

Edmund L. Tisko

HOME ADDRESS

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SCHOOL ADDRESS

333 Durham Science Center
University of Nebraska at Omaha
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TEACHING EXPERIENCE

University of Nebraska at Omaha 8/00 – present

Assistant Professor

Fundamentals of College Chemistry

Fundamentals of College Chemistry Laboratory

General Chemistry I and II

General Chemistry I and II Laboratory

Physical Chemistry II

Physical Chemistry II Laboratory

Service on Computer and *ad hoc* Space Reallocation and Chemical Education Center Planning committees

Introduced symbolic algebra and computational chemistry software into physical chemistry curriculum

Constructed web pages for dissemination of course materials: www.unomaha.edu/~etisko/

Co-advisor: ACS Student Affiliate Chemistry Club

Present Research Projects

- *ab initio* study of the effect of intramolecular perturbations such as nuclear motion or functional group induction on the electron density of strained ring hydrocarbons.
- *ab initio* study of bent bonds in substituted boranes.
- Classical vibrational analysis of AB₂ and planar, symmetric A₂B₃ molecules using *ab initio* force constants.
- Method optimization of modeling of solid state structure of M²⁺X²⁻ compounds.

University of Nebraska at Omaha 8/98 – 8/00

Visiting Assistant Professor

Lansing Community College 1/98 – 5/98

Adjunct Assistant Professor

General Chemistry Laboratory

Davenport College 1/98 – 5/98

Adjunct Professor

College Algebra

Michigan State University 9/92 – 5/98

Graduate Teaching Assistant

General Chemistry

General Chemistry Lab

Physical Chemistry

Quantum Mechanics/Statistical Mechanics (graduate courses)

Chemical Kinetics and Spectroscopy (graduate course)

Promoted to **Merit Teaching Assistant** for excellence in teaching

Solely taught non-traditional chemistry student first semester Physical Chemistry

Facilitator: International Teaching Assistant Orientation

Graduate Teaching Assistant Orientation

PUBLICATIONS AND PRESENTATIONS

Publications

Tisko, E. L., Li, X. and K. C. Hunt, J. Chem. Phys. **103**, 6873 (1995), Relation of vibrational hyper-Raman intensities to γ -hyperpolarizability densities

Tisko, E. L. and K. C. Hunt, to be submitted to J. Chem. Phys., Derivatives of the polarization propagator including orbital relaxation effects

Tisko, E. L., to be submitted to J. Chem. Ed., Visualizations of particle-in-a-box wavefunctions using Mathcad.

Edmund L. Tisko

Presentations

- 17th Biennial Conference on Chemical Education – Bellingham WA JUL 30, 2002
Building a Working Model of a Water Barometer (w/ Dan Sullivan, UNO)
- 36th Midwest Regional ACS Meeting – Lincoln, NE. OCT 11, 2001
Using Flash to Create Simple Animations for Physical Chemistry
- 35th Midwest Regional ACS Meeting – St. Louis, Mo. OCT 25, 2000
Visualization of particle-in-a-box wavefunctions using Mathcad – Poster
- XXVIII Midwest Theoretical Chemistry Conference – Evanston, IL MAY 13, 1995
Changes in hyperpolarizabilities due to nuclear displacements - Poster
- 210th American Chemical Society National Meeting – Chicago, IL AUG 23, 1995
Changes in nonlinear optical response tensors due to nuclear displacements – Poster

EDUCATIONAL EXPERIENCE

Michigan State University 8/92 to 7/98

Ph. D. in Chemical Physics 7/98

Dissertation Title Derivatives of Molecular Electromagnetic Properties Using Nonlocal Susceptibility Densities

Research Advisor Dr. Katharine L. C. Hunt

Research Projects

- Relation of vibrational hyper-Raman intensities to γ -hyperpolarizability densities
- Construction of a nonlocal magnetizability density: relationships between nuclear momentum derivatives of the electronic magnetic moment and nonlocal chemical shift densities
- Analytic relationships between second-quantized polarization propagators, higher order polarization propagators and nonlocal polarizabilities densities

Michigan Technological University 7/82 - 5/85, 8/86 - 11/88

B. S. in Chemistry 8/88

B. S. in Applied Physics 11/88

B. S. in Mathematics 11/88

- concentrated studies in biology and engineering mechanics

United States Air Force Academy 6/81 - 6/82

- Dean's List - fall and spring semesters
- Junior Varsity Football - starting defensive tackle

INDUSTRIAL EXPERIENCE

Gelman Sciences 9/89 - 3/90

Product Development Chemist

- Developed microfiltration membranes for molecular biology applications.

PPG Industries 6/90 - 8/92

Product Development Chemist / Technical Service Representative

- Developed water treatment and maintenance products for automotive spray paint booth applications
- Patent No. 5,223,141 **Method for Removing and Recovering Paint Overspray in a Water Wash Spray Booth**

MISCELLANEOUS

Professional Organizations

American Chemical Society

American Physical Society

American Association of Physics Teachers