

6/97-8/97 Iowa State University of Science and Technology,
Visiting Faculty, Department of Materials Science and
Technology, Ames, IA 50011

8/93-5/94 Northwestern State University, Assistant
Professor of Chemistry, Department of Physical
Sciences, Natchitoches, LA 71497

6/92-6/93 The Ohio State University, Chemistry Lecturer,
Department of Chemistry, Columbus, OH 43210

9/90-8/92 The Ohio State University, Post-doctorate,
Department of Chemistry, Columbus, OH 43210

9/89-6/90 Auburn University, Temporary Assistant Professor
Department of Chemistry, Auburn, AL 36849

9/86-9/89 Brown University, Graduate Research Assistant and
Graduate Teaching Assistant, Department of Chemistry,
Providence, RI 01912

9/84-8/86 University of Pennsylvania, Graduate Research
Assistant and Graduate Teaching Assistant,
Department of Chemistry, Philadelphia, PA 19143

PUBLICATIONS:

2011 "Fruits and Soft Drinks in the Chemistry Lab." A. E. Burns and
A. J. Balloon, The Science Teacher,

2011 "Using "real life" examples to enhance learning in a general
chemistry class." A. E. Burns. Bulgarian J. of Chem. Edu., 20
130 (2011)

2007 "The School Dance, According to Le Chatelier." A. E. Burns.
Journal of College Science Teaching, **36**, 54 (2007)

2006 "Structure of binary neodymium borate glasses by infrared
spectroscopy." A. E. Burns, D. W. Winslow, W. J. Clarida, M.
Affatigato, S. A. Feller, and R. K. Brow. J. Non-Cryst. Solids.
352, 2364 (2006).

2004 "Real-time distance research with IP network videoconferencing:
Extending Undergraduate research opportunities." L. A. Holland,
S. Tomechko, A. M. Leigh, A. Oommen, A. Bradford, and A. E.
Burns. Journal of Chemical Education **81**, 1224 (2004).

2002 "Conductivity and modulus spectra for a series of lithium-borate

- and sodium trisilicate glasses." A. E. Burns. Dielectric Materials and Devices, edited by K.M. Nair and A. S. Bhalla, American Ceramic Society, 421-429, (2002).
- 2000 "Conductivity scaling analyses applied to a series of lithium-borate glasses." A. E. Burns. Ceramic Transactions **106**, 341 (2000).
- 2000 Anomalous Anderson transition in carbonized ion-implanted polymer p-phenylenebenzobisoxazole." G. Du, V. N. Prigodin, A. Burns, J. Joo, and A. J. Epstein. Phys. Rev. B. **61**, 10142 (2000).
- 2000 "Infrared spectra of AgI doped $Ag_2S + B_2S_3$ fast ion conducting thioborate glasses." A. E. Burns, M. Royle, and S. W. Martin. J. Non-Cryst. Solids **262**, 252 (2000).
- 1998 "Unusual semimetallic behavior of carbonized ion-implanted polymers." G. Du, V. N. Prigodin, A. Burns, J. Joo, C. S. Wang, and A. J. Epstein. Phys. Rev. B. **58**, 4485 (1998).
- 1993 "Weak Localization, electron-electron interaction, and metal-insulator transition in ion-implanted polymers." Du, A. Burns, Z. Wang, A. J. Epstein, A. Jenekhe, and C. S. Wang. Synthetic Metals **55**, 4829 (1993).
- 1992 "Spectroscopic and morphological studies of highly conducting ion implanted rigid-rod and ladder polymers." J. A. Osaheni, S. A. Jenekhe, A. Burns, G. Du, J. Joo, Z. Wang, A. J. Epstein, and C. S. Wang. Macromolecules **25**, 5828 (1992).
- 1991 "Conducting ladder and rigid-rod polymers prepared by ion implantation." A. Burns, Z. Wang, J. Joo, A. J. Epstein, J. A. Osaheni, S. A. Jenekhe, and C. S. Wang. Mat. Res. Soc. Proc. **247**, 735 (1991).
- 1991 Dielectric and infrared reflectance studies of inorganic oxide glasses." A. Burns, H P. Brack and W.M. Risen, Jr., J. Non-Cryst. Solids **131**, 994 (1991).
- 1990 "Dielectric spectra of ionic conducting glasses to 2 Ghz." A. Burns, G. D. Chryssikos, E. Tombari, R. H. Cole, and W. M. Risen, Jr. Phys. Chem. Glasses **30**, 264 (1990).
- 1989 "Chitiline materials: soluble chitosan-polyaniline copolymers and their conductive doped form." S. Yang, S. Tirmizi, A. Burns, A. A. Barney, and W. M. Risen, Jr. Synthetic Metals **32**, 190 (1989).
- 1989 "Time domain reflectometry study of fast-ionic conducting glasses." G. D. Chryssikos, A. Burns, R. H.

Cole, and W. M. Risen, Jr. J. Chem. Phys. **89**, 612 (1989).

- 1989 "Time domain reflection methods for dielectric measurements to 10 GHz." R. H. Cole, J. Berberian, S. Mashimo, G. D. Chryssikos, A. Burns, and E. Tombari. J. Appl. Phys. **66**, 793 (1989).
- 1987 "Second-harmonic generation of adsorbates/Ag(110)." D. Heskett, K. J. Song, L. Urbach, E. W. Plummer, A. Burns, and H. L. Dai. J. Vac. Sci. Tech. **A 5**, 690 (1987).
- 1986 "Coverage dependant phase transition of pyridine on Ag(110)observed by second harmonic generation." D. Heskett, K. J. Song, A. Burns, E. W. Plummer, and H. L. Dai. J. Chem. Phys. **85**, 7490 (1986).

PRESENTATIONS:

- 2011 "Raman spectroscopy of grape anothcyanins as a function of pH." A. E. Burns, J.P. Mazauric, and V. Cheynier, International Workshop on Anthocyanins, Charlotte, NC, 2011.
- 2010 "Fun examples of family life and human nature in chemistry." A. E. Burns, American Chemical Society National Meeting, San Francisco, CA, 2010
- 2006 "Soda vs juice: A titration laboratory." A. E. Burns and A. J. Balloon, **American Chemical Society National Meeting**, San Francisco, CA, 2006
- 2005 "The structure of rare-earth binary oxide glasses." A. E. Burns, A. K. Wittenauer, and R. K. Brow, **The first International Conference on Advances in Optical Materials**, Tucson, AZ, 2005
- 2004 "The structure of rare-earth phosphate glasses by infrared spectroscopy." A. E. Burns, A. K. Wittenauer, and R. K. Brow, **American Chemical Society National Meeting**, Anaheim, CA, 2004
- 2002 "Compositional dependence of Nd³⁺ emissions from Nd₂O₃-P₂O₅ and Nd₂O₃-B₂O₃ glasses." C. Click, A. Wittenauer, R. K. Brow, and A. E. Burns. **Glass and Optical Materials Conference**, Pittsburgh, PA, 2002
- 2002 "An infrared study of the structure of rare-earth phosphate glasses." A. K. Wittenauer, A. E. Burns, and R. K. Brow, **American Ceramic Society National Meeting**, St. Louis, MO, 2002.
- 2000 "A look at conductivity and modulus spectra in terms of ion transport models for ionic conducting oxide glasses." A. Burns, **American Ceramic Society National Meeting**, St. Louis, MO, 2000.

- 1999 "Dielectric Analysis for a Series of Lithium-Fluoro-Borate Glasses." A. Burns, **American Ceramic Society National Meeting**, Indianapolis, IN, 1999.
- 1999 "Structure and Properties of Silver and Alkali Borate/Thioborate Glasses." A. Burns, **Kent State University Department of Chemistry Colloquia**, Kent, OH, 1999
- 2000 "Glasses, they're not just for drinking. Sorry John." A. Burns, **Kent State University-Stark Campus Colloquia**, Canton, OH, 1999
- 1998 "Visualizing the Transition from Quantum to Classical Mechanics Through Damping." A. Burns and M. Cavitt, **American Chemical Society National Meeting**, Boston, MA, 1998
- 1998 "Infrared Spectroscopy of Silver and Silver Halide Thioborate Glasses." A. Burns and S. W. Martin, **American Ceramic Society National Meeting**, Cincinnati, OH, 1998.
- 1998 * "Glass Chemistry, They're Not Just for Drinking." A. Burns **Kent Stark Honors Colloquium**, Canton, OH, 1998.
- 1998 "Silver and Silver Iodide in Thioborate Glasses." A. Burns and S. W. Martin, **Kent State University Celebration of Scholarship**, Kent, OH 1998.
- 1997 "Dielectric Spectroscopy of Ionically Conducting Glasses." A. Burns, **All Iowa Glass Conference**, Cedar Rapids, IA, 1997.
- 1997 "Dielectric and FT-IR reflectance spectroscopic analysis for a series of lithium-fluoro-borate glasses." A. Burns, **American Chemical Society National Meeting**, San Francisco, Ca, 1997.
- 1997 * "Dielectric and FT-IR reflectance spectroscopic analysis for a series of lithium-fluoro-borate glasses." A. Burns, **Iowa State University**, Ames, IA, 1997.
- 1995 "Structure and transport properties in ion implanted ladder and rigid rod polymers." A. Burns, G. Du, and A. J. Epstein, **American Chemical Society Regional Meeting**, Akron, OH, 1995.
- 1993 "Ion dosage dependence of metal-insulator transition for ion implanted polymers." G. Du, J. Joo, A. Burns, A. J. Epstein, S. A. Jenekhe, J. A. Osaheni, and C. S. Wang, **March Meeting of the American Physical Society**,

Seattle, WA, 1993.

- 1992 "Weak localization, electron-electron interaction, and metal-insulator transition in ion implanted polymers." G. Du, J. Joo, A. Burns, Z. H. Wang, S. Jasti, P. Zhou, S. A. Jenekhe, J. A. Osaheni, C. S. Wang, and A. J. Epstein, **International Conference on the Science and Technology of Synthetic Metals**, Goteburg, Sweden, 1992.
- 1992 "Charge transport in ion-implanted polymers." G. Du, Z. H. Wang, A. Burns, J. Joo, A. J. Epstein, J. A. Osaheni, S. A. Jenekhe, and C. S. Wang, **March Meeting of the American Physical Society**, Indianapolis, IN, 1992.
- 1992 "High microwave dielectric constants of ion-implanted polymers." J. Joo, Z. H. Wang, G. Du, A. Burns, A. J. Epstein, J.A. Osaheni, S. A. Jenekhe, and C. S. Wang, **March Meeting of the American Physical Society**, Indianapolis, IN, 1992.
- 1992 "Infrared and photoinduced infrared studies of rigid-rod and ladder polymers." A. Burns, R. P. McCall, G. Du, J. Joo, A. J. Epstein, and C. S. Wang, **March Meeting of the American Physical Society**, Indianapolis, IN, 1992.
- 1991 "Transport properties of ion-implanted ladder and rigid-rod polymers." Z. H. Wang, A. Burns, J. Joo, A. J. Epstein, C. S. Wang, J. A. Osaheni, and S. A. Jenekhe, **Fall Meeting of the Materials Research Society**, Boston, MA, 1991.
- 1991 "Anisotropic AC transport of oriented undoped polymers." G. Du, A. Burns, Z. H. Wang, and A. J. Epstein, **March Meeting of the American Physical Society**, Cincinnati, OH 1991.
- 1990 * "Dielectric and infrared reflectance studies of inorganic oxide glasses." A. Burns, H. Brack, and W. M. Risen, Jr., **International Discussion Meeting on Relaxation in Complex Systems**, Heraklion, Crete, Greece, 1990.
- 1986 "Local field effects in the second harmonic generation of alkali metals on Ag(110)." E. W. Plummer, K. Heskett, K. J. Song, A. Burns, and H. L. Dai, **Physical Electronics Conference**, Austin, TX 1986.
- 1986 "Second harmonic generation study of adsorbates on

noble metal surfaces." D. Heskett, K. J. Song, A. Burns, H. L. Dai, and E. W. Plummer, **March Meeting of the American Physical Society**, Las Vegas, NV 1986.

1986 * "Second harmonic generation of molecular and alkali adsorbates."
E. W. Plummer, D. Heskett, K. J. Song, A. Burns, and H. L. Dai,
University of Erlangen, Erlangen, Germany, 1986.

- Invited Talk