoro-2,4-pentanedione," D.W. Skaf, S. Kandula, L. Harmonay, P. Shodder, C.A. Bessel, R.D. Weinstein, *Ind. Eng. Chem. Res.*, **2006***, 45*, 8874.
27. "A Lemon Cell Battery for High-Power Applications," K.R. Muske, C.W. Nigh, R.D. Weinstein, *J. Chemical Education*, **2007**, *84,* 637.
28. "Modeling of the Thermal Effects of Heat Generating Devices in Close Proximity on Vertically Oriented Printed Circuit Boards for Thermal Management Applications," J. Harvest, A.S. Fleischer, R.D. Weinstein, *International Journal of Thermal Sciences*., **2007**, *46*, 253.
29. "Analysis of Transient Thermal Management Characteristics of PCM with an Embedded Carbon Fiber Heat Sink," A.S. Fleischer, R.D. Weinstein, T. Kopec, 2006 Itherm Conference, San Diego, CA, May 30 – June 2, 2006.
30. "A Minimum-time Optimal Recharging Controller for High Pressure Gas Storage Systems," K.R. Muske, A.E. Witmer, R.D. Weinstein, in Assessment and Future Directions of Nonlinear Model Predictive Control, Findeisen, R., F. Allgower, and L. T. Biegler, editors, Lecture Notes in Control and Information Science, Springer-Verlag, **2007**, 443-453.
31. "Solubility of Several Short-Chain Lithium Dialkyldithiocarbamates in Liquid and Supercritical Carbon Dioxide," R.D. Weinstein, L.L. Grotzinger, P. Salemo, D.M. Omiatek, C.A. Bessel, *J. Chem. Eng. Data*, **2005**, *50*, 2088.
32. "A Multidisciplinary, Hands-on Freshman Engineering Team Design Project and Competition," R.D. Weinstein, J. O'Brien, E. Char, J. Yost, K.R. Muske, H. Fulmer, J. Wolf, W. Koffke, *International J. Engineering Education*, **2006**, *22*, 1023.
33. "Thermal Management of Heat Generating Devices in Close Proximity on Printed Circuit Boards," J. Harvest, A.S. Fleischer, R.D. Weinstein, *ASME-HTD Proc. of the 2005 Summer Heat Transfer Conference* (2005).
34. "Liquid and Supercritical Carbon Dioxide Assisted Blending of Poly(vinly acetate) and Citric Acid," R.D. Weinstein, J.J. Gribbin, D. Najjar, *Ind. Chem. Eng. Res.*, **2005,** *44*, 3480.
35. "The Solubility and Salting Behavior of Several β-Adrenergic Blocking Agents in Liquid and Supercritical Carbon Dioxide," R.D. Weinstein, J.J. Gribbin, K.R. Muske, *J. Chem. Eng. Data*, **2005,** *50,* 226.
36. "Effect of Fractional Fluorination on the Properties of ATRP Surface-Initiated Poly(hydroxethyl methacrylate) Films," M.R. Bantz, E.L. Brantley, R.D. Weinstein, J. Moriarty, G.K. Jennings, *J. Phys. Chem. B.*, **2004**, *108*, 9787.
37. "The Solubility of Benzocaine, Lidocaine, and Procaine in Liquid and Supercritical Carbon Dioxide," R.D. Weinstein, K.R. Muske, J. Moriarty, E. Schmidt, *J. Chem. Eng. Data,* **2004***, 49,* 547.
38. "Forced Convective Cooling of Electro-Optical Components Maintained at Different Temperatures on a Printed Circuit Board," A.S. Fleischer, R.D. Weinstein, S.A. Khobragade, *IEEE Transactions on Components and Packaging Technologies*, **2004**, *27*, 296.

39. "Liquid and Supercritical Carbon Dioxide Loading into Chewing Gum Base," R.D. Weinstein, E. Cushnie, T. Kopec, *Ind. Chem. Eng. Res.*, **2003**, *42*, 5554.
40. "Structure, Wettability, and Electrochemical Barrier Properties of Self-Assembled Monolayers Prepared from Partially Fluorinated Hexadecanethiols," R.D. Weinstein, J. Moriarty, E. Cushnie, R. Colorado, T.R. Lee, M. Patel, W.R. Alesi, G.K. Jennings, *J. Phys. Chem. B*., **2003**, *107*, 11626.
41. "An Experimental Investigation of the Thermal Interaction of Electro-Optical Components on a Printed Circuit Board in Natural and Forced Convection," A.S. Fleischer, R.D. Weinstein, *ASME-HTD Proc. of the 2003 Summer Heat Transfer Conference* (2003).
42. "End Point Prediction Modeling for Semi-Batch Hydroxide Precipitation," R.D. Weinstein; K.R. Muske, J.P. Dawson, *Ind. Chem. Eng. Res.*, **2003**, *42*, 5429.
43. "Natural Convection and Passive Heat Rejection from Two Heat Sources Maintained at Different Temperatures on a Printed Circuit Board," R.D. Weinstein, A.S. Fleischer, K.A. Krug, *J. Elect. Packag*., **2004**, *126*, 14.
44. "Controlling the Properties of n-Alkanethiolate Self-Assembled Monolayers on Gold Using Supercritical Carbon Dioxide-Ethanol Mixtures as Solvents," D. Yan, G.K. Jennings, R.D. Weinstein, *Ind. Chem. Eng. Res.*, **2002**, *41*, 4528.
45. "Transient Thermal Management of a Handset Using Phase Change Materials (PCM)," M. Hodes, R.D. Weinstein, S.J. Pence, J.M. Piccini, L. Manzione, C. Chen, *J. Elect. Packag*. **2002**, *124*, 419.
46. "Improved Static and Transient Thermal Management of Handsets Using Heat Spreaders Coupled with Phase Change Materials (PCMs)," R.D. Weinstein, M. Hodes, J.M. Piccini, *ASME-HTD Proc. of the 35th National Heat Transfer Conference* (2001).
47. "Self-Assembled Monolayer Films from Liquid and Supercritical Carbon Dioxide," R.D. Weinstein, D. Yan, G.K. Jennings, *Ind. Chem. Eng. Res.*, **2001**, *40*, 2046.
48. "Transient Thermal Management of Handsets Using Phase Change Materials (PCMs)," M. Hodes, R.D. Weinstein, S.J. Pence, J.A. Talieri, L. Manzione, C. Chen, *ASME-HTD Proc. of the 34th National Heat Transfer Conference* (2000).
49. "Supercritical Fluids as Solvent Replacements in Chemical Synthesis," J.W. Tester, R.L. Danheiser, R.D. Weinstein, A.R. Renslo, J.D. Taylor, and J.I. Steinfeld, *ACS Sym. Ser.,* **2000***, 767*, 271.
50. "Silica Promoted Diels-Alder Reactions in Carbon Dioxide from Gaseous to Supercritical Conditions," R.D. Weinstein, A.R. Renslo, R.L. Danheiser, and J.W. Tester, *J. Phys. Chem. B*, **1999**, *103*, 2878.
51. "Reassignment of the Vibrational Spectra of CH_3CHF_2 (HFC 152a), CH_3CF_3 (HFC 143a), CHF_2CF_3 (HFC 125), and $CHCl_2CF_3$ (HCFC 123)," S. Tai, S. Papasavva, K.H. Illinger, J.E. Kenny, B.D. Gilbert, J.A. Janni, J.I. Steinfeld, J.D. Taylor, and R.D. Weinstein, *Spectrochimica Acta A,* **1999**, *55*, 9.
52. "Concerning the Regiochemical Course of the Diels-Alder Reaction in Supercritical Carbon Dioxide," A.R. Renslo, R.D. Weinstein, J.W. Tester, and R.L. Danheiser, *J. Org. Chem.* **1997**, *62*, 4530.
53. "Kinetic Correlation of the Diels-Alder Reaction in Supercritical Carbon Dioxide," R.D. Weinstein, A.R. Renslo, R.L. Danheiser, J.G. Harris, and J.W. Tester, *J. Phys. Chem.*, **1996**, *100*, 12337.

SELECTED FUNDED PROJECTS ($2.4 million since 1998):

1. "Transport in Nano-Enhanced Phase Change Materials," $324,706, National Science Foundation, 2010 (4 years).
2. "The Creation of High Conductivity Thermal Interface Materials (TIMs) Using Graphite Nanofibers (GNF) to Reduce Interface Resistance," $15,000, Keystone Innovation Grant, 2009 (1 year).
3. "An Investigation into the Application of Conductivity-Enhanced Phase Change Materials for Transient Thermal Management of Naval Electronics," $262,394, Office of Naval Research, 2005 (3 years).
4. "MRI: Acquisition of High Resolution Scanning Electron Microscope for Research and Teaching in Nanostructured Materials Engineering," $515,425 National Science Foundation, 2005 (3 years).
5. "New Nanocatalysts for Enhanced Selectivity," $15,000, Isosciences, 2005 (1 year).
6. "Nanolayers for Microelectronics Manufacturing," $35,000, Kulicke & Soffa Ind. Inc., 2005 (1 year).
7. "RUI: Nanoscale Catalysts: Syntheses, Characterization and Reactivities," $188,000, National Science Foundation, 2004 (3 years) (originally by C. Bessel)
8. "Partnership for Wireless Innovations, Development and Commercialization," $600,000, National Science Foundation, 2004 (3 years).
9. "Mitigation and Detection of Thermal Signatures of Unmanned Surface Vehicles," $60,000, Office of Naval Research, 2004 (1 year).
10. "Pharmaceutical Solubility in Liquid and Supercritical Carbon Dioxide," $120,000 GlaxoSmithKline, 2002 (2 years).
11. "Thermal Management of Handsets," $40,000 Lucent Technologies, 2001 (2 years).
12. "Exploratory Environmentally Friendly Formation of Self-Assembled Monolayers and Surface-Initiated Polymer Films in Carbon Dioxide," $111,999, National Science Foundation, 2001 (2 years).
13. "Integration of a Gas Chromatography System in the Undergraduate Laboratory," $25,000, The Camille and Henry Dreyfus Foundation, 2000 (1 year).
14. "Feasibility Study Using Hydrolysis Reactions," $40,000, Halocarbon Products Corporation, 1999 (2 years).
15. "Environmentally Benign Processing with Supercritical Fluids," $26,673, Los Alamos National Laboratory, 1998 (1 year).
16. "FTIR Spectroscopy for Exploratory Chemistry in Supercritical Carbon Dioxide," $50,000, GlaxoSmithKline Pharmaceuticals, 1998 (1 year).

COMMUNITY INVOLVEMENT:

Board of Directors, Footlighters, Community Theater Group, 2012-2018
Board of Directors, King of Prussia Players, Community Theater Group, 2002-2003 season
Advisor, Habitat for Humanity Trip to Danville, VA in Fall of 2001
Actor in community theaters, Celebration Theater (2005-2007: 4 shows), Footlighters (2002-2020: 25 shows), North Light Players (2001: 1 show), King of Prussia Players (2002: 1 show), Hatboro Village Players (2001-2003: 3 shows), Playcrafters of Skippack (2003: 1 show), Colonial Theater (2007: 1 show).

REFERENCES:

Craig Wheeland, Senior Vice Provost for Academics
Villanova University
My current supervisor

Kristy Irwin, Associate Vice Provost for Online Programs
Villanova University
Colleague

Jenn Brophy, Director Academic Support for Athletics
Villanova University
I am supervisor