

Kathleen S. Giesfeldt

733 Plainfield Road
Knoxville, TN 37923
865-386-3292
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Education

University of Tennessee Knoxville, Tennessee,
Doctor of Philosophy, Chemistry
2001-2005, Overall GPA: 3.83/4.00
Dissertation Title: Polymer-Based SERS Substrates: Novel Nanocomposites and Substrates with Uniform Morphologies. Prepared and characterized of the optical properties of novel pliable polymer-noble metal nanocomposites and nanostructured substrates for surface enhanced Raman scattering (SERS).

University of Texas at Dallas Richardson, Texas
Bachelor of Science, Chemistry
2000-2001X, Overall GPA: 3.71/4.0
Bachelors of Art and Performance, Art History and Literature
January 1993, Overall GPA: 3.89/4.0 magna cum laude

Honors

Golden Key Honor Society, UT-Dallas
First year graduate award at the UT-Knoxville
Eastern Tennessee American Chemical Society Graduate Fellowship Award
Gleb Mamantov Award at the UT-Knoxville

Additional Courses

Multi-Initiative Dissemination Project:
Innovations in Chemical Education
McCrone Research Institute:
Applied Polarized Light Microscopy
Winterthur Museum and University of Delaware:
Analytical Techniques in Conservation
American Institute for Conservation:
Identification and Conservation of Plastics
Campbell Center for Historic Preservation Studies:
Care and Conservation of Works of Art on Paper

Experience

March 02-present

UNIVERSITY OF TENNESSEE Knoxville, Tennessee
Student Instrument Operator
Maintained Raman, IR, and AA instruments for the department
Trained graduate students and post-docs
Developed experimental procedures for users

Kathleen S. Giesfeldt

August 01-May 02

Teaching Assistant

Coordinated laboratory experiments and small group discussions
Organized and presented pre-laboratory lectures for
undergraduate analytical chemistry laboratory class

May 83-June 00

ART RESTORATIONS, INC. Dallas, Texas

Senior objects conservator and manager

January 90-May 00

Health and Safety Director

Activities

Tennessee Science Olympiad, 2002-05

Adventures in Chemistry, 2002-05

“The Magic of Chemistry,” October 2003 and 2004

Tennessee Science Bowl, 2004

American Institute for Conservation of Historic and Artistic
Works (AIC)

Chair of Conservators in Private Practice 2000-01

Vice Chair of Conservators in Private Practice 1999-00

Additional Information

Proficient with Microsoft Word, Excel, and PowerPoint, LabSpec
4.02, 4.03, 4.12, SciFinder, Auto Cad Lt 2000, Scion Image,
Flash 5, Vision 32, Chem Draw

References

Dr. Michael J. Sepaniak

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Dr. Charles Feigerle

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Fred Schell, Associate Head

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schell@mail.chem.utk.edu

Kathleen S. Giesfeldt

Publications

Giesfeldt, Kathleen S.; Connatser, R. Maggie; De Jesús, Marco A.; Lavrik, Nickolay V.; Dutta, Pampa; Sepaniak, Michael J. **Studies of the optical properties of gold-polymer nanocomposites as a SERS substrate.** Journal of Raman Spectroscopy (under review).

Sepaniak, Michael J.; De Jesús, Marco A.; Giesfeldt, Kathleen S.. **Advances in surface enhanced Raman spectroscopy for pharmaceutical analysis.** American Pharmaceutical Review (2004), 7(3), 90, 92-97,37.

De Jesús, M. A.; Giesfeldt, K. S.; Sepaniak, M. J. **Factors affecting the sorption of model environmental pollutants onto silver polydimethylsiloxane nanocomposite Raman substrates.** Applied Spectroscopy (2004), 58(10), 1157-1164.

De Jesús, M. A.; Giesfeldt, K. S.; Sepaniak, M. J. **Improving the analytical figures of merit of SERS for the analysis of model environmental pollutants.** Journal of Raman Spectroscopy (2004), 35(10), 895-904.

Giesfeldt, Kathleen S.; Connatser, R. Maggie; De Jesús, Marco A.; Lavrik, Nickolay V.; Dutta, Pampa; Sepaniak, Michael J. **Studies of the optical properties of metal-pliable polymer composite materials.** Applied Spectroscopy (2003), 57(11), 1346-1352.

De Jesús, M. A.; Giesfeldt, K. S.; Sepaniak, M. J. **Use of a sample translation technique to minimize adverse effects of laser irradiation in surface-enhanced Raman spectrometry.** Applied Spectroscopy (2003), 57(4), 428-438.

Giesfeldt, Kathleen S.; Alten, Helen **Conservation's evolution: The emergence of the entrepreneur,** AIC News, January, 2000.

Giesfeldt, Kathleen S.; Alten, Helen **Business models,** AIC News, January, 2000.

Posters and Presentations

Posters:

De Jesús, M. A.; Giesfeldt, K. S.; Sepaniak, M. J. **Toward the rational design of silicon and polymer based nanostructures as substrates for**

enhanced SERS analysis. Nanoscience Conference, Knoxville, TN.
October, 2004

Kathleen S. Giesfeldt

Giesfeldt, Kathleen S.; Connatser, R. Maggie; De Jesús, Marco A.;
Lavrik, Nickolay V.; Dutta, Pampa; Sepaniak, Michael J. **Studies of the
optical properties of metal-pliable polymer composite materials.**
UTK Recruiting Weekend, Knoxville, TN. March, 2003.

Giesfeldt, Kathleen S.; Connatser, R. Maggie; De Jesús, Marco A.;
Lavrik, Nickolay V.; Dutta, Pampa; Sepaniak, Michael J.
Characterization of metal-pliable polymer composites. FACCS,
Providence, RI. October, 2002.

Giesfeldt, Kathleen S.; Connatser, R. Maggie; De Jesús, Marco A.;
Lavrik, Nickolay V.; Dutta, Pampa; Sepaniak, Michael J.
Characterization of metal-pliable polymer composites. TANAL
(Tennessee Analytical) Knoxville, TN. August, 2002.

Presentations

Giesfeldt, Kathleen S.; Connatser, R. Maggie; De Jesús, Marco A.; Dutta,
Pampa; Oran, Jenny; Sepaniak, Michael J. **Approaches to uniform
morphology: polymer based SERS substrates.** PITTCON, Orlando,
FL. March, 2005.

Giesfeldt, Kathleen S.; Connatser, R. Maggie; De Jesús, Marco A.; Dutta,
Pampa; Sepaniak, Michael J. **Optical properties of noble metal-pliable
polymer composite materials.** PITTCON, Chicago, IL. March, 2004.

Giesfeldt, Kathleen S.; Connatser, R. Maggie; De Jesús, Marco A.;
Lavrik, Nickolay V.; Dutta, Pampa; Sepaniak, Michael J. **Optical
properties of metal-pliable polymer composite materials.** PACTN
(Polymer and Analytical Chemistry in Tennessee), Knoxville, TN.
March, 2003.

