Curriculum Vitae

Elzbieta Cook, PhD

Department of Chemistry
Louisiana State University
(225) 578-3574; folga@lsu.edu

SUMMARY

Educator: Specializing in General Chemistry teaching.
Computational Chemist: Area of research: organometallic and inorganic chemistry.

STRENGTHS

Personable. Both helpful and willing to learn from others. Resourceful; willing to work with both low level and high-tech tools to illustrate concepts. Very good working relationship with students.

EDUCATION HISTORY

BASF Ag. Ludwigshafen, Germany
Postdoctoral Fellow at the Polymer Laboratories, May 1993–April 1994
Director of Research: Dr. Erich Haedicke

UNIVERSITY OF CALGARY (U of C), Calgary, Alberta, Canada
Postdoctoral Fellow in Theoretical Chemistry, January 1993–April 1993
Director of Research: Prof. Tom Ziegler

UNIVERSITY OF CALGARY (U of C), Calgary, Alberta, Canada
Doctor of Philosophy in Theoretical Chemistry, 1993
Research Advisor: Prof. Tom Ziegler

UNIVERSITY OF SILESIA, Katowice, Poland
Magister (MSc) in Theoretical Chemistry, 1986
Research Advisor: Prof. Janusz Nowakowski

EMPLOYMENT HISTORY

2015-present LOUISIANA STATE UNIVERSITY (LSU), Baton Rouge, LA, USA
Senior Instructor of *General Chemistry* and *Honors General Chemistry*
(2016 – present: Faculty Partner for the Supplemental Instruction program)

2002-2014 LOUISIANA STATE UNIVERSITY (LSU), Baton Rouge, LA, USA
Instructor of *Analytical Chemistry* (Spring 2002), *General Chemistry* and *Honors General Chemistry* (2013-present)
(*2002-2005* Assistant Professor - subcontract to Southern University at Baton Rouge)

1994 - 2001 UNIVERSITY OF CALGARY (U of C), Calgary, Alberta, Canada
Lecture, seminar, laboratory and Computer Assisted Learning instructor of *General Chemistry*, *General Chemistry for Engineers*
Lecturer of *Analytical Chemistry I*
Lecturer and tutorial instructor of *Introduction to Chemistry*

1995 - 2001 RENERT CENTER, Calgary, Alberta, Canada
Medical College Aptitude Test (MCAT) and high school review chemistry lecturer

1994 - 1995 UNIVERSITY OF CALGARY (U of C), Calgary, Alberta, Canada (Research Associate)

1987 - 1993 UNIVERSITY OF CALGARY (U of C), Calgary, Alberta, Canada (Teaching Assistant)

1986 - 1987 UNIVERSITY OF SILESIA, Katowice, Poland
Research assistant and laboratory instructor of *Physical Chemistry*

EDUCATION RESEARCH HISTORY

1995-present Classroom research on the use of (i) cross-proportions as a problem-solving technique; (ii) innovative lecture delivery systems; (iii) metacognitive learning strategies; (iv) self-efficacy studies.

LIST OF PUBLICATIONS IN THE EDUCATION FIELD

1) Cook, E. "*How to write an Abstract for the Undergrad Research Poster Session"*, *inChemistry* (the official ACS student member magazine.) 2017. *In press*
2) Brunauer, L. and Cook, E. "*Instructor's Resource Manual*" to accompany *CHEMISTRY, The Central Science, 14e*; Pearson Education, Inc. 2017.
3) Zhao, N.; Wardeska, J. G.; McGuire, S. Y. and Cook, E. "*Metacognition: An Effective Tool to Promote Success in College Science Learning", J. Col. Sci. Teach.* 2014, **43(4)**, 48-54.
4) Cook, E.; Kennedy, E. and McGuire, S. Y. *"Impact of Teaching Metacognitive Learning Strategies on Performance General Chemistry Courses", J. Chem. Ed.* 2013, **90(8)**, 961-967; (DOI:10.1021/ed300686h).
5) Brunauer, L. and Cook, E. "*Instructor's Resource Manual*" to accompany *CHEMISTRY, The Central Science, 13e*; Pearson Education, Inc. 2015.
6) McGuire, S. Y. and Cook, E. "*Instructor Teaching Guide and Complete Solutions*" to accompany *Introductory Chemistry, 5e*; Pearson Education, Inc. 2015.
7) McGuire, S. Y. and Cook, E. "*Student Workbook and Selected Solutions*" to accompany *Introductory Chemistry, 5e*; Pearson Education, Inc. 2015.
8) Brunauer, L. and Cook, E. "*Instructor's Resource Manual*" to accompany *CHEMISTRY, The Central Science, 12e*; Pearson Education, Inc. 2012.
9) Brunauer, L.; Cook, E. *"Instructor Resource Manual"* to Accompany *Chemistry, The Central Science"11e*; Pearson Education, Inc. 2008.
10) Cook, E.; Cook, R. L. *"Lecture Templates – A Convenient Partial Lecture Delivery System", J. Chem. Ed.,* 2006, **83(8)**, 1176-1177.
11) Laurino, J. P.; Cannon, D. J.; Richter, H.; Cook, E. *"Test Item File"* to Accompany *Chemistry, The Central Science"10e*; Pearson Education, Inc. 2006.
12) Cook, E.; Cook, R. L. *"Cross-Proportions: A Conceptual Method for Developing Quantitative Problem Solving Skills", J. Chem. Ed.,* 2005, **82(8)**, 1187-1189.
13) Richter, H.; Cook, E. *"Test Item File"* to Accompany *Chemistry, The Central Science"9e*; Pearson Education, Inc. 2003.

EDUCATION RESEARCH CONFERENCE PRESENTATIONS

2017 253rd National ACS Meeting – San Francisco, CA, USA; **Cook, E**. and McGuire, S. *"From failure to success in general chemistry classes: Learning strategies to the rescue"*

2013 245th National ACS Meeting – New Orleans, LA, USA; **Cook, E**.; McGuire, S. and Kennedy, E. *"Impact of teaching metacognitive learning strategies on performance in general chemistry courses"*

2013 American Society for Engineering Education (ASEE) Gulf-Southwest Annual Conference – Arlington, TX, USA; **McGuire, Y. S**. and Cook, E. "*Putting the focus on learning in the online environment: Metacognition is the key!"*

2011 241st National ACS Meeting – Anaheim, CA, USA; **Cook, E**. and McGuire, S. *"Is less more? How much, when and how to teach learning strategies in general chemistry courses"*

2010 240th National ACS Meeting – Boston, MA, USA; McGuire, S. and **Cook, E**. *"Implementation and impact of a supplemental course taught in conjunction with General Chemistry"*

2007 234st National ACS Meeting – Boston, MA, USA; Cook, R. L.; **Cook, E**. and Lapin, J. *"Developing an ongoing service-learning program through environmental chemistry"*

2006 231st National ACS Meeting – Atlanta, GA, USA
Cook, E. and Cook, R. L. *"Same city, same course, different universities: a teacher's perspective"*

2005 T.H.E. Forum – Baton Rouge, LA, USA ; 230th National ACS Meeting – Washington, DC, USA
Cook, E. and Cook, R. L. *"'See all, hear all' – Partial lecture templates"*

2004 227th National ACS Meeting – Anaheim, CA, USA; **Cook, E**. and Cook, R. L. *"Cross-proportions: a conceptual method for developing quantitative problem solving skills"*

CONFERENCE SESSION ORGANIZATION

2008–present Co-organizer of the Undergraduate Research Poster Sessions at the National ACS Meeting and Exhibition.
- 2018 – 255th (New Orleans, LA)
- 2017 – 254th (Washington, DC) and 253rd (San Francisco, CA)
- 2016 – 252nd (Philadelphia, PA) and 251st (San Diego, CA)
- 2015 – 250th (Boston, MA) and 249th (Denver, CO)
- 2014 – 248th (San Francisco, CA) and 247th (Dallas, TX)
- 2013 – 246th (Indianapolis, IN) and 245th (New Orleans, LA)
- 2012 – 244th (Philadelphia, PA) and 243rd (San Diego, CA)
- 2011 – 242nd (Denver, CO) and 241st (Anaheim, CA)
- 2010 – 239th (San Francisco, CA)
- 2009 – 238th (Washington, D.C.)
- 2008 – 235th (New Orleans, LA)

October 2009 Member of the Organizing Committee and Judge (LSU Triple EX Annual Symposium for Undergraduate Research, Baton Rouge)

March 2008 Organizer of the Symposium on forensics for high school teachers (Pittcon'08, New Orleans)
Organizer of the Student workshop on forensics (Pittcon'08, New Orleans)

OTHER RESEARCH HISTORY

2003(Summer) ^{19}F NMR studies of fluorine containing agricultural antibiotics and pesticides.

1993 - 1995 Density Functional studies of (i) activation volumes in ligand substitution reactions involving carbonyls of Cr, Mo and W, and (ii) the elementary steps in Ziegler-Natta polymerization of propylene. Computer assisted catalyst design.

1992 - 1993 Theoretical studies on M-H and M-C (M=Co, Mn) bond dissociation enthalpies in carbonyls and M-M bonds in transition metal dimers. Elucidation of molecular structures of $Mn_2(CO)_{10}$ and $Co_2(CO)_8$. Investigations of dihydrosilation reactions mediated by organo-Sc complexes.

1987 - 1992 Density Functional studies on multiple bond metathesis reactions. Simulations of ethylene and acetylene metathesis mediated by respectively carbene and carbyne complexes of molybdenum. Optimization of intermediate structures. σ-bond metathesis reactions mediated by organo-Lu and organo-Sc complexes. H-H and C-H bond activation.

1985 - 1986 *Ab initio* study on organometallic complexes of nickel and palladium with or without use of pseudo-potentials.

OTHER CONFERENCE PRESENTATIONS

1992 XVth International Conference on Organometallic Chemistry - Warsaw, Poland (3 presentations).
1992 75th Canadian Chemical Conference and Exhibition - Edmonton, Alberta, Canada (2 presentations).
1989 Alberta-British Columbia Inorganic Chemistry Meeting - Kamloops, British Columbia, Canada.

LIST OF OTHER PUBLICATIONS FOR ELZBIETA COOK (neè FOLGA):

1. Jacobsen, H.; Cook, E. "Theoretical Inorganic Chemistry: In Reminiscence of Tom Ziegler", *Comm. Inorg. Chem.,* 2015, 1-4.
2. Folga, E.; Woo, T. K.; Ziegler, T. "A Density Functional Study on $[2_s+2_s]$ Addition Reactions in Organometallic Chemistry" in *Theoretical Aspects of homogeneous Catalysis;* P. W. N. M. van Leeuwen et al. (eds.) Kluwer Academic Publishers, 1995, pp. 111-162.
3. Ziegler, T.; Folga, E. A Density Functional Study on σ-Bond Metathesis Reactions of Possible Importance in Dehydrogenative Silane Polymerization, *J. Organomet. Chem.,* 1994, **478**, 57.
4. Folga, E.; Ziegler, T. A Density Functional Study on the Strength of the Metal Bonds in $Co_2(CO)_8$ and $Mn_2(CO)_{10}$ and the Metal-Hydrogen and Metal-Carbon Bonds in R-$Mn(CO)_5$ and R-$Co(CO)_4$, *J. Am. Chem. Sci.,* 1993, **115**, 5169.

5. Woo, T. K., Folga, E.; Ziegler, T. A Density Functional Study of Acetylene Metathesis Catalyzed by High Oxidation State Molybdenum and Tungsten Carbyne Complexes, *Organometallics,* 1993, **12**, 1289.
6. Folga, E.; Ziegler, T. A Density Functional Study on Molybdacyclobutane and its Role in Olefin Metathesis, *Organometallics,* 1993, **12**, 325.
7. Ziegler, T.; Folga, E.; Berces, A. A Density Functional Study on the Activation of Hydrogen-Hydrogen and Hydrogen-Carbon Bonds by Cp_2Sc-H and Cp_2Sc-CH_3, *J. Am. Chem. Sci.,* 1993, **115**, 636.
8. Folga, E.; Ziegler, T. A Theoretical Study on the Activation of Hydrogen-Hydrogen and Hydrogen-Alkyl Bonds by Electron Poor Transition Metals, *Can. J. Chem.,* 1992, **70**, 333.
9. Folga, E.; Ziegler, T.; Fan, L. A Theoretical Study on the Hydrogen Exchange Reaction Between Cl_2Lu-H and H_2, *New J. Chem.,* 1991, **15**, 741.

AWARDS

2017 Outstanding Instructor Award from the LSU Chapter of Phi Kappa Phi Honor Society
2016 DivCHED travel award (American Chemical Society)
Teaching Enhancement Fund travel award (Louisiana State University)
2015 Tiger Athletic Foundation UCFY Undergraduate Teaching Award (Louisiana State University; student nominated)
2010 Teaching Enhancement Grant (Faculty Fellows Program, Louisiana State University)
2010 Tiger Athletic Foundation Undergraduate Teaching Award (Louisiana State University; faculty nominated)
2008 Tiger Athletic Foundation Undergraduate Teaching Award (Louisiana State University; student nominated)
2008 A PITTCON Science Week Appreciation Award (New Orleans)
2004 Title III travel award (Southern University)
2000 Student Union Teaching Award – honorable mention (University of Calgary)

OTHER HONORS

Reviewer for *Chemistry Education Research and Practice*
Journal of Chemical Education
Journal of Food Science Education

LANGUAGE SKILLS/INTERNATIONAL EXPERIENCE

Lived and worked in four countries: Poland, Canada, Germany, and the United States.
Fluent in English and Polish; some knowledge of Russian, German, and Italian.

BIOGRAPHICAL DATA AND INTERESTS

Dr. Cook (neè Folga) is a US Permanent Resident. Citizen of both Poland and Canada. Interests include international cuisine and wine; southern rock, jazz, and classical music; exploring outdoors and traveling.

REFERENCES

Prof. Saundra McGuire	Education Research collaborator; past director of the Center for Academic Success and Adjunct Professor, Chemistry, Louisiana State University, (225) 578-6749; smcgui1@lsu.edu
Dr. Linda Allen	Director of Undergraduate Laboratories; Chemistry, Louisiana State University, Baton Rouge, (225) 578-2940; lallen3@lsu.edu
Prof. John Hopkins	Recipient of the Socolofsky Award; Chemistry, Louisiana State University Baton Rouge, (225) 578-3478; chhopk@lsu.edu