

CURRICULUM VITAE

Norman E. Schmidt

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Department of Chemistry	427 N. Cromley Rd.
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CAREER OBJECTIVE

Teach chemistry and conduct research with students at a predominantly undergraduate institution.

EDUCATION

1989	University of South Carolina, Columbia, SC. Ph.D. in Chemistry, Analytical emphasis Research Advisor: Dr. R.H.Philp, Jr. Research Topic: "Application of Computer Simulations to the Electrochemical Reduction of Metal Complexes."
1984	Bethel College, North Newton, KS. B.S. in Chemistry B.S. in Physics minor in Mathematics

EMPLOYMENT HISTORY

2003-date	<u>Department of Chemistry, Georgia Southern University</u> ; PROFESSOR. Courses taught include general chemistry, quantitative analysis and instrumental analysis. Research conducted with numerous undergraduate students.
1996-2003	<u>Department of Chemistry, Georgia Southern University</u> ; ASSOCIATE PROFESSOR. Courses taught include general chemistry, quantitative analysis and instrumental analysis. Research conducted with numerous undergraduate students.
Summer 00&01	<u>Department of Chemistry, University of South Carolina</u> POSTDOCTORAL RESEARCHER. Research conducted on Laser Induced Breakdown Spectroscopy with Dr. Scott Goode. Research conducted with Dr. Michael Myrick (in 2001) doing multivariate imaging with a CCD camera.
1990-1996	<u>Department of Chemistry, Georgia Southern University</u> ; ASSISTANT PROFESSOR. Courses taught include general chemistry, quantitative analysis and instrumental analysis. Research conducted with numerous undergraduate students.

EMPLOYMENT HISTORY(continued)

- 1990 The Texas Department of Health, Austin, Texas.; LABORATORY SAFETY OFFICER. Employees were instructed on proper safety procedure on a monthly basis. A chemical hygiene plan was implemented.
- 1989 Department of Chemistry, The University of Texas; POSTDOCTORAL RESEARCHER. Research conducted on the effects of biological molecules on the electro-generated chemiluminescence of ruthenium complexes.
- 1984-1988 Department of Chemistry, University of South Carolina; RESEARCH ASSISTANT. Research in Electrochemistry, comparisons made between simulations and experimental results. Physical constants were determined for metal-ligand complexes
TEACHING ASSISTANT. Courses taught include the Physical Chemistry Laboratory and General Chemistry.
- 1982-1984 Vulcan Materials Company, Wichita, KS.
PART-TIME CHEMIST. Research conducted in the analytical section of research and development, primarily doing Gas Chromatography of organic mixtures.
- Summer 83 Department of Chemistry, University of Arkansas; UNDERGRADUATE RESEARCH ASSISTANT. The limits of detection of Laser-Enhanced Ionization Spectroscopy in an Acetylene/Nitrous Oxide flame were determined.

REFEREED PUBLICATIONS

1. Messman, J.D.;Schmidt, N.E.;Parli, J.D.;Green, R.B., "Laser-Enhanced Ionization of Refractory Elements in a Nitrous Oxide-Acetylene Flame", *Appl.Spectrosc.*, **1985**, 39,504-507.
2. Schmidt,N.E.;Pan,J-.H.;Philp,R.H., Differential Pulse Polarographic Studies of Copper (II)-polyamine Complexes at Low Ligand Concentrations, *J.Electroanal. Chem.*, **1988**, 241, 281-289.
3. Schmidt,N.E., "Application of Extended Digital Simulations to Electrochemical Reductions of Metal Complexes", University of South Carolina, 1989.
4. Lehman,T.A.;Renich,P.;Schmidt,N.E., "Electrochemical Recycling: The Aluminum Can as an Energy Source",*J.Chem.Ed.*, **1993**, 70, 495-496.

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REFEREED PUBLICATIONS (continued)

5. Schmidt, N.E.; Mercer, E.E.; Philp, R.H.Jr., A Differential Pulse Polarographic Study of the Cadmium(II)-Nitrilotriacetic Acid System. Application of a Simple and Versatile Simulation, *J. Electroanal. Chem.*, **1993**, 359, 115-124.
6. S. Todd Deal, Brenda Wojieshowski, James LoBue, Jessica N. Orvis, Norman Schmidt and Jeffery A. Orvis, Structure, Reactivity and Application: General Chemistry Reform at a Mid-sized Public University, *The Chemist.*, May/June **1996**, 3-6.
7. Norman E. Schmidt, Leanne Santiago, Donald Eason, Kurtus Dafford, Chris Grooms, Tammy Link, Dana Manning, Al Garza, Willie O. Chance III, Mike Walla and William Cotham, Rapid Extraction Method of Quantitating the Lachrymatory Factor of Onion Using Gas Chromatography, *Journal of Agricultural and Food Chemistry.*, **1996**, 44, 2690-2693.
8. G.E. Boyhan, N.E. Schmidt, F.M. Woods, D.G. Himelrick, and W.M. Randle, Adaption of a Spectrophotometric Assay For Pungency in Onion to a Microplate Reader, *Journal of Food Quality*, **1999**, 22, 225-233.
9. N.E. Schmidt, W. M. Randle and D.E. Kopsell, A comparison of Lachrymatory Factor and Pyruvic Acid Concentration in *Allium Cepa*, Proceedings of the Third International Symposium on Edible Alliaceae, October 2000, 94-96.
10. Norman E. Schmidt and Scott R. Goode, Determination of Ions in Solution by Laser-Induced Breakdown Spectroscopy of Ion Exchange Membranes, *Applied Spectroscopy*, **2002**, 56, 370-374.
11. D.E. Kopsell, W.M. Randle, and N.E. Schmidt, "Sampling Time Affects Onion Lachrymatory Factor Quantification", *Journal of the American Society for Horticultural Science*, 2002, 37, 567-570.
12. M.J. Havey, M. Cantwell, M.G. Jones, R.W. Jones, N.E. Schmidt, J. Uhlig, J.F. Watson, and K.S. Yoo, "Significant Variation Exists Among Laboratories Measuring Onion Bulb Quality Traits" *Journal of the American Society for Horticultural Science*, 2002, 37, 1086-1087.
13. N. E. Schmidt*, J. Alberson, N. Patel, C. Coursey, M.M. Turner and K.D. Peppers, Determination of Onion Flavor by Two Different Methods, submitted to *The Journal of Chemical Education*, December 2004.
14. N. E. Schmidt, J. Alberson, M. M. Turner, T. Peterson, N. Patel, K. D. Peppers, J. S. Mason, The Relationship between Pungency and the Lachrymatory Factor of Onion, in preparation, to be submitted July 2005.

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REFEREED PUBLICATIONS (continued)

15. N. E. Schmidt, D. S. Sheffield, M. M. Turner, and K. D. Peppers, Cholesterol and Phytosterols in Short-Day and Long-Day Onions (*Allium cepa.*), submitted to the Society of Applied Agricultural Science Journal, June 2005

NON-REFEREED PUBLICATIONS

1. N. E. Schmidt, "The relationship of the pungency and concentration of flavor chemicals of growing onions to harvested onions", published in the 1995 Georgia Onion Research - Extension Report.
2. N. E. Schmidt, "Gas Chromatography to Distinguish Onion Cultivars", published in the 1997 Georgia Onion Research-Extension Report.
3. N. E. Schmidt and M. T. Turner, "Different Methods to Determine Onion Flavor Yield Different Results for the Same Onions" published in the 2001 Georgia Onion Research-Extension Report.
4. N. E. Schmidt, M.M. Turner, K.D. Peppers and J. S. Mason, Lachrymatory Factor Analysis as an Alternative to Pungency Analysis to Determine Onion Flavor, published in the 2003 Georgia Onion Research-Extension Report.

GRANTS AWARDED

1. "A Study of the Interactions Between Surfactants and Biologically Important Molecules at an Electrode Surface". A grant awarded through the Faculty Research Committee of GSU in 1990 in the amount of \$1,369.
2. "Integration of Advanced Electroanalytical Instrumentation into the Curriculum at Georgia Southern University". An NSF grant awarded through the ILI program for \$24,195.00 in 1991.
3. "Sulfur and Variety Effects on Vidalia Onion Pungency" Willie O.Chance III and Norman E. Schmidt. A grant awarded through the Vidalia Onion Committee in 1992 in the amount of \$2,000.
4. "Does Deoxyribonucleic Acid Affect the Electrogenated Chemiluminescence of Ruthenium Complexes?". A grant awarded through the Faculty Research Committee of GSU in 1992 for the amount of \$2,440.

GRANTS AWARDED (Continued)

5. "Fine tuning Pungency of Vidalia Sweet Onions", Willie O.Chance III and Norman E. Schmidt. A grant awarded through the Vidalia Onion Committee in 1994 for the amount of \$2,500.
6. "Development of a New Gas Chromatographic Method of Onion Analysis". A grant awarded through the Vidalia Onion Committee in 1995 for the amount of \$2,500.
7. "Indicators to Distinguish Between Hot and Mild Onion Cultivars Determined by a Gas Chromatographic Method". Norman E. Schmidt and William Randle. A grant awarded through the Vidalia Onion Committee in 1995 for the amount of \$2,500.
8. "Onion Variety Evaluation for yield, pungency, disease susceptibility, effect of seeding date, effect of transplant date, storability and maturity", George Boyhan and Norman E. Schmidt. A grant awarded through the Vidalia Onion Committee in 1999 for the amount of \$8,000. \$1,500 was to go to Norman Schmidt.
9. "Onion Variety Evaluation for yield, pungency, disease susceptibility, effect of seeding date, effect of transplant date, storability and maturity", George Boyhan and Norman E. Schmidt. A grant awarded through the Vidalia Onion Committee in 2000 for the amount of \$8,000. \$1,500 goes to Norman Schmidt.
10. "Analysis of Onions using Solid Phase Microextraction Fibers and a Gas Chromatograph-Mass Spectrometer". A grant awarded through the Faculty Research Committee of GSU in 2000 for the amount of \$1,525.00.
11. "Professional Travel to the 2004Pittsburgh Conference". A travel grant awarded through the Faculty Development Committee of GSU in 2004 for the amount of \$414.00.
12. "Electrogenerated Chemiluminescence of Ruthenium Complexes at Gold Electrodes in the Presence of DNA". A grant awarded through the Faculty Research Committee of GSU in 2004 for the amount of \$6,122.39.

PRESENTATIONS BY NORMAN E. SCHMIDT

1. "Laser-Enhanced Ionization Spectrometry with an Acetylene/Nitrous Oxide Flame". American Chemical Society 187th National Meeting, St. Louis, Missouri, April 1984.
2. "Determination of the formation constants of metal-ligand Complexes with Differential Pulse Polarography", South Carolina Academy of Science, Columbia, South Carolina, May 1987.
3. "Laboratory Safety", Texas Public Health Association, Austin, Texas, February 1990.
4. "Computer Simulation of Differential Pulse Voltammetry Curves for Determining Reaction Rate Constants". 2nd Annual University System Symposium on Research, Athens, Georgia, May 1992.
5. "Electroanalytical Instrumentation at Georgia Southern University". 206th National American Chemical Society, Chicago, IL., August 1993.
6. "Analysis of the Lachrymatory Factor and other Flavor Chemicals in Onions by Gas Chromatography". Pittsburgh Conference, New Orleans, LA., March 1995.
7. "Prediction of Final Onion Pungency During the Growing Season". A report given to the Vidalia Onion Committee on recent research on Vidalia Onions, July 1995.
8. "Determination of Onion Flavor via Analysis of Onion by Gas Chromatography". A report given to the Vidalia Onion Committee, July 1996.
9. "Quantification of the Lachrymatory Factor for Onion Flavor Assessment is Cultivar-dependant", D.E. Kopsell, N.E. Schmidt and W.R. Randle, 96th Annual International Conference of the American Society for Horticultural Science, July 29, 1999.
10. "Laser-Induced Breakdown Spectroscopy for Elemental Composition of Solutions", N.E. Schmidt and S.R. Goode, 27th Annual Conference of the Federation of Analytical Chemistry and Spectroscopy Societies, September 28, 2000.
11. "A Comparison of Lachrymatory Factor and Pyruvic Acid Concentration in *Allium Cepa.*", N. E. Schmidt, W.M. Randle and D.E. Kopsell. A paper presented at the 3rd International Symposium on Edible Alliaceae at Athens, Georgia, on October 31, 2000
12. "Laser Induced Breakdown spectroscopy for elemental composition of solutions." Norman E. Schmidt and Scott R. Goode Pittsburgh Conference, March 2001.

PRESENTATIONS BY NORMAN E. SCHMIDT (CONTINUED)

13. "Design of Angle-Tolerant Multivariate Optical Elements for Chemical Imaging Applications" by O. Soyemi, A. Greer, R. Priore, F. Haibach, N. Schmidt, M. Schiza and M.L. Myrick. Presented at the 5th Joint Conference on Standoff Detection for Chemical and Biological Defense, Williamsburg, VA, September 24-28, 2001.
14. "The Chemistry of Onion Taste: Why Vidalia Onions are Better than the Rest". An invited talk presented at the Citadel, Charleston, SC on October 26, 2001.
15. "Cholesterol and Phytosterols in Short-Day and Long-Day Onions" by Norman E. Schmidt, Matthew Turner, Kimberly Peppers and Damaris Sheffield. Presented at the Southern Association of Agricultural Scientists, Little Rock, Arkansas, February 7, 2005.

PRESENTATIONS BY UNDERGRADUATE RESEARCH STUDENTS

1. "Cyclic Voltammetric Analysis of Analytes in the Presence of Ionic Surfactants". Travis Paul* and N. E. Schmidt. 23rd Annual ACS Student Affiliate Undergraduate Research Conference for the Southeastern region, Savannah, GA., April 1991.
2. "Pungency Analysis of Vidalia Onions". LeAnne Santiago, Donald Eason and Norman Schmidt. 25th Annual ACS Student Affiliate Undergraduate Research Conference for the Southeastern region, Cullowhee, N.C., April 1993.
3. "Chemical Properties of some Ruthenium Complexes". Carlos Roman, Debi McNeal and Norman E. Schmidt. 25th Annual ACS Student Affiliate Undergraduate Research Conference for the Southeastern region, Cullowhee, N.C., April 1993.
4. "A Study of the Relationship of Pungency to Onion Flavor Chemicals." H. Donald Eason, T.E. Link, K.A. Dafford, C. A. Grooms and N.E. Schmidt. 26th Annual ACS Student Affiliate Undergraduate Research Conference of the Southeastern region, Murfreesboro, TN, March 1994.
5. "The Electrochemical Reduction of Pyridoxal Phosphate in Glycogen Phosphorylase." Russell D. Underhill, Michael O. Hurst and N. E. Schmidt. 26th Annual ACS Student Affiliate Undergraduate Research Conference of the Southeastern region, Murfreesboro, TN, March 1994.

PRESENTATIONS BY UNDERGRADUATE RESEARCH STUDENTS (Continued)

6. "The Electrochemical Reduction of Pyridoxal Phosphate in Glycogen Phosphorylase." Russell D. Underhill, Michael O. Hurst and N. E. Schmidt. Georgia Academy of Science, April 1994.
7. "Electrogenerated Chemiluminescence of Ruthenium complexes." Cetresa Freeman and N.E. Schmidt, a poster presented at the 1998 Chemistry Honors Day at Georgia Southern University.
8. "Electrogenerated Chemiluminescence of Ruthenium Complexes with DNA." Betsy Millsap and N.E. Schmidt. 31st Annual ACS Southeastern Regional Undergraduate Research Conference, Cullowhee, NC, April 1999.
9. "Onion Pungency and Why They Make You Cry", Josh A. Alberson and N. E. Schmidt. 32nd Annual ACS Southeastern Regional Undergraduate Research Conference, Eastern Kentucky University, April 2000.
10. "The Chemistry of Onion Flavor", Kimberly D. Tucker and Norman E. Schmidt. 33rd Annual ACS Southeastern Regional Undergraduate Research Conference, Georgia Southern University, April 2001.
11. "The Isolation and Identification of Compounds that Cause a Bitterness in Onions", Matthew M. Turner and Norman E. Schmidt. 33rd Annual ACS Southeastern Regional Undergraduate Research Conference, Georgia Southern University, April 2001.
12. "Analysis of Components in Onions (Allium Cepa) Through Solid-Phase Microextraction. Jennifer Goodman and Norman E. Schmidt. 33rd Annual ACS Southeastern Regional Undergraduate Research Conference, Georgia Southern University, April 2001.
13. "Laser Induced-Breakdown Spectroscopy for the Analysis of Metal Ions Immobilized in a Polymer Membrane. Joshua Farr and Norman E. Schmidt. 33rd Annual ACS Southeastern Regional Undergraduate Research Conference, Georgia Southern University, April 2001.
14. "The Identification and Quantification of Sterols in Onions By Gas Chromatography-Mass Spectrometry", Matthew M. Turner, Kimberly Peppers, Kushara Micots and Norman E. Schmidt. Presented at the Georgia Legislative Wildgame Supper, January 2002.

PRESENTATIONS BY UNDERGRADUATE RESEARCH STUDENTS (Continued)

15. "The Identification and Quantification of Sterols in Onions by Gas Chromatography-Mass Spectrometry. Matthew M. Turner and Norman E. Schmidt. Pittsburgh Conference, New Orleans, LA, March 2002.
16. "The Isolation, Identification and Quantification of Sterols in Onions by Gas Chromatography-Mass Spectrometry", Matthew M. Turner and Norman E. Schmidt. 34rd Annual ACS Southeastern Regional Undergraduate Research Conference, East Tennessee State University, April 2002.
17. Determination of How Phytosterols are Distributed in Different Varieties of Onions", Kimberly D. Peppers and Norman E. Schmidt. 34rd Annual ACS Southeastern Regional Undergraduate Research Conference, East Tennessee State University, April 2002.
18. The Quantification of Oils and Lipids in Okra and Onions, Kushara Micots and Norman E. Schmidt. 34rd Annual ACS Southeastern Regional Undergraduate Research Conference, East Tennessee State University, April 2002.
19. Investigation of Essential Oils of the Redbay Plant (*Persea borbonia*), Christine R. Mayo, Norman E. Schmidt and Lissa M. Leege, Southeast Regional ACS Meeting, Charleston, SC, November 2002
20. Factors Affecting the Electrogenated Chemiluminescence of Ruthenium (II) Complexes, Michael S. Matthias and Norman E. Schmidt, 35rd Annual ACS Southeastern Regional Undergraduate Research Conference, Kennesaw State University, April 2003.
21. Crushing vs. Blending: Two Different Methods for Preparing Onion Samples for Pungency Analysis, Kimberly D. Peppers and Norman E. Schmidt, 35rd Annual ACS Southeastern Regional Undergraduate Research Conference, Kennesaw State University, April 2003.
22. Distribution and Concentration of Essential Oils in Redbay (*Persea borbonia*), Anna C. Lewis, Shinika Pierce and Norman E. Schmidt, 35rd Annual ACS Southeastern Regional Undergraduate Research Conference, Kennesaw State University, April 2003.
23. Determination of the Levels of Essential Oils in the Leaves of Redbay (*Persea borbonia*), Kevin S. Sapp and Norman E. Schmidt. Pittsburgh Conference, Chicago, IL, March 2004.
24. Variation of Essential Oil Concentration in the Leaves of Redbay (*Persea borbonia*) Kevin S. Sapp and Norman E. Schmidt, 36rd Annual ACS Southeastern Regional Undergraduate Research Conference, Georgia Southern University, April 2004.

PRESENTATIONS BY UNDERGRADUATE RESEARCH STUDENTS (Continued)

25. "Parameter Optimization of the Electrogenerated Chemiluminescence for Ruthenium (II) Complexes", Stacy C. Beck, Mark A. Anderson, and Norman E. Schmidt, 37th Annual Southeast Regional ACS Undergraduate Research Conference at Mississippi State University on April 1, 2005.
26. "The Concentration of Essential Oils in the Leaves of Redbay (*Persea borbonia*) with Respect to Seasonal Changes", Sara M. Calvarese, Lissa M. Leege, and Norman E. Schmidt, 37th Annual Southeast Regional ACS Undergraduate Research Conference at Mississippi State University on April 1, 2005.
27. "Gas Chromatographic Method to Determine Cholesterol and Phytosterol Concentrations in Onions (*Allium cepa*)", Damaris S. Sheffield and Norman E. Schmidt, 37th Annual Southeast Regional ACS Undergraduate Research Conference at Mississippi State University on April 1, 2005.

HONORS

- Boughnigh Teaching Award, University of South Carolina, Spring 1987.
- First Place Award for Research, South Carolina Academy of Sciences, Spring 1987.

PROFESSIONAL ASSOCIATIONS

- American Chemical Society
 - Member since 1980.
 - Chairman of the Coastal Empire Section 1996
 - Awards chairman of the Coastal Empire Section 1995-98
- Sigma Xi
 - Member Since 2002
 - Vice-President 2002-2003 of Georgia Southern University Chapter
 - President 2003-2004 of Georgia Southern University Chapter

HOBBIES/PERSONAL

-Time with my wife and four children (ages 16, 13, 12 & 9) is very important to me.

-I enjoy exercise:

latest marathon was a 2:58 run in February 1993 (pr = 2:52)

latest half-marathon was in 1:33:41, run November 2002 (pr = 1:30)

<http://www.atlantatrackclub.org/at03036.htm> (see the 40-44 age group)

-Gardening and Hobby Farming

I currently have a milk cow, grow a half acre of elephant garlic for profit and have
24 hives of honey bees.

I maintain the observation hive at the Georgia Southern University Wildlife
Education Center.

-American Red Cross certified lifeguard March 2004

-American Red Cross certified in CPR March 2004

-Religious Beliefs

I attend a Southern Baptist Church (ordained as a deacon September 1, 2004)
but I most strongly identify with the Mennonite Brethren Church.

<http://www.mbconf.ca/believe/confession/index.en.html>

- I do everything to the glory of God.