

RONALD L. ELSENBAUMER

2325 Stone Bridge Drive | Arlington, Texas 76006
Cell (817) 808.0750 | Ronald.Elsenbaumer@gmail.com

Detailed Curriculum Vitae

LEADERSHIP EXPERIENCE

- ACADEMIA
 - PRIVATE SECTOR
 - DEVELOPMENT/FUNDRAISING
 - COMMUNITY, LEGISLATIVE AND FEDERAL RELATIONS
 - ENTREPRENEURSHIP
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- ❖ Demonstrated record of successful progression in leadership positions in both public and private sectors. VP positions under three presidents.
- ❖ Champion for diversity, inclusion and engagement at all levels: 5th most diverse UG student population at a national public university; Earned HSI status (2015); created Center for African American Studies.
- ❖ Developed Global perspective as essential component for higher education with programs in China, Korea, Taiwan, Japan, and South America.
- ❖ Demonstrated significant improvements with student success in recruitment, enrollments, retention, and graduation rates at all levels. Enrollment increased 32% and degree production 70% since 2008.
- ❖ Successfully built and maintain strong relationships with alumni, the community, and government entities. Secured \$170 million from state Legislature; \$15 million from Federal sources.
- ❖ Driver for economic development and entrepreneurship within the university, the community and the North Texas region.
- ❖ Earned Doctorate with significant record of scholarly performance and recognition. Tenured full professor, 110 publications, 35 patents, \$10 million in grant funding.
- ❖ Strong fiscal skills and expertise managing complex budgets totaling \$273 million across 10 colleges and schools, OIT, Research, Student Affairs, Global Initiatives, libraries, and Enrollment management.
- ❖ Developed innovative funding strategies across multiple academic units to expand on-line course development and delivery. One-third of all students fully online; 54% taking one course online.
- ❖ Track record of securing financial support from private donors, foundations, and corporations totaling more than \$18 million in direct gifts and donations.
- ❖ Excellent communication skills and ability to inspire success and build consensus through shared governance. Comfortable with the media.
- ❖ Proven record of success in advancing the research and scholarly profile of an academic institution; tripled research expenditures; advanced Carnegie Classification from R2 to R1; reviewed 350 tenure and promotion cases for institution.
- ❖ Extensive experience with developing and implementing strategic plans as well as institutional accreditations.
- ❖ Experience managing Risk across key university functions (Research, OIT, Academic Affairs, Financial Aid).
- ❖ Fellow of the National Academy of Inventors (2013); Member of Phi Beta Kappa and Phi Kappa Phi.

EDUCATION

Ph.D. in Chemistry (1978) – Stanford University, Palo Alto, CA

Dissertation: "Hydrogen vs. Deuterium Transfer in Asymmetric Reductions" and "Stereoselective Opening of Styrene Oxide by Various Hydride and Deuteride Reagents"

Dissertation Advisor: Professor Harry S. Mosher

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B.S. with Honors in Chemistry (1973) – Purdue University, West Lafayette, IN

Undergraduate Research: Heterocyclic Chemistry

Research Advisor: Professor H. Feuer

Recognition: ACS Award in Analytical Chemistry (1972), Phi Beta Kappa (1973)

PROFESSIONAL EXPERIENCE

THE UNIVERSITY OF TEXAS AT ARLINGTON, Arlington, TX (1991-present)

Interim Provost and Vice President for Academic Affairs (September 2016 -)

Assumed previous responsibilities as provost in addition to current responsibilities as Senior Advisor to the President. With the abrupt departure of the current Interim Provost, taking on these additional responsibilities will enable continuity of our academic enterprise and ensure that we continue the tremendous momentum generated at the institution. Will serve as Interim Provost until a permanent provost is hired.

Senior Advisor to the President

for Entrepreneurship and Economic Development (1/2016 -)

As a critical component of the Strategic Plan, focused on entrepreneurship and economic development by creating partnerships with the city, county, business leaders, alumni, chambers of commerce, and federal agencies to promote continued expansion of the economic impact our university has in the region. Assist with institutional reaccreditation by SACSCOC (Southern Association of Colleges and Schools, Commission on Colleges) in December 2017. Serve on University tenure and promotion committee advising president on tenure decisions.

Provost and Vice President for Academic Affairs (10/2011-12/31/15)

Execute budgeting, diversity, outreach, enrollment management, student success and student services programs in partnership with university presidents. Plan and oversee all academic programs (colleges and schools), and provide leadership for the graduate school, undergraduate curriculum, student affairs, libraries, research, international office operations, office of information technology, and The UT Arlington Research Institute. Design strategies for tuition, enrollment, recruitment, retention, career placement, economic development and change management. Build alliances with academic institutions, government agencies, and businesses. Extensively engage with University Development Advisory Board to help develop fundraising strategies.

Vice President for Research and Federal Relations (7/2008-10/2011)

Vice President for Research (4/2004-8/2007)

Interim Vice President for Research (11/2003-4/2004)

Associate Vice President for Research (9/2003-11/2003)

Provided strategic and tactical leadership for all facets of research and external funding. Wrote and secured grants, secured contracts, established endowed chairs, and oversaw compliance, technology transfer, and intellectual property issues. Built partnerships with academic and medical institutions, government agencies, and the local community. Simultaneously led operations of Arlington Technology Incubator, a pioneering resource for technology startup companies. Engaged in fundraising and institutional comprehensive campaign strategies. Secured funding from Federal and State legislative sources.

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Interim Provost and Vice President for Academic Affairs (9/2007-7/2008)

Executed budgeting, diversity hiring, outreach, enrollment management, and student services programs in partnership with University president. Planned and oversaw all academic programs, and provided leadership for the graduate school, Student Affairs, libraries, research, and international office operations. Designed strategies for tuition, enrollment, recruitment, retention, and change management. Built alliances with academic institutions, government agencies, and businesses.

Director, Nano-Fabrication Research and Teaching Facility (2003-2004)

Interim Director, Nano-Fabrication Research and Teaching Facility (2002-2003)

Developed strategic plan to achieve distinction in research and scholarship in nanotechnology. Assisted with recruitment of top faculty to the institution and nanofab facility. Acquired resources and instrumentation for fabrication of silicon-based electronic and MEMS devices, as well as polymer based systems. Oversaw significant expansion of the facility.

Chair, Department of Chemistry and Biochemistry (1995-2003)

Chair/Director, Materials Science and Engineering (MSE) Program (1991-2003)

Developed and managed two academic programs to boost enrollment, advance the University's mission, and establish learning and research opportunities for students. Restructured curricula in both departments and expanded graduate programs considerably. Created graduate programs for teacher training in Science and Chemistry. Provided full operational, academic, and program leadership.

Professor of Chemistry and Polymer Chemistry (1991-Present)

Professor of Materials Science and Engineering (1991-Present)

PRIOR CAREER

ALLIEDSIGNAL, INC. (ALLIED CHEMICAL / HONEYWELL), Morristown, NJ (1977-1991)

Senior Research Associate and Conductive Polymer Project Leader

Managed product development through commercialization and market release. Bridged the gap between research, operations, and marketing groups. Worked internationally with joint development partner companies in Europe and Japan. Initially hired as laboratory scientist and advanced to group leader, project leader, and technical marketing liaison with the Fluorine Products Division.

APPOINTMENTS AND AFFILIATIONS

Professional Affiliations and Board Service

2016 National Academy of Inventors Fellows Advisory Committee member

Board Member, Prado Capital Group, Inc. (2016-)

Board Member, InKnowledge, Inc. (2013-)

Member of the National Academy of Inventors 2013

Past Foundation Board Member, Chamber of Commerce, Arlington, TX

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Past Board Member, Metroplex Technology Business Council
Past Advisory Board Member, Texas Institute
Past Board Member, Bio-DFW
Past Board Member, Alliance for Higher Education (North Texas Regional Center for Innovation and Commercialization, NTxRCIC)
Member, International Advisory Board for the International Conferences on Synthetic Metals
Member, Phi Kappa Phi
Member, American Chemical Society
Member, Materials Research Society
Member, Society for the Advancement of Materials and Process Engineering (SAMPE)
Member, Society of Plastics Engineers (SPE)
Member, ASM International
Former Member, Editorial Advisory Board for the Journal Chemistry of Materials
Former Member, NACE (National Association of Corrosion Engineers)

Past University / College Appointments

Member, University Long Range Strategic Planning Committee
Chair, Association of Academic Department Chairs
Member, Committee on Program Abandonment
Member, Task Force on Intercollegiate Athletics
Member, Institutional Compliance Safety Committee
Chair, Search Committee for Dean, College of Engineering
Chair, Search Committee for Chair in Computer Science and Engineering
Chair, Search Committee for Director for Automation and Robotics Institute
Chair, Search Committee for \$2 million Endowed Chair in Materials Chemistry
Member, Executive Council, College of Engineering

PUBLICATIONS

Book

1. Skotheim, T.A.; Eisenbaumer, R.L.; Reynolds, J.R., Co-Editors, *Handbook of Conductive Polymers*, Second Edition, Marcel Dekker, Inc. New York, 1997.

Book Chapters

1. Lu, Wi-K., Basak, S., and Eisenbaumer, R.L., "Corrosion Protection of Metals Using Electrically Conductive Polymers," *Handbook of Conductive Polymers*, T.A. Skotheim, J. Reynolds, and Eisenbaumer, R.L., eds., Marcel Dekker, Inc., New York, NY, pp 881-920, 1997.
2. Eisenbaumer, R.L., "Prospects for Organic Polymeric Superconductors and New Organic Crystalline Superconductors," *Organic Superconductivity*, V.Z. Kressin and W.A. Little, eds., Plenum Press, New York, NY, 1990.
3. Baughman, R.H., Shacklette, L.W., Eisenbaumer, R.L., Plichta, E., and Becht, C., "Conducting Polymer Electromechanical Actuators," *Conjugated Polymeric Materials: Opportunities in Electronics, Optoelectronics, and Molecular Electronics*, Bredas, J.L. and Chance, R.R., eds., Kluwer Publishers, pp 559-582, 1990.

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4. Baughman, R.H., Elsenbaumer, R.L., Iqbal, Z., Miller, G.G., and Eckhardt, H., "A Novel Application of Conducting Polymers: Remotely Readable Indicator Devices," *Electronic Properties of Conjugated Polymers*, H. Kuzmany, M. Mehring, and S. Roth, eds., Springer-Verlag, Berlin, pp 432-439, 1988.
5. Elsenbaumer, R.L., Jen, K.Y., Miller, G.G., Eckhardt, H., Shacklette, L.W., and Jow, T.R., "Poly(alkylthiophenes) and Poly(Heteroaromatic vinylenes): Versatile, Highly Conductive, Processible Polymers with Tunable Properties," *Electronic Properties of Conjugated Polymers*, H. Kuzmany, M. Mehring, and S. Roth, eds., Springer-Verlag, Berlin, pp 400-406, 1988.
6. Elsenbaumer, R.L. and Shacklette, L.W., "Phenylene Based Conducting Polymers," *Handbook of Conducting Polymers*, T.A. Skotheim, ed., Marcel Dekker, Inc., New York, NY, pp 213-263, 1986.

Journal Articles

1. Xin Chen, Ronald L. Elsenbaumer and Pranesh B. Aswath, *Tribology International*, 66, 114-124, 2013.
2. X. Chen, B. Kim, R. L. Elsenbaumer and P. B. Aswath, "Synthesis and antiwear behaviour of ashless alkylthioperoxydiphosphates," *Tribology*, 6, 121-133, 2012.
3. Chen, Xin; de Tacconi, Norma R.; Elsenbaumer, Ronald L., "Synthesis of trithienylenevinylenes bearing dithiocarbonate groups and their dithiophene-tetrathiafulvalene derivatives," *Journal of Organic Chemistry*, 74(23), 9188-9190, 2009.
4. Chen, Xin; Elsenbaumer, Ronald L., "Synthesis of polythienylenevinylene copolymers bearing carbondithioate structures", *Synthetic Metals*, 159(14), 1464-1466, 2009.
5. Chen, Xin; Elsenbaumer, Ronald L., Mannich Reactions of Annulated Thiophene Derivatives. *Tetrahedron Letters*, 50, 3746-3749, 2009.
6. Chen, Xin; Elsenbaumer, Ronald L. Synthesis of Thieno[3,4-d]-1,3-dithiol-2-one Derivatives. *Tetrahedron Letters*, 50, 3750-3752, 2009.
7. Jun, Y., Elsenbaumer, R.L., "Syntheses of Homochiral Multinuclear Ru Complexes Based on Oligomeric Bibenzimidazoles," *Inorg. Chem.*, 46 (17), 6891-6901, 2007.
8. Dias, H.V.R., Rajapakse, R.M., Gamini, K., Milan, D.M., Fianchimi, M., Wang, X., Elsenbaumer, R.L., "Eco-Friendly Synthesis of High-Quality Polyaniline using a Copper(II) Scorpionate Catalyst," *J. Mater. Chem.*, 2007.
9. Huq, M.Z., Aswath, P.B., Elsenbaumer, R.L., "TEM Studies of Anti-Wear Films/Wear Particles Generated Under Boundary Conditions Lubrication," *Tribology International*, 40, 111-116, 2007.
10. Dias, H.V.R., Wang, Z., Gamini, R.M., Elsenbaumer, R.L., "A Mild Copper Catalyzed Route to Conducting Polyaniline," *Chemical Communications*, 1-4, 2006.
11. Jun, Y., Elsenbaumer, R.L., "Efficient Synthesis and Characterization of Novel Bibenzimidazole Oligomers and Polymers as Potential Conjugated Chelating Ligands," *Journal of Organic Chemistry*, 70(23), 9436-9446, 2005.
12. Jun, Y., Elsenbaumer, R.L., "Synthesis and Properties of Multi-nuclear Ruthenium (II) Complexes of Bis(2,2-benzimidazole)," *Synthetic Metals*, 154(1-3), 233-236, 2005.
13. Aswath, P.B., Munot, S., Patel, K., Elsenbaumer, R.L., "Development and Evaluation of a High Performance Universal Grease," *Proceedings of World Tribology Congress*, 2005.

14. Patel, K., Aswath, P.B., Elsenbaumer, R.L., "Development of Low Phosphorous Engine Oils," *Proceedings of World Tribology Congress*, 2005.
15. Kim, I.T., Lee, S.W., Kwak, T.H., Lee, J.Y., Park, H.S., Kim, S.Y., Lee, C.M., Jung, H.E., Kang, J-G, Kim, T-J, Kang, H-J, Park, C.M., Elsenbaumer, R.L., "A New Photoluminescent Conjugated Poly(1-hexyl-3,4,-dimethyl-2,5-pyrrolyene): Synthesis, Properties and Characterization," *Macromolecular Rapid Communications*, 23, 551-554, 2002.
16. Kim, I.T., Lee, S.W., Kwak, T.H., Lee, J.Y., Park, H.S., Elsenbaumer, R.L., "Synthesis, Characterization and Properties of Poly(1-hexyl-3,4-dimethyl-2,5-pyrrolyene)," *Chem. Lett.*, (6), 564-565, 2001.
17. Kim, I.T. and Elsenbaumer, R.L., "Synthesis, Characterization and Electrical Properties of Poly(1-alkyl-2,5-pyrrolyene vinylenes): New Low Band Gap Conducting Polymers," *Macromolecules*, 33, 6407-6411, 2000.
18. Pomerantz, M., Cheng, Y., Kasim, R.K., and Elsenbaumer, R.L., "Synthesis and Properties of Regioregular Poly(dialkyl [2,2'-bithiophene]-5,5'-diyl-4,4'-dicarboxylates)," *Synthetic Metals*, 101, 162, 1999.
19. Pomerantz, M., Cheng, Y., Kasim, R.K., and Elsenbaumer, R.L., "Poly(alkyl thiophene-3-carboxylates). Synthesis, Properties and Electroluminescence Studies of Polythiophenes Containing a Carbonyl Group Directly Attached to the Ring," *Journal of Materials Chemistry*, 9, 2155, 1999.
20. Satyanarayana, S., Marynick, D.S. and Elsenbaumer, R.L., "Towards Enhanced Conductivity in Supramolecular Structures: A Computational Study," *Polymer Preprints*, 40, 193-194, 1999
21. Pomerantz, M., Cheng, Y., Kasim, R.K., and Elsenbaumer, R.L., "Synthesis and Properties of Regioregular Poly(dialkyl [2,2'-bithiophene]-5,5'-diyl-4,4'-dicarboxylates)," *Synthetic Metals*, 101, 162-165, 1999.
22. Meline, R.L. and Elsenbaumer, R.L., "The Tuning of Heterocyclic Isomerization: Additional Routes to Extended Donors," *Synthetic Metals*, 102, 1658-1661, 1999.
23. Kasim, R.K., Satyanarayana, S. and Elsenbaumer, R.L., "Synthesis and Characterization of Poly(2,6-Quinoline Vinylene)," *Synthetic Metals*, 102, 1059, 1999.
24. Satyanarayana, S. and Elsenbaumer, R.L., "Novel Heterocyclic Coordination Polymers: Synthesis and Characterization," *Synthetic Metals*, 102, 1470-1471, 1999.
25. Meline, R.L., Basak, S., and Elsenbaumer, R.L., "Benzene Modulated Tetrathiafulvalenetetrathiolate Donors: Synthesis and Electrochemical Properties," *Synthetic Metals*, 102, 1670, 1999.
26. Meline, R.L., Kasim, R.K., Lu, W-K, and Elsenbaumer, R.L., "Poly(3-Alkylthiophenes): Optimizing Conductivity as a Function of Regioregularity, Dopant, and Casting Solvent," *Synthetic Metals*, 101, 446, 1999.
27. Curtis, M.D., Cheng, H., Johnson, J.A., Nanos, J.I., Kasim, R., Elsenbaumer, R.L., "N-Methylated Poly(nonylbithiazole): A New n-Dopable Conjugated Polymer", *Chem. Mater.*, 10, 13, 1998.
28. Meline, R.L. and Elsenbaumer, R.L., "An Expedient, Cost Effective Large Scale Synthesis of Tetrathiafulvalene", *J. Chem. Soc., Perkin Trans. 1*, 2467, 1998.
29. Meline, R.L., Kim, I.T., Basak, S., and Elsenbaumer, R.L., "Synthesis and Electrochemical Properties of Bis(3,4-furyldimethylthio)-tetrathiafulvalene and Other Extended Donors with Eight Membered Heterocycles," *Synthetic Metals*, 96, 205, 1998.

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30. Meline, R.L. and Elsenbaumer, R.L., "Organic Metals and Superconductors: Facile Synthetic Methodologies Bypassing Coupling and Chromatography," *Mat. Res. Soc.* 488, 659-664, 1998.
31. Kim, I.T. and Elsenbaumer, R.L., "Synthesis, Characterization and Properties of Conjugated Poly(1-Alkyl-2,5-Pyrrylene Vinylene)," *Mat. Res. Soc.*, 488, 665-670, 1998.
32. Kim, I.T. and Elsenbaumer, R.L., "Convenient Syntheses of 1-Alkyl-2,5-bis (thiophenylmethylene)pyrroles Using the Mannich Reaction," *Tetrahedron Letts.*, 39, 1087, 1998.
33. Kasim, R.K., Pomerantz, M., and Elsenbaumer, R.L., "Simple Method for Fabricating Polymer Light Emitting Diodes," *Chemistry of Materials*, 10, 235, 1998.
34. Kim, I.T. and Elsenbaumer, R.L., "Solution Processible Poly(1-Alkyl-2,5-pyrrylene vinylenes): New Low Band Gap Conductive Polymers", *J.C.S. Chem. Commun.* 327, 1998.
35. Meline, R.L. and Elsenbaumer, R.L., "High Yield Conversion of Tetrathiafulvalene Into Bis(ethylenedithio)tetrathiafulvalene and Derivatives of TTF," *J. Chem. Soc.*, Perkin Trans. I., 3575, 1997.
36. Meline, R.L. and Elsenbaumer, R.L., "Direct Syntheses of Tetrathiafulvalene and Bis (ethylenedithio)-tetrathiafulvalene By a Non-coupling Route from 1,4,5,8-Tetrathianaphthalene," *Synthesis*, 617, 1997.
37. Fu, Y. and Elsenbaumer, R.L., "Electron Rich Thienylene-Vinylene Low Band Gap Polymers," *Chemistry of Materials*, 9, 1720, 1997.
38. Kim, I.T. and Elsenbaumer, R.L., "Chemical Synthesis and Properties of Poly(1-alkyl-2,5-pyrrolylene)," *Synthetic Metals*, 84, 157, 1997.
39. Kasim, R.K., Cheng, Y., Pomerantz, M., and Elsenbaumer, R.L., "Investigation of Device Failure in Polymer Light Emitting Diodes," *Synthetic Metals*, 85, 1213, 1997.
40. Kasim, R.K. and Elsenbaumer, R.L., "Forward/Reverse dc bias or ac Electroluminescence in Poly(p-phenylene vinylene) Prepared via Sulfonium-salt and Xanthate Routes," *Synthetic Metals*, 85, 1291, 1997.
41. Kim, I.T. and Elsenbaumer, R.L., "Synthesis, Characterization, and Properties of Poly(1-hexylpyrrylene vinylene)," *Synthetic Metals*, 85, 1345, 1997.
42. Pomerantz, M., Cheng, Y., Kasim, R. and Elsenbaumer, R.L., "Poly(alkyl thiophene-3-carboxylates). Synthesis, Properties, and Electroluminescence Studies of a Polythiophene with a Carbonyl Group Attached to the Ring," *Synthetic Metals* 85, 1235, 1997.
43. Meline, R.L. and Elsenbaumer, R.L., "A Convenient Non-Coupling Synthesis of Bis(ethylenedithio)-tetrathiafulvalene," *Synthetic Metals*, 86, 1845, 1997.
44. Nelson, K.D., Pomerantz, M., Elsenbaumer, R.L., and Eberhart, R.C., "High Albumin Affinity Poly(ethylene oxide) for Improved Biocompatibility," *Trans. Am. Soc. Artif. Intern. Organs*, 42, M884, 1996.
45. Cheng, H. and Elsenbaumer, R.L., "Isolation, Characterization and Polymerization of Monosubstituted p-Quinodimethanes Made from Thiophene Derivatives," *Polym. Mat.: Sci. Engr.*, 75, 293, 1996.
46. Cheng, H. and Elsenbaumer, R.L., "New Precursors and Polymerization Route for the Preparation of High Molecular Weight Poly(3,4-Dialkoxy-2,5-Thienylenevinylene)s: Low Band Gap Conductive Polymers," *J.C.S. Chem. Commun.*, 1451, 1995.
47. Pomerantz, M., Yang, H., Cheng, Y., Kasim, R., Elsenbaumer, R.L., "Poly(alkyl thiophene-3-carboxylates). Synthesis via Ullmann Coupling, Properties and Luminescence Studies," *Polym. Mater.: Sci. Eng.*, 72, 271, 1995.

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48. Hyer, R.C., Pethe, R.G., Sharma, S.C., Pomerantz, M., Wang, J. and Elsenbaumer, R.L., "Temperature Dependence of the dc Electrical Conductivity of Conducting Polymers: Poly(benzo[1,2-b:4,5-b'] dithiophene-4,8-diyl Vinylene) and Poly(pyrrole)," *Polym. Mat., Sci. and Eng.*, 72, 278, 1995.
49. Fu, Y. and Elsenbaumer, R.L., "Structure/Property Relationships in Conjugated Polymers: Oxidation Potentials, Reduction Potentials, and Band Gaps for a Series of Regiospecifically Methoxy Substituted Thiophene Vinylenes and Poly(bithiophene vinylenes)," *Polym. Mat., Sci. and Eng.*, 72, 315, 1995.
50. Cheng, H. and Elsenbaumer, R.L., "New Precursors and Polymerization Route for the Preparation of High Molecular Weight Poly(3,4-Dialkoxy-2,5-Thienylene Vinylene)s," *Polym. Mat., Sci. and Eng.*, 72, 400, 1995.
51. Pomerantz, M., Yang, H., Cheng, Y., Kasim, R. and Elsenbaumer, R.L., "Poly(Alkyl Thiophene-3-Carboxylates). Synthesis via Ullmann Coupling, Properties, and Luminescence Studies," *Polym. Mat., Sci. and Eng.*, 72, 271, 1995.
52. Lu, W-K., Elsenbaumer, R.L. and Wessling, B., "Corrosion Protection of Mild Steel By Coatings Containing Polyaniline," *Synthetic Metals*, 71, 2163-2166, 1995.
53. Fu, Y. and Elsenbaumer, R.L., "Thermochemistry and Kinetics of Chemical Polymerization of Aniline Determined by Solution Calorimetry," *Chemistry of Materials*, 6, 671-677, 1994.
54. Han, C.C. and Elsenbaumer, R.L., "Stabilization of Sulfonium Containing Polyelectrolyte Precursor Polymers to Conductive Poly(arylene vinylenes)," *Synthetic Metals*, 41-43, 849, 1991.
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56. Lee, Y.S., Kertesz, M. and Elsenbaumer, R.L., "The Importance of Energetics in the Design of Small Band Gap Conducting Polymers," *Chem. Mater.*, 2, 526-530, 1990.
57. Houlding, B., Nahata, A., Yardley, J. and Elsenbaumer, R.L., "Optical Third Harmonic Response of Amorphous Poly(3-methyl-4'-octyl-2,2'-bithiophen-5,5'-diyl) Thin Films," *Chemistry of Materials*, 2, 169-172, 1990.
58. Han, C.C. and Elsenbaumer, R.L., "Protonic Acids: Generally Applicable Dopants for Conducting Polymers," *Synth. Met.*, 30, 123, 1989.
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62. Jen, K.Y., Jow, R., Shacklette, L.W., Maxfield, M., Eckhardt, H. and Elsenbaumer, R.L., "Optical, Electrochemical and Structure/Property Relationships of Poly(heteroaromatic Vinylenes)," *Mol. Cryst., Liq. Cryst.*, 160, 69, 1988.
63. Elsenbaumer, R.L., "Preparation of Nitronium Tetrafluoroborate Free of Nitrosonium Ions," *J. Org. Chem.*, 53, 437, 1988.

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64. Jen, K.Y., Jow, T.R., Eckhardt, H., Shacklette, L.W. and Elsenbaumer, R.L., "Optical, Electrochemical and Conductive Properties of Poly(3-alkoxythienylene Vinylene)," *J.C.S. Chem. Commun.*, 215, 1988.
65. Jen, K.Y., Shacklette, L.W. and Elsenbaumer, R.L., "Synthesis and Conductivity Studies of Poly(2,5-dimethoxy-1,4-Phenylene Vinylene)," *Synth. Met.*, 1987, 22, 179-183.
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Conference, Paper and Invited Presentations (since 1996)

1. "Development of a High Performance Low Molybdenum Disulfide Grease," Received NLGI Clarence E. Earle Memorial Award, Annual Meeting, NLGI, Orlando, FL, 2005.
2. "Metal Complexed Conjugated Polymers and Their Electrical Properties," Spring First Annual Symposium, Austin, TX, August 2003.

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3. "High Performance Lubricants and Coatings by Catalyzed PTFE Modification of Metal Surfaces," Group Presentation, European Coatings Conference, Smart Coatings II, Berlin, Germany, June 2003.
4. "High Performance Lubricants and Coatings by Catalyzed PTFE Modification of Metal Surfaces," Group Presentation, Fluorine in Coatings V, the Fifth Global Conference on Fluorine in Coatings, Orlando, FL, January 21-23, 2003.
5. "Metal Complexed Conjugated Polymers and Their Electrical Properties," Group Presentation, Symposium Honoring Alan MacDiarmid's 75th Birthday, University of Texas at Dallas, Dallas, TX, December 2002.
6. "Metal Complexed Conjugated Polymers and Their Electrical Properties," International Conference on Synthetic Metals, Shanghai, China, June-July 2002.
7. "Catalyzed PTFE Bonding to Metal Surfaces: New Advances in Lubrication Technology," STLE Dallas/Fort Worth Regional Meeting, TX, April 2001.
8. "From One-Dimensional Conductors to Higher Dimensional Supramolecular Architectures and Devices: Design Strategies and Problems," Group Presentation, Polymer Section of the American Chemical Society Meeting, Anaheim, CA, March 1999.
9. "Towards Enhanced Conductivity in Supramolecular Structures: A Computational Study," Group Poster Presentation, Polymer Section of the American Chemical Society Meeting, Anaheim, CA, March 1999.
10. "Industrial Internships and the Ph.D. in Applied Chemistry at the University of Texas at Arlington," Group Presentation, Chem Ed. Section of the American Chemical Society Meeting, Dallas, TX, March-April 1998.
11. "Bridged Ladder Type Polytetrathiafulvalene Systems: Toward Highly Extended Organic Metals," Group Presentation, Polymer Section of the American Chemical Society Meeting, Dallas, TX, March-April 1998.
12. "Synthesis and Properties of Regioregular Poly[dialkyl-(2,2'-bithiophene)-5,5'-diyl-4,4'-dicarboxylates]," Group Presentation, Polymer Section of the American Chemical Society Meeting, Dallas, TX, March-April 1998.
13. "The Corrosion Protection of Metals by Conductive Polymers II: Pitting Corrosion," Co-Presentation, ANTEC, Society of Plastics Engineers Conference, Atlanta, GA, April 1998.
14. "The Tuning of Heterocyclic Isomerization: Additional Routes to Extended Donors," Co-Presentation, International Conference on Synthetic Metals, Montpellier, France, July 1998.
15. "Synthesis and Characterization of Poly(quinoline vinylene) for Application in Polymer Light Emitting Diodes," Co-Presentation, International Conference on Synthetic Metals, Montpellier, France, July 1998.
16. "Synthesis and Electrochemical Properties of Bis(3,4-Furyldimethylthio) tetrathiafulvalene and other Extended Donors," Co-Presentation, International Conference on Synthetic Metals, Montpellier, France, July 1998.
17. "Poly(3-Alkylthiophenes): Optimizing Conductivity and other Properties as a Function of Stereoregularity, Dopant ion, and Casting Solvent," Co-Presentation, International Conference on Synthetic Metals, Montpellier, France, July 1998.
18. "Benzene Modulated Tetrathiafulvalene Tetrathiolate Donors: Synthesis and Electrochemical Properties," Co-Presentation, International Conference on Synthetic Metals, Montpellier, France, July 1998.
19. "Novel Conjugated Heterocyclic Coordination Polymer: Synthesis and Characterization," Co-Presentation, International Conference on Synthetic Metals, Montpellier, France, July 1998.

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20. "Synthesis And Electroluminescence Study of a Novel Copolymer: Poly(Phenylene Vinylene-Co-Quinoline Vinylene)," Materials Research Society Meeting, December 1997.
21. "Preparation and Electroluminescence Studies of Poly(alkyl thiophene-3-carboxylates)," Fifth Chemical Congress of North America, Cancun, Mexico, November 1997.
22. "Corrosion Protection of Metals Principles and Practice," Corrosion Workshop, Intelligent Polymer Research Institute, University of Wollongong, Wollongong, Australia, September 1997.
23. "Corrosion Protection of Metals Using Electrically Conductive Polymers," Corrosion Workshop, Intelligent Polymer Research Institute, University of Wollongong, Wollongong, Australia, September 1997.
24. "Synthesis and Characterization of Poly(quinoline vinylene) for Use as an N-layer in Light Emitting Diodes," Materials Research Society Meeting, April 1997.
25. "Highly Conductive Poly(arylene vinylene)s: Synthesis, Properties, and Applications of Highly Versatile Materials," University of Alabama, February 1997.
26. "A Study of Electroluminescent Characteristics of Poly(octylthiophene-3-carboxylate) with Emphasis on Failure Mechanisms in Polymer Light Emitting Diodes," Materials Research Society Meeting, December 1996.
27. "Synthesis and Characterization of Poly(1-alkyl pyrrole vinylene): Electronic versus Steric Effects on N-Substituted Polypyrrole Conductive Polymers," Materials Research Society Meeting, December 1996.
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29. "Synthesis and Properties of Low Bandgap Conjugated Polymers," University of Michigan, November 1996.
30. "Preparation and Properties of Some New Low Band Gap Conductive Polymers," International Symposium: Polymers for Electronic and Photonic Applications, October 1996.
31. "Corrosion Protection of Metals By Electrically Conductive Polymers," International Conference on Synthetic Metals, Snowbird, UT, July-August 1996.
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33. "Poly(alkylthiophene-3-carboxylate): Synthesis, Properties, and Electroluminescent Studies of a Polythiophene with a Carbonyl Group Attached to the Ring," International Conference on Synthetic Metals, Snowbird, UT, July-August 1996.
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"Adjustable Tint Window with Electrochromic Conductive Polymer," J.F.Wolf, Miller, G.G., Shacklette, L.W., Elsenbaumer, R.L., and Baughman, R.H.

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EXTERNAL GRANT FUNDING

SOURCE OF SUPPORT	PROJECT TITLE	AWARD
Air Force Office of Scientific Research	SPRING Seed Research & Instrumentation Acquisition, 6/2006-5/2008	\$1,886,000
Air Force Office of Scientific Research	Nano Seed Research & Instrumentation Acquisition, 6/2005-5/2008	\$2,000,000

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U.S. Dept. of Housing & Urban Development	Nano Infrastructure Improvement, 10/2003-10/2008	\$500,000
Air Force Office of Scientific Research	Nano Research Instrumentation, 5/2005-9/2005	\$1,930,000
Office of Naval Research	Nano Research Instrumentation, 7/2003-6/2005	\$2,300,000
Platinum Research Organization	Development of Low Phosphorous Engine Oil Lubricants, Co-PI Dr. Pranesh Aswath, 1/2005 to 12/2008	\$350,000
Texas Higher Education Coordinating Board	Environmentally Friendly Route to Commercially Important Conducting Polymers, Co-PI Dr. Rasika Dias, 1/2004-12/2005	\$152,000
National Science Foundation (NSF)	Upgrade of a 300 MHz NMR Spectrometer for Teaching and Research, 2/2003-2/2006	\$164,950
Texas Higher Education Coordinating Board	Environmentally Friendly High Performance Lubricants and Anti-icing Aircraft Coatings, Technology Development Transfer Grant, 1/2002-8/2004	\$235,000
Platinum Research Organization	In-Situ Catalyzed Formation of Low Coefficient-of Friction Coatings Bonded to Metal Surfaces, 1/2002-8/2004	\$250,000 (Matching Funds)
UVTEC	New Flame Retardant Compositions, 1/2002-6/2002	\$5,000
SEMATECH	Characterization of Electrical, Electromigration and Electro-Thermal Fatigue Properties of Ultra-fine Copper Interconnects, Co-PI, Dr. C.U. Kim, 2/2002-2/2003	\$92,831.95
Robert A. Welch Foundation	Designed Intermolecular Orbital Overlap in Supramolecular Architectures Derived From Linear Conjugated Molecules Self-assembled by Metal Ion Complexation, 6/2001-5/2004	\$150,000
Platinum Research Organization	In-Situ Catalyzed Formation of Low Coefficient-of Friction Coatings Bonded to Metal Surfaces, 10/2000-10/2001	\$86,137
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UVTEC	Preparation of New Flame Retardant Compositions for Evaluation in Polymer Blends, 1/1999-12/2000	\$7,000
Inhale Therapeutics Systems	ESCA Analyses of Samples for Effective Dose Formulation, 7/1999-12/2000	\$4,000
Texas Instruments	SEM and TEM Analyses of Semiconductor Materials, 4/1999-5/1999	\$5,700
Ball Semiconductor	SEM and TEM Analyses of Semiconductor Wafers (11/1/98-8/31/99)	\$3,600

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Robert A. Welch Foundation	Designed Intermolecular Orbital Overlap in Supramolecular Architectures Derived From Linear Conjugated Molecules Self-assembled by Metal Ion Complexation, 6/1998-5/2000	\$135,000
NSF	Acquisition of 400 MHz NMR Spectrometer for Research and Training in Chemistry, PI with Other Faculty, 9/1996-1/1999	\$140,000 (UTA Matched \$170,000)
Texas Higher Education Coordinating Board (ARP)	The Next Generation of Highly Conductive Polymers: Synthetic Strategies and Fabrication of Nearly Defect Free Structures, 1/1996-8/1998	\$189,508
Robert A. Welch Foundation	Establishment of Endowed Chair in Chemistry Department (Challenge Grant / \$1M Matched)	\$1,000,000
Texas Instruments	Fundamental Investigations Relating to the Formation of Strong Adhesive Bonds to Highly Oriented High Density Polyethylene, 1995	\$15,000
Robert A. Welch Foundation	Designed Intermolecular Orbital Overlap in Supramolecular Architectures Derived From Linear Conjugated Molecules Self-assembled by Metal Ion Complexation, 6/1995-5/1998	\$103,000
AFOSR	Superconductive Organic Polymers: Conceptual Design, Synthesis, and Characterization, 9/1992-8/1995	\$550,000
Texas Higher Education Coordinating Board (ATP)	Light Emitting Polymers: New Materials and Device Designs for Efficient Electronic Displays, 1/1994-8/1996	\$220,000
Robert A. Welch Foundation	Quantitative Structure/Property Relationships in Conjugated Organic Molecules, 6/1992-5/1994	\$61,000

SHORT COURSES

Courses Organized and Facilitated

- Co-organizer, *International Conference on Synthetic Metals*, Snowbird, UT, 1,000 Participants. Presented tutorial on Corrosion. July-August 1996.
- Organizer and Lecturer, *Short Course on Electrically Conductive Polymers*, Sponsored by the State University of New York, New Orleans, LA, November 1992.
- Co-organizer, *Workshop on Materials Science of Conductive Polymers*, Atlanta, GA, April 1991.
- Organizer, *Symposium on Electrically Conductive Polymers*, American Chemical Society Meeting, Atlanta, GA, April, 1991.
- Co-organizer, *Symposium on Electrically Conductive Polymers*, American Physical Society Meeting, Anaheim, CA, March 1990.
- Co-organizer and Lecturer, ACS Short Course, *Electrically Conductive Polymers*, Dallas, TX, April 1989.

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- Lecturer, *Short Course on Polymers in Electronics*, Tokyo, Japan, January 1989.
- Chairman, Organizer and Lecturer, *Short Course on Electroactive Polymers*, Sponsored by the State University of New York, West Point, NY, 1988.
- Co-organizer, Lecturer and Co-chairman, *Short Course on Conducting Polymers*, Sponsored by the State University of NY, New Paltz, NY, 1983, 1984, and 1985.

STUDENTS SUPERVISED

Doctoral Dissertations

1. Xin Chen, "Synthesis and Characterization of Polythiophene Derivatives," May 2007.
2. Jun Yin, "Oligomeric and Polymeric BiBenzimidazole Based Metal Complexes and Crosslinked Polyethylenimine Based Flame Retardants," December 2005.
3. Gabi Nehme, "Performance Testing and Analysis of Anti-Wear Additives In Engine Oil For Reducing Phosphorus Content and Improving Tail Pipe Emissions," 2004.
4. Sripadma Satyanarayana, "Towards the Design of Supramolecular Metal Coordinated Conjugated Polymers: Modeling and Experiments," 1999.
5. Meline, R.L., "New Synthetic Methods Towards Organic Metals and Superconductors," 1998.
6. Kasim, R.K., "Device Failure Mechanisms in Organic Light Emitting Diode Devices," 1998.
7. In Tae Kim, "Synthesis and Characterization of Poly(N-Alkyl Pyrrolyene Vinylenes) and Poly(N-Alkyl Pyrroles): Steric Verses Electronic Effects in Conjugated Polymers," 1997.
8. Wei-Kang Lu, "Corrosion Protection of Steels by Coatings Containing Electrically Conductive Polymers," 1996.
9. Yueping Fu, "Electrochemical and Optical Properties of Regiospecifically Alkoxy Substituted Poly(bithiophene vinylenes)," 1995.
10. Haitao Cheng, "New Precursors and Polymerization Route for the Preparation of High Molecular Mass Poly(3,4-Dialkoxy-2,5-Thienylene Vinylene)s: Low Band Gap Conductive Polymers," 1995.

Master's Theses

1. Krupal Patel, "ZDDP Catalyzed Oil Formulations: High Performance Low Phosphorous Anti-Wear Oil Formulations," 2004.
2. Sunit Munot, "Development of a High-Performance Grease," 2004.
3. Jateen Shantilal Gandhi, "Development of Nitrogen-Phosphorous Based Flame Retarding Additive Systems for General Purpose Polyolefins," 2004.
4. Archana Ashok, "Electrical Characterization of Conjugated Polymer Light Emitting Devices," 2004.
5. Linda Thurman, "New Flame Retardants for Polyolefins Derived from Lupisol," 2001.