
Linda A. Luck

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Research Interests

¹⁹F NMR Methodology in the Study of Protein Structure and Function
Development of Biosensors using Genetically Engineered Proteins
Molecular Gastronomy Note by Note Cuisine Development
The Use of Nanoparticles in Distillation of Spirits
Powered by Solar Illumination

Education

Ph.D. (Chemistry) 1989 University of Vermont, Burlington (Advisor: Dr. C. Hackett Bushweller) Thesis title: Stereodynamics of Platinum Phosphine Complexes

MA (Chemistry) State University of New York, Plattsburgh Thesis title: The Purification of Elongation Factor II in Protein Biosynthesis

BA (Chemistry) State University of New York, Potsdam

Medical Technology Internship, Medical Center at Princeton, Princeton, NJ
American Society of Clinical Pathologists Registered Medical Technologist

Postdoctoral Training

Medical School, University of Vermont, NIH Funded Trainee
Department of Chemistry, University of Wisconsin, Madison
Department of Chemistry/Biochemistry, University of Colorado, Boulder

Professional Appointments

2014-2015 Erasmus Mundus Scholar at Agro Paris Tech Paris, France (Sabbatical)
2010-2013 Chair of Chemistry, State University of New York at Plattsburgh
2006-Present Professor of Chemistry, State University of New York at Plattsburgh
2006-present Adjunct Professor, Department of Biochemistry, University of Vermont
Medical College
2005-2006 Professor of Chemistry and Biology, Clarkson University
2000-2004 Associate Professor of Chemistry and Biology, Clarkson University

Spring 2003 Visiting Professor, Department of Biochemistry, University of Vermont
Medical School (Sabbatical)
1996-2000 Assistant Professor of Chemistry and Biology, Clarkson University
1996-1998 Adjunct Senior Scientist, W. Alton Jones Cell Center, Lake Placid, NY
1994-1996 Visiting Professor of Biology, Clarkson University
1993-1994 Senior Scientist, National Institute of Environmental Health Sciences,
Research Triangle Park, NC
1980-1983 Instructor of Chemistry, State University of New York, Plattsburgh
1980-1981 Adjunct Faculty, Clinton Community College, Biology and Chemistry

Awards:

*Erasmus Mundus European Scholars Scholarship- Food Innovation and Products
Design Program Awarded 2014*

SUNY Chancellor's Award for Scholarship and Creative Activities 2012

Featured Scholar, Celebration of Scholarship, SUNY Plattsburgh 2010

American Physical Society, Division of Biological Physics Travel Award to Venkatesh
Subbo-Rao to present our paper 2006

John W. Graham Jr. Faculty Research Award, Clarkson University 2000

Lilly Travel Award (alternate) 1994

Finn Wold Travel Award- Protein Society 1996 (12 in the country awarded)

AAMC Professional Development Seminar for Junior Women Faculty 1992

Mini Grant for Travel, University of Vermont 1988

Beta Beta Beta Biology Honorary (Undergraduate)

Clarkson Scholarship –Freshman Year

NY State Regents Scholarship

Memberships in Professional Societies:

American Chemical Society 1984-present

Northern New York Section Vice-Chair 1996-1997

Founding Member of American Academy of Nanomedicine 2004

National Association of Advisors for the Health Professions 2000-2012

Participated in Regional Focus Group April 2010

Participation in Regional Focus Group April 2009

American Association of Medical Colleges Focus Panel November 2009

Northeast Association of Advisors for the Health Professions 2000-2012

The Protein Society 1990-2011

Member of the National Educational Committee 2006-2009

Biophysical Society 2000-2005

Association of Women in Science (AWIS) 1993-1996

Sigma Xi 1988-1994

American Association of Clinical Pathologists 1975-89

Professional Activities:

Member of the Editorial Board of *International Journal of Molecular Gastronomy* 2014-present

International Advisory Board for the Food Innovation and Products Design Program

2014-2015

Member of the Advisory Board for the International Center for Molecular Gastronomy
2014-present

Member of the Editorial Board of *Analytical Biochemistry* 2011-present

Member of the Editorial Board of *Mediterranean Journal of Chemistry* 2011- present

Board of Directors CVPH Medical Center Plattsburgh, NY 2006-2012

Finance, Pension, By-Laws and Building Committees

IHRP Board Member at the High Magnetic Field Laboratory, Florida State University,
Tallahassee 2000-2003

Professional Service outside the University

Review of a Faculty for Promotion and Tenure Decision for Albany College of Pharmacy
2015

Sponsor for a Fulbright application for a professor from Palestine

Review of Faculty for Promotion and Tenure Decision Buffalo State University

Review of a Faculty for Promotion University of Denver

Review of a Faculty for Promotion and Tenure for University of Jordan

Textbook review of “Biochemistry a short Course” by Tymoczko, Berg and Stryer. 3rd
Edition

Textbook review of “Biochemistry” by Meisfeld and McEvoy

Departmental Review of the Chemistry Department at Eastern Connecticut State 2012

Professional Service for the University

Sabbatical Leave Review Committee 2016

Promotions Review Committee SUNY Plattsburgh 2015

Committee on Building Community Connections for the Strategic Plan 2014

Planning Committee for the Full Scale Academic Building Fire Exercise 2013

Co-Director of the Biochemistry Program SUNY Plattsburgh 2007-2011

Premedical Committee SUNY Plattsburgh 2006-2012

Director of Premedical Advising Program, Clarkson University 2000-2006

Member of the Provost Search Committee SUNY 2011

Member of the Academic Integrity Committee, Clarkson University 2004-2006

Member of the Graduate Committee, Clarkson University 2000-2006

Member of the Founding Dean of the School of Arts and Science Search Committee
Clarkson University 2003

Member of the Dean of Engineering Search Committee 2002

Member of the Dean of Science Search Committee, Clarkson University 1998

Grants:

Erasmus Mundus Scholars Scholarship for Research and Teaching in the Food
Innovation and Products Design Program in Paris, France, Dublin Ireland and Naples,
Italy \$\$for living and traveling expenses 2014-2015 (PI)

DURIP DOD /ARO “Purchase of a NanoHPLC (UPLC) for the Advancement of
Proteomics Research at Clarkson University and SUNY Plattsburgh “ 2011-2012
\$107,435 (Co-PI)

President’s Award “19F NMR Studies of the Estrogen Receptor” 2011-2014 \$5,000 (PI)

SUNY Mini Grant “Mass spectrometry of proteins” 2011 \$1200 (PI)
NSF MRI “Acquisition of an LCMS for the Chemistry Department at the University of Vermont” \$430,000 2008-2011 (Co-PI)
Educational Technology Grant SUNY “Using the Personal Computer and Internet for Biochemistry Education in the Laboratory” 2009-2010 \$23,000 (PI)
SUNY Curriculum Development Proposal for the Professional Science Master’s Program \$10,000 Project Team Leader for the Allied Health Initiative (Collaborator)
Educational Technology Grant SUNY “Green Chemistry: Effective Education using Computer Simulations and Calculations” 2007 (Co-PI with Dr. Ed Miller)
UUP Professional Development Individual Awards Program 2006-07 \$350 (PI)
DOD BRCP “Development of a Biosensor for Identifying Novel Endocrine Disrupting Chemicals” 2007-2009 \$93,000 (I wrote the grant but was CO-PI with Silent Spring Institute, Newton, MA)
NSF “Summer supplement for High School Teacher for Electrochemical Impedance Architecture for Biosensors” 2006-2007 \$10,000 (Co-PI on main grant but PI on the grant that moved to SUNY summer 2007)
NSF “Electrochemical Impedance Architecture for Biosensors” 2003-2007 \$300,000 (Co-PI with Ian Suni)
NSF Funded Faculty Associate-K-12 Project Based Learning Partnership Program 2000-2002 \$48,688 for student stipend to work in my lab
NIH RO3 "Estrogenic Substance Detection by a Modified Nanobalance" 2001-2004 \$146,308 PI
PRF ACS-AC "Probing the Dynamic Behavior of the Human Estrogen Receptor by ¹⁹F NMR" PI 2001-2004 \$60,000 PI
Heart and Stroke Canada Research Grant OAI-1 "Structure Function and Interaction Studies" 2001-2002 \$25,000 (Co-PI with Art Szabo University of Waterloo, Toronto CA)
PRF ACS-G “Development of New ¹⁹F NMR Probes to Study the Estrogen Receptor with Environmental Chemicals” 1999-2000 \$25,000 PI
Corning Grant “ MSI software for Molecular Modeling in Biochemistry and Biotechnology Classes” 1998-2000 \$100,000 PI
NIH “Biophysics of Tissue Factor Interactions” collaborator with J.B. Alexander Ross, Mount Sinai School of Medicine, NY Grant HL-29019 1998-2003 \$796,268 (collaborator and co sponsor for graduate student J. Zemsky)
DOD BRCP, “Substrate Induced Conformational Studies of the Hormone Binding Domain of the Human Estrogen Receptor by Fluorine NMR”, 1996-1999 \$145,332 PI
University Committee for Improvement of Teaching Grant,” Implementing Molecular Modeling In the Biology Curriculum” Clarkson University 1995 \$30,000 PI
NIH Fellow University of Vermont Medical College Grant #13207594–08, 1991–1993 Tuition, stipend and supplies for 2 years.

Students and Faculty Mentored

Visiting Professor: **Subsequent positions**
Ragni Garg 2004 California State University

Postdoctoral Students:
Branka Sondi Scientist Rudjer Boskovic Institute Croatia
Urmi Roy Clarkson University

Graduate Students: *Subsequent Positions and Degrees*
Vedrana Marin MS 1999 Ph.D Florida State University
Thomas Deneka MS 2000 Scientist, Corning Inc
Matthew Skeels PhD 2001 Associate Professor St. Lawrence College
Derrick Swartz MS 2002 Instructor Daemon College
Mike Moravan MS 2002 MD/PhD University of Rochester
Timothy Barcomb MS 2003 MD Stony Brook
Kendra Carmon MS 2004 PhD University of Texas
Dave Evans MS 2005 DO Philadelphia College of Osteopathic Medicine
Lamis Dagher MS 2006 Science Faculty Lebanese International Institute
Jessica King MALS 2007 NY School of Osteopathic Medicine
Christine Ladwig MSNS 2013 Assistant Professor of Business Law, Harrison
College of Business at Southeast Missouri State
Shannon Nephew MSNS 2013 Science Programs/ Facilities Support Professional
SUNY Plattsburgh

Undergraduate Thesis Students: *Further Education or positions*
Chris Sillence Senior 1997 MS University of Colorado
Stephen Brych Senior 1998 PhD Florida State
Jeffrey Plant Senior 1998 PhD Penn State
Eustacia McDonald Senior 2000 Scientist, NY State Health Department
Ryan Frost Senior 2001 University of Connecticut, PharmD
Kristin Wheeler Honors 2001 Masters of Education, SUNY Plattsburgh
Angela Mabb Senior 2002 PhD University of Wisconsin, Madison
Alicia Crandall Senior 2003 DO Lake Erie College of Osteopathic Medicine
Andrea Fischer Honors 2006 MPH SUNY Albany School of Public Health
Marianna Worczak Honors 2006 MD University of Miami School of Medicine
David Bodgan Honors 2006 Engineer GE
Amanda Aldous Honors 2010 PhD Chemistry Tufts University 2015

Selected Undergraduate Research Students:
Siren Chudgar MD SUNY Upstate 1999
Seth Barrows MS University of Wisconsin, 1999

Matthew Liepke	MD SUNY Upstate 2001
Colleen Peck	MA Dartmouth 1998
Nicki Williams	MD SUNY Upstate 2001
Allison Greenier	University of Vermont Medical College 2001
Jordan Grant	DMD University of Pennsylvania
Daniel Schmidt	MS University of Massachusetts, Lowell 2000
Colin Johnson	PhD University of Illinois, Champagne-Urbana 2005
Jesse Poteralski	Scientist, AMGEN
Jodi Plank	PhD Duke 2006
Jeffery Rockwell	MS Florida State University 2006
Theresa Hopkins	NY Chiropractic School
Dave Abramowitz	MD Sackler School of Medicine NY/Tel Aviv
Rebecca D'Amico	PhD program Penn State
Faith Wiegant	MS Program in Food Science Colorado State
Saurav Singh	PhD program University of Miami
John Spear	PhD Florida State 2015
Courtney Sipe	University of Western States in Oregon-Chiropractor
Keisha Thomas	PhD program Einstein University
Katie Whipple	Scientist at Verla International

Publications in peer-reviewed journals:

Cai, Z., Luck, L.A., Punihaole, D., Madura, J. D., Asher, S.A. (2016) Photonic Crystal Protein Hydrogel Sensor Materials Enabled by Conformationally Induced Volume Phase Transition. *Chemical Science* **7**, 4557-4562.

Luck, L.A. and Blondo, R.M. (2012) Grapes of Class: Teaching Chemistry Concepts at a Winery. *Journal of Chemical Education* **89**, 1264-1266.

Roy, U and Luck, LA (2011) Cysteine Residues in Receptor Proteins: Structural Insights from Two *E. coli* Periplasmic Receptors. *Journal of Chemistry and Chemical Engineering* **5**, 771-777.

Andreescu, S and Luck, LA (2008) Genetically Engineered Protein Films on Gold Nanoparticles: A Novel Electrochemical Glucose Biosensor *Analytical Biochemistry* **375**, 282-290.

Roy, U. and Luck, L.A. (2007) Molecular Modeling of the Estrogen Receptor Using Molecular Operating Environment. *Biochemistry and Molecular Biology Education* **35** 238-243.

Baltus, R.E, Carmon, K.S.,and Luck, L.A.(2007) Quartz Crystal Microbalance with Immobilized Protein Receptors: A Comparison of Response to Ligand Binding for Direct Protein Immobilization and Protein Attachment via a Disulfide Linker. *Langmuir* **23**, 3990-3995.

Tripathi, A., Wang, J., Luck, L.A. and Suni, I.I. (2007) Nanobiosensor Design Utilizing a Periplasmic *E.coli* Receptor Protein Immobilized within Au/Polycarbonate Nanopores. *Analytical Chemistry* **79**, (3) 1266-1270.

Wang, J., Luck, L.A. and Suni, I.I (2007) Immobilization of the Glucose-Galactose Receptor Protein onto a Au Electrode Through a Genetically Engineered Cysteine Residue. *Electrochemical and Solid-state Letters* **10**, (2) 133-136.

Sokolov, I., Subba-Rao, V. and Luck, L.A. (2006) Change in Rigidity in the Activated Form of the Glucose/Galactose Receptor from *E.coli*: A Phenomenon that will be Key to the Development of Piezoelectric Biosensors. *Biophysical Journal* **90**, 1055-1063.

Wang, J., Carmon, K. S., Luck, L.A. and Suni, I.I. (2005) Electrochemical Impedance Biosensor for Glucose Detection Utilizing a Periplasmic *E. coli* Receptor Protein *Electrochemical and Solid-state Letters* **8**, 61-68.

Carmon, K.S., Baltus, R.E. and Luck, L.A (2005) A Biosensor for Estrogenic Substances Using a Quartz Crystal Microbalance *Analytical Biochemistry* **345**, 277-283.

Abbott, G.L., Blouse, G.E., Perron, M.J., Shore, J.D., Luck, L.A. and Szabo, A.G. (2004) ¹⁹F NMR Studies of Plasminogen Activator Inhibitor-1 *Biochemistry* **43**, 1507-1519.

Magnusson, U., Salopek-Sondi, B., Luck, L.A. and Mowbray, S. L. (2004) X-Ray Structures of the Leucine-binding Protein Illustrate Conformational Changes and the Basis of Ligand Specificity. *Journal of Biological Chemistry*. **279**, 8747-8752.

Carmon, K.S., Baltus, R.E. and Luck, L.A. (2004) A Piezoelectric Quartz Crystal Biosensor: The Use of Two Single Cysteine Mutants of the Periplasmic *E.coli* Glucose/Galactose Receptor as Target Proteins for the Detection of Glucose. *Biochemistry* **43**, 14249-14256.

Salopek-Sondi, B., Vaughn, M.D., Skeels, M.C., Honek, J.F. and Luck, L.A. (2003) ¹⁹F NMR Studies of the Leucine-Isoleucine-Valine Binding Protein: Evidence That a Closed Conformation Exists in Solution *Journal of Biomolecular Structure & Dynamics* **21**, 235-246.

Luck, L.A., Moravan, M.J., Garland, J.E., Salopek-Sondi, B. and Roy, D. (2003) Chemisorptions of Bacterial Receptors for Hydrophobic Amino Acids and Sugars on Gold for Biosensor Applications: A Surface Plasmon Resonance Study of Genetically Engineered Proteins. *Biosensors and Bioelectronics*. **19**, 249-259.

Salopek-Sondi, B., Skeels, M.C., Swartz, D. and Luck, L.A. (2003) Insight into the Stability of the Hydrophobic Amino Acid Binding Proteins of *E.coli*: Assessing the Proteins for use as Biosensors. *Proteins: Structure, Function and Genetics*. **53**, 273-281.

- Senear, D.F., Mendelson, R.A., Stone, D., Luck, L.A., Rusinova, E. and Ross, J.B.A. (2002) Quantitative Analysis of Tryptophan Analogue Incorporation in Recombinant Proteins. *Analytical Biochemistry*. **300**, 77-86.
- Salopek-Sondi, B. and Luck, L.A. (2002) ^{19}F NMR Study of the L-Leucine Specific Binding Protein of *E. coli*: Mutagenesis and Assignment of the 5-Fluorotryptophan Labeled Residues. *Protein Engineering*. **15**, 857-861.
- Salopek-Sondi, B., Adams, P.S., Swartz, D. and Luck, L.A. (2002) Exploring the Role of Amino Acid-18 of the Leucine Binding Proteins of *E. coli*. *Journal of Biomolecular Structure & Dynamics*. **20**, 381-388.
- Luck, L.A. and Johnson, C. (2000) Fluorescence and ^{19}F NMR Evidence that Phenylalanine and 4-L-Fluorophenylalanine Bind to the L-Leucine Specific Receptor of *Escherichia coli*. *Protein Science*. **9**, 2573-2576.
- Luck, L.A., Barse, J.L., Luck, A.M. and Peck, C. (2000) Conformational Changes in the Human Estrogen Receptor Observed by Fluorine NMR. *Biochemical Biophysical Research Communications*. **270**, 988-991.
- Zemsky, J., Rusinova, E., Nermerson, Y., Luck, L.A. and Ross, J.B.A. (1999) Probing the Local Environments of Tryptophan Residues in Proteins: Comparison of ^{19}F NMR Results with the Intrinsic Fluorescence of Soluble Tissue Factor. *Proteins: Structure, Function and Genetics*. **37**, 709-716.
- Skeels, M.C., Salopek-Sondi, B. and Luck, L.A. (1999) ^{19}F NMR Study of the Binding of Fluorinated Diethylstilbestrol to the Human Estrogen Receptor. *Protein and Peptide Letters*. **6**, 149-152.
- Liu, W., Liu, X., Knaebel, D., Luck, L.A. and Li, Y. (1998) Investigation of the Antibacterial Activity of Novel Water Soluble Peroxides. *Antimicrobial and Chemotherapeutic Agents*. **42**, 911-915.
- Crabb, J.W., Carlson, A., Chen, Y., Goldflam, S., Intres, R., West, K.A., Hulmes, J.D., Kapron, J.T., Luck, L.A., Horwitz, J. and Bok, D. (1998) Structural and Functional Characterization of Recombinant Human Cellular Retinaldehyde-Binding Protein. *Protein Science*. **7**, 746-757.
- Gabel, S.A., Luck, L.A., Werbelow, L.G. and London, R.E. (1997) Dynamic Frequency Shifts of Complexed Ligands: An NMR Study of $[1-^{13}\text{C}, 1-^1\text{H}]\text{-D-Glucose}$ Complexed to the *E.coli* Periplasmic Glucose/Galactose Receptor. *Journal of Magnetic Resonance*. **128**, 101-104.
- Luck, L.A., Mason, A.B., Savage, K.J., MacGillivray, R.T. and Woodworth, R.C. (1997) Metal Induced Conformational Changes in Recombinant Human Transferrin N-terminal

- Lobe and Three Site Point Mutants Monitored by ^{19}F NMR. *Magnetic Resonance in Chemistry*. **35**, 477-481.
- Luck, L.A., Vance, J.E., O'Connell, T.M. and London, R.E. (1996) ^{19}F NMR Relaxation Studies on 5-fluorotryptophan- and tetradeutero-5-fluorotryptophan-labeled *E.coli* Glucose/Galactose Receptor. *Journal of Biomolecular NMR*. **7**, 261-272.
- Landis, C.R., Luck, L.A. and Wright, J.M. (1995) Multiconformational Analysis of Solution NOE Data for the AC-(L) Proline-(D) Alanine-NHMe Dipeptide in a Nonprotic Solvent. *Journal of Magnetic Resonance*. **109**, 44-59.
- Drake, S.K., Bourrett, R., Luck, L.A., Simon, M.I. and Falke, J.J. (1993) Activation of the Phosphosignaling Protein CheY. I. Analysis of the Phosphorylated Conformation by ^{19}F NMR and Protein Engineering. *Journal of Biological Chemistry*. **268**, 13081-13088.
- Falke, J.J., Luck, L.A. and Scherrer, J. (1992) ^{19}F Nuclear Magnetic Resonance Studies of Aqueous and Transmembrane Receptors. Examples from the *Escherichia coli* Chemosensory Pathway. *Biophysical Journal*. **62**, 82-86.
- DiMeglio, C.M., Kazi, A.J., Luck, L.A., Weltin, E.E., Rheingold, A.L. and Bushweller, C.H. (1992) Stereodynamics of Sterically Crowded Metal-phosphine Complexes. trans-[(*t*-Bu) $_2$ P(*i*-Pr)] $_2$ MCl $_2$ M=Pt(II) and Pd(II)]. One-Dimensional and Two-dimensional Chemical Exchange NMR Studies. X-ray Crystallographic Studies. Molecular Conformation Trapping. Molecular Mechanics Calculations. *Journal of Chemical Physics*. **96**, 8765-8777.
- Miller, E.J., Weigelt, C.A., Serth, J.A., Rusyid, R., Brenner, J., Luck, L.A. and Godlewski, M. (1992) The Wittig Reaction in the Generation of Organometallic Compounds Containing Alkenes as Side Groups. *Journal of Organometallic Chemistry* **440**, 91-101.
- Luck, L.A. and Landis, C.R. (1992) Aprotic, Viscous Solvent Mixtures for Obtaining Large, Negative NOE Enhancements in Small Inorganic and Organic Molecules: Ideal Solvent Systems for Deducing Structures by NMR Techniques. *Organometallics*. **11**, 1003-1005.
- Luck, L.A. and Falke, J.J. (1991) ^{19}F NMR Studies of the D-Galactose Chemosensory Receptor. 1. Sugar Binding Yields a Global Structural Change. *Biochemistry*. **30**, 4248-4256.
- Luck, L.A. and Falke, J.J. (1991) ^{19}F NMR Studies of the D-Galactose Chemosensory Receptor. 2. Ca(II) Binding Yields a Local Structural Change. *Biochemistry*. **30**, 4257-4261.

Luck, L.A. and Falke, J.J. (1991) Open Conformation of a Substrate-Binding Cleft: ^{19}F NMR Studies of Cleft Angle in the D-Galactose Chemosensory Receptor. *Biochemistry*. **30**, 6484- 6490.

DiMeglio, C.M., Luck, L.A., Rithner, C.D., Rheingold, A.L., Elcesser, W.L., Hubbard, J.L. and Bushweller, C.H. (1990) Stereodynamics of trans-[(t-Bu) 2PPh] 2MCl_2 [M=Pt(II) and Pd(II)] and trans-[t-Bu) 2PPh] $2\text{M}(\text{CO})\text{Cl}$ [M=Rh(I) and Ir(I)]. Dynamic NMR and X-ray Crystallographic Studies. *Journal of Physical Chemistry*. **94**, 6255-6263.

Luck, L.A., Elcesser, W.L., Hubbard, J.L. and Bushweller, C.H. (1989) Molecular Trapping as an Aid to Chemical Shift Assignment for Multi-Conformation Systems. A Platinum (II) Complex. *Magnetic Resonance in Chemistry*. **27**, 488-490.

Book Chapters

Luck, L.A. (2014) Analysis of Fluorinated Proteins by Mass Spectrometry. *Advancements of Mass Spectrometry in Biomedical Research*. 319-329

Ross, J.B.A., Rusinova, E., Luck, L.A. and Rousslang, K.W. (2000) Spectral Enhancement of Proteins by *in vivo* Incorporation of Tryptophan Analogues. *Topics in Fluorescence Spectroscopy*. **6**, 17-42.

Luck, L.A., Venters, R.A., Kapron, J.T., Roth, K.E., Barrows, S.A., Paradis, S.G. and Crabb, J.W. (1997) NMR Methods for Analysis of CRALBP Retinoid Binding. *Techniques in Protein Chemistry*. **VIII**, 439-448.

Luck, L.A. (1995) ^{19}F NMR Studies of Fluorinated Sugars Binding to the Glucose and Galactose Receptor Protein. *Techniques in Protein Chemistry*. **VI**, 487-494.

Published Abstracts for Platform or Invited Seminars:

Luck L.A, Cai, Z. and Asher, S.A. 50 Shades of the Glucose and Galactose Binding Protein 41st NERM Binghamton, NY 2016

Luck, L. A. Nanotechnology Application of Genetically Engineered Proteins That Form Self-assembled Monolayers on Gold Surfaces: A Biosensor for Endocrine Disrupting Chemicals. 244th ACS National Meeting, Philadelphia, PA August 2012

Luck, L.A. Biosensors and Genetic Engineering. Albany/North Country Hub Meeting of the Research Foundation for the State University of New York 2012

Luck, L. A., Aldous, A., Layhee, A. and O'Rourke, B. Biosensor Applications of Genetically Engineered Proteins That Form Self-assembled Monolayers on Gold Surfaces. 10th Workshop on Biosensors and Bioanalytical Microtechniques in the Environmental and Chemical Analysis Germany June 2011

Luck, L. A. ¹⁹F NMR Studies of Receptor Proteins 5th Central European Conference Chemistry towards Biology Primosten, Croatia September 2010

Luck, L.A., Standley, L.J., and Rudel, R.A. Development of a Biosensor for Identifying Novel Endocrine Disrupting Chemicals. Department of Defense Breast Cancer Research Program Era of Hope Meeting. Baltimore, MD June 2008

Luck, L.A. Biosensors Using Genetically Engineered Proteins: Incorporating Undergraduates in Interdisciplinary Research Projects in the Biosensor Field. Lunch/Workshop 20th Symposium of the Protein Society 2006

Luck, L.A , Carmon, K.S., and Baltus, R.E. Development of a QCM Biosensor using Genetically Engineered proteins. 34th NERM Meeting of the ACS. Binghamton, NY October 2006

Luck, L.A , Carmon, K.S., and Baltus, R.E. Screening of Compounds that Bind to the Estrogen Receptor Using a Quartz Crystal Microbalance Biosensor Platform presentation and poster at the Era of Hope Department of Defense Breast Cancer Research Program Meeting Philadelphia PA. 2005

Luck, LA ¹⁹F Studies Fluoroglucose and Fluorogalactose Analogues Binding to the *E.coli* Glucose and Galactose Receptor. 4th Upstate NY NMR Symposium October 2002

Luck, L.A. Biochemistry of Estrogens and Estrogenic Chemicals. Mini Symposium at the Bioenvironmental Research Institute, Tulane and Xavier Universities New Orleans, LA March 1997

Luck, L.A., Venters, R. A., Barrows, S. A., Kapron, J. T., Crabb, J. W. ¹³C and ¹⁹F NMR Analysis of the CRALBP Retinoid-Binding. Abstracts of the Twelfth International Symposium on Cellular Endocrinology, The Extracellular Matrix: Its Synthesis, Function and Degradation, Lake Placid, NY, September 1996

Published Abstracts for Posters or Seminars Given by other Authors:

Aldous, A., Layhee, A. and Luck, L.A. Nanotechnology Application of Genetically Engineered Proteins That Form Self-assembled Monolayers on Gold Surfaces: A Biosensor for Nonylphenol 37th NERM Meeting of ACS, Potsdam, NY June 2010

Ganesana, M., Istamboulie, G., Noguer, T., Luck, L.A., Andreescu, S. Ultrasensitive Biosensors based on Site-specific Immobilization of Proteins on Metal Nanoparticles 37th NERM Meeting of ACS, Potsdam, NY June 2010

O'Rourke, B. and Luck, L.A. Nanotechnology Application of Genetically Engineered Proteins That Form Self-assembled Monolayers on Gold Surfaces: A Biosensor that can Detect Hydrophobic Amino Acids 37th NERM Meeting of ACS, Potsdam, NY June 2010

Ganesana, M., Istamboulie, G., Noguer, T., Luck, L.A. Andreescu, S. Site-specific Immobilization of Proteins on Metal Nanoparticles for Biosensor Fabrication. 238th ACS National Meeting, Washington, DC August 2009

Luck, L. A. Nanotechnology Applications of Genetically Engineered Proteins that Form Self-assembled Monolayers on Gold Surfaces. VIII European Symposium of the Protein Society. Zurich Switzerland June 2009

Andreescu, S. and Luck, L.A. Genetically Engineered Protein Films on Metal Nanoparticles: A Biosensor Application. 236th ACS National Meeting, Philadelphia, PA August 2008

Luck, L.A., Layhee, A.W., Abramowitz, D.J and Sipe, C. Self-assembled Monolayer Based Quartz Crystal Microbalance Biosensor for the Detection of Endocrine Disrupting Chemicals 35th NERM Meeting of ACS, Burlington, VT June 2008

Luck, L.A., Standley, L.J., and Rudel, R.A. Development of a Biosensor for Identifying Novel Endocrine Disrupting Chemicals. Department of Defense Breast Cancer Research Program Era of Hope Meeting. Baltimore, MD June 2008

Luck, L.A., Layhee, A. W., Abramowitz, D.J., Standley, L.J., and Rudel, R.A. Genetically Engineered Protein Films on the Quartz Crystal Microbalances: A Biosensor for the Detection of Xenoestrogens 235th ACS National Meeting, New Orleans, LA April 2008

Suni, I.I., Tripathi, A., Wang, J., and Luck, L.A. Nanobiosensor Utilizing Genetically Engineered Receptor Proteins Immobilized within Au Nanopores AIChE Annual Meeting Salt Lake City, UT November 2007

Suni, I.I., Tripathi, A., Wang, J., and Luck, L.A. Impedance Nanobiosensor Utilizing Receptor Proteins Immobilized within Au/polycarbonate Nanopores. 234th ACS National Meeting. Boston, MA August 2007

Luck, L.A. and Andreescu, S. Genetically Engineered Protein Films on Gold Nanoparticles: A Novel Electrochemical Glucose Biosensor VII European Symposium of the Protein Society. Stockholm/Uppsala Sweden May 2007

Suni, I.I., Tripathi, A., Wang, J., and Luck, L.A. Impedance Nanobiosensor Utilizing Receptor Proteins Immobilized within Au/polycarbonate Nanopores. 211th Meeting of the Electrochemical Society. Chicago, IL May 2007

Luck, L.A., Carmon, K.S., and Baltus, R.E. Detection of Small Ligands using a Quartz Crystal Microbalance with Genetically Engineered Proteins. 1st Annual International QCM-D Conference. Boston MA December 2006

Suni, I.I., Wang, J., and Luck, L.A. Impedance Biosensors through Direct Immobilization of Protein onto Gold. AIChE Annual Meeting San Francisco, CA November 2006

Sokolov, I., Luck, L.A. and Subba-Rao, V. Change in Rigidity in the Glucose/Galactose Receptor Detected with AFM: A Phenomenon that will be Key to the Development of a Family of Biosensors. 34th NERM Meeting of the ACS. Binghamton, NY October 2006

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Sokolov, I., Luck, L.A. and Privman, V. AFM Study of Conformation and Rigidity of the Glucose/Galactose Receptor Molecules: Towards Development of Biosensors DARPA Workshop, Washington, DC May 2006

Subba-Rao, V., Luck, L.A. Sokolov, I. "Change in Rigidity in the Glucose /Galactose Receptor: A Phenomenon That Will Be Key to the Development of Biosensors", CAMP Annual Meeting, Saratoga Springs, NY May 2006.

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Subba-Rao, V., Luck, L.A. and Sokolov, I., Glucose/Galactose Binding Protein Changes its Mechanical Properties: Novel AFM Method of Detection *in-situ*. American Physical Society. Baltimore, MD April 2006 (*V. Subba-Rao won a travel award for this abstract and presentation*)

Suni, I.I., Luck, L.A., and Wang, J. Electrical Impedance Biosensors AIChE Annual Meeting Cincinnati, OH November 2005

Luck, L.A., Baltus, R.E., Suni, I.I., Wang, J., Carmon, K.S., and Bogdan, D.C. Electrochemical Biosensors Using Genetically Engineered Proteins as Biomaterials to Sense Small Molecules. Protein Science 2005 14(1) 421. 19th Symposium of the Protein Society. Boston, MA August 2005

Luck, L.A., Carmon, K.S., and Baltus, R.E. Screening of Compounds that Bind to the Estrogen Receptor Using a Quartz Crystal Microbalance Era of Hope Department of Defense Breast Cancer Research Program Meeting Philadelphia PA. June 2005

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Baltus, R.E., Luck, L.A., Carmon, K.S. Development of a Quartz Crystal Microbalance Based Biosensor Utilizing Genetically Engineered Proteins to Detect Small Ligands AIChE 2004 Annual Meeting Austin, TX November 2004

Evans, D., Salopek-Sondi, B., Odeh, F. and Luck, L.A. Unfolding of the Leucine Binding Protein from *E.coli*: A Fluorescence and ¹⁹F NMR Study. 6th Upstate NY NMR Symposium Oct 2004

Chen, M., Crandall, A., Luck, L.A., Grimberg, S.J. Lipopolysaccharide Characterization for Two Pseudomonads Grown with Different Carbon Sources 104th Annual Meeting for Microbiology May 2004

Luck, L.A., Carmon, K.S., Baltus, R.E. Quartz Crystal Microbalance Biosensor for Estrogenic Compounds Biophysical Forty-eighth Annual Meeting, Baltimore MD *BIOJAU* 86(2) 514a February 2004

Szabo, A.G., Abbott, G., Luck, L.A., Blouse, G., Shore, J., Perron, M. Structural Investigations of Plasminogen Activator Inhibitor-I. Biophysical Forty-eighth Annual Meeting, Baltimore MD *BIOJAU* 86(2) 359a February 2004

Salopek-Sondi, B., Luck, L.A., Swartz, D.J., Skeels, M.C., Barcomb, T.F. Stability and Unfolding patterns of *E.coli* Periplasmic Binding Proteins Monitored by Fluorescence

and ^{19}F NMR Spectroscopy. Scientific Symposium Celebrating Molecular Biology in Croatia September 2003

Chapman, M.S., Cross T, Greenbaum, N.L., Kern, D., Logan, T.M., Luck, L.A., Skalicky J.J., Stemmler, T.L. Structure and Dynamics of Biomolecules Meeting of the National High Magnetic Laboratory November 2003

Salopek-Sondi, B.S and Luck, L.A. Conformational Changes of Bacterial Periplasmic Proteins Monitored by ^{19}F NMR 2nd International DU NMR Conference Ruder Borskovic Institute Zagreb Croatia October 2003

Luck, L.A. Carmon, K.S. and Baltus, R.E. Development of a Biosensor for Estrogenic Compounds Using a Quartz Crystal Microbalance E.Hormone Meeting at Tulane University October 2003

Suni I, Li H, and Luck, L.A. Electrochemical Impedence Spectroscopy for Biosensing AlChE Annual Meeting San Francisco, CA November 2003

Luck, L.A., Salopek-Sondi, B, Swartz, D.J., Barcomb, T.F. Monitoring the unfolding pathway of the L-Leucine Binding Proteins of E.coli by fluorescence and NMR spectroscopy Protein Science vol 12(1) 415. 5th European Symposium of the Protein Society October 2003

Salopek-Sondi, B and Luck, L.A. ^{19}F NMR of the E.coli Periplasmic Binding Proteins. Protein Science Vol 12 (1) 70. 5th European Symposium of the Protein Society October 2003

Luck, L.A., Swartz, D.J., Mabb, A. and Salopek-Sondi, B. Biophysical Studies of the Hormone-binding Domain of the Estrogen Receptor. Proceedings: Era of Hope, Department of Defense Breast Cancer Conference, Orange County Convention Center, Vol I, P7-17. September 2002

Salopek-Sondi, B. and Luck, L.A. Assignment of the 5-Fluorotryptophan Resonances of the Leucine Binding Proteins of E.coli 4th Upstate NY NMR Symposium October 2002

Luck, L.A. Calorimetric Studies Fluoroglucose and Fluorogalactose Analogues Binding to the *E.coli* Glucose and Galactose Receptor. European Conference on Current Trends in Microcalorimetry, Dublin Ireland August 2002

Abbott, G.L., Blouse, G.E., Shore, J.D., Luck, L.A. Szabo, A.G. Structural Investigations of Plaminogen Activator Inhibitor-1 Single Tryptophan Mutants and Their 5-fluorotyrptophan Incorporated Counterparts. Biophysical Forty-sixth Annual Meeting, San Francisco CA *BIOJAU* 82(2) 354a February 2002

Luck, L.A., Salopek-Sondi, B.S, Skeels, M.C. Mutagenesis, NMR and Protein Unfolding Studies on the Leucine Receptors of *E.coli* 4th European Symposium of the Protein

Society, Institute Pasteur, Paris France April 2001.

Salopek-Sondi, B.S, Wheeler, K., Luck, L.A. Conformational Behavior of the Leucine Specific Protein Mutants W336f and W320F: A ^{19}F NMR Study. 2nd Annual Northeastern NMR Conference, Cornell University, Ithaca, NY November 2000

Luck, L.A., Barse JL, Skeels, M.C., Salopek-Sondi, B., Luck, A.M., Peck, C. ^{19}F NMR Studies of the Estrogen Receptor. Breast Cancer Research Program, Department of Defense U.S. Army Research and Materiel Command. Atlanta GA June 2000

Luck, LA and Johnson, C. Fluorine NMR Studies of the Unique Ligands of the Leucine Binding Proteins, Southeast Magnetic Resonance Conference , Tallahassee FL, November 1999

Luck, LA and Johnson, C. Probing Binding Properties of the Leucine Receptor Third European Symposium of the Protein Society, Garmisch-Partenkirchen, Germany, September 1999

Luck, L.A., Skeels, M.C., Sondi, B.S., Marin, V, Johnson, C. and Poteralski, J. ^{19}F NMR Studies of the Estrogen Receptor Northeastern Regional Meeting of the ACS Potsdam, NY June 1999

Luck, L.A., Rusinova, E. and Ross, J.B.A. Solvent Accessibility of Trp Residues in Soluble Tissue Factor: Comparison of Results from ^{19}F NMR and Fluorescence. Biophysical Society 43rd Annual Meeting. Baltimore, MD February 1999

Luck, L.A., Rusinova, E. and Ross, J.B.A. ^{19}F NMR Studies of 5-F-Tryptophan Labeled Human Tissue Factor. Frontiers of NMR in Molecular Biology VI, Breckenridge, CO January 1999

Luck, L.A. and Barse, J.L. ^{19}F NMR Studies of the Recombinant Human Estrogen Receptor Hormone-Binding Domain. Breast Cancer Research Program, Department of Defense U.S. Army Research and Materiel Command. Washington, DC, October 1997

The Thirteenth International Symposium on Cellular Endocrinology, "Cell Signaling and Tumor Angiogenesis", Lake Placid, NY, September 1997

Zemsky, J., Rusinova, E., Luck, L.A., Nemerson, Y., Ross, J.B.A. Analysis of Structure and Function of Soluble Tissue Factor Using ^{19}F NMR and Fluorescence Spectroscopy. Protein Society 11th Symposium, Boston MA, July 1997

Crabb, J.W., Roth, K.E., Paradis, S.G., Luck, L.A., Spicer, L., Venters, R.A. Mutational Mapping of the Retinoid-Binding Pocket in the Cellular Retinaldehyde-Binding Protein (CRALBP) Protein Society 11th Symposium, Boston MA July 1997

Luck, L.A., Mason, A.B., Woodworth, R.C. One Dimensional NMR Studies of the N-

terminal Lobe of Human Transferrin. Protein Society 11th Symposium, Boston MA, July 1997,

Roth, K.E., Paradis, S.G., Kapron, J.T., Barrows, S.A., Luck, L.A., and Crabb, J.W. NMR and Mutational Analysis of Retinoid-Binding in the Cellular Retinaldehyde-Binding Protein (CRALBP). Association for Research in Vision and Ophthalmology, Fort Lauderdale, FL Invest. *Ophthalm. Vis. Sci.* 36: 15, S4 May 1997

Zemsky, J., Rusinova, E., Luck, L.A., Ross, J.B.A. 5-Fluorotryptophan Substituted Soluble Tissue Factor Analysis of Structure and Function Using Fluorescence and ^{19}F NMR. Biophysical Forty-first Annual Meeting, New Orleans, LS. *BIOJAU* 72(2) M-314 March 1997

Luck, L.A. and Schmidt, D. ^{19}F NMR Studies to Probe Structure, Ligand Binding and Conformational Changes in Receptor Proteins. Frontier of NMR in Molecular Biology V Taos, NM February 1997

Luck, L. A., London, R. L., Bice, L.A. Hideg, K., Peck, C. Chignell, C. ^{19}F NMR and EPR Analysis of the Ligand Binding Domain of the Human Estrogen Receptor. The Protein Society 10th Symposium, San Jose, CA Protein Science 5, Suppl 1, 95, 216S August 1996

Luck, L. A., Venters, R. A., Barrows, S. A., Kapron, J. T., Crabb, J. W. ^{13}C and ^{19}F NMR Analysis of the CRALBP Retinoid Binding Pocket. The Protein Society 10th Symposium, San Jose, CA Protein Science 5, Suppl 1, 125, 396M August 1996

Luck, L. A. Probing Hydrogen Bond Interactions in Carbohydrate-Protein Systems: Application of ^{19}F NMR to Fluoro-deoxy Sugars and Receptor Proteins, Keystone Symposia, Keystone, CO March 1995

Luck, L. A., O'Connell, T. and London, R. E. Dynamics of Fluorotryptophan Residues in *E. coli*. NMR Symposium Indianapolis, IN Oct 1994.

Luck, L. A., London, R. E. and Withers, S. G. ^{19}F NMR Studies of Fluorinated Sugars Binding to the Glucose and Galactose Receptor Protein. The Protein Society 8th Symposium, San Diego, CA .Protein Science 3, Suppl 1, 112, 345M July 1994

Luck, L.A., and Withers, S.G. Probing the Binding Sites of Transport Proteins by ^{19}F NMR. Keystone Symposium, Frontiers of NMR in Molecular Biology III, Taos, NM, J. Cellular Biochem. Suppl. 17C, 265, LZ223. March 1993.

Drake, S. K., Bourrett, R. B., Luck, L.A., Simon, M.I., Falke, J.J. Activation of the Phosphosignaling Protein CheY. BLAST , Austin TX January 1993

Luck, L.A., Withers, S.G., and Woodworth, R.C. ^{19}F and ^{13}C NMR of Transport Proteins. Gordon Conference, Tilton, NH, July 1992.

Landis, C.R., Allured, V.S., Luck, L.A., Giovannetti, J.S., and Kelly, C.M. New Approaches for the Determination of Structures of Homogeneous Catalysts. 3rd DOE/BES Organometallic Chemistry and Homogeneous Catalysis Research Conference, Madison, WI, June 1991.

Falke, J.J., and Luck, L.A. ^{19}F NMR Studies of Bacterial Chemosensory Proteins. Biophysical Society Meeting, Baltimore, MD, 1991.

Luck, L.A., and Falke, J.J. Conformational Studies of Bacterial Chemosensory Proteins. A ^{19}F NMR Approach. Keystone Meeting, Keystone, CO, 1991.

Luck, L.A., and Bushweller, C.H. Isolation of the Anti Conformations of Trans-[(t-C₄H₉)₂PC₂H₅]₂PtCl₂. Abstract #153 ACS 195th National Meeting, Toronto, Canada, 1988

Luck, L.A., Rheingold, A.L., and Bushweller, C.H. NMR Chemical Shift Assignments by Isolation of Molecular Conformations in Solution at Low Temperatures. Abstract #53, 29th Experimental Nuclear Magnetic Resonance Conference, Rochester, NY, 1988.

Bushweller, C.H., Luck, L.A., and Rithner, C.D. Conformational Preferences in Trans-[(t-C₄H₉)₂PR]₂MX₂ Systems [=Rh(I); X=CO, Y=Cl and M=Pt(II); X=Y=Cl]. Major Differences Between the P-Phenyl and P-Alkyl Analogues. Abstract #27, ACS 192nd National Meeting, Anaheim, CA, 1986.

Invited Presentations (Departmental Seminars):

International

Universita Federico II Naples, Italy 2014 two talks
Agro Paris Tech Paris, France 2014
Ruder Boskovic Institute Zagreb Croatia 2009
Concordia University, Montreal, Canada 2002
University of British Columbia, Vancouver, Canada January 1992
Universitat Potsdam, Germany November 1996
University of Waterloo, Waterloo, Canada December 1998

Domestic

University of Vermont, Chemistry Department, October 2010
Hartford College, Science Department, October 2010
Bennington College VT April 2009
Silent Spring Institute Boston, MA November 2006
Clarkson University, Department of Chemistry, March 2006
Clarkson University, Department of Chemical Engineering, November 2005
University of Vermont, Medical College, October 2005
SUNY Buffalo Chemical Engineering Department, March 2005
SUNY Binghamton, Department of Chemistry, November 2004
Colgate College, Hamilton, NY November 2002
Union College, Schenectady, NY October 2000
Hamilton College, Clinton, NY November 1998
Rowan College, Glassboro, NJ, October 1998
Florida State University, Tallahassee, FL June 1998
St. Michaels College, Burlington, VT February 1996
Mt. Sinai School of Medicine, New York, NY January 1995
Western Oregon State, November 1995
SUNY Potsdam November 1994
W. Alton Jones Cell Center, Lake Placid, NY October 1994
Washington University, Department of Chemistry, St. Louis, MO July 1994
Warner Lambert Park Davis, Ann Arbor MI May 1993
University of Vermont, Biochemistry Department Burlington, VY February 1993
LaFayette College, Easton, PA October 1992
Middlebury College, Middlebury, VT March 1992
University of New Hampshire, Durham, NH September 1991
University of Wisconsin, Milwaukee, WI July 1991
University of Wisconsin, Madison Department of Chemistry February 1991
Department of Chemistry, SUNY Plattsburgh December 1990
Department of Chemistry University of Colorado, Boulder, CO February 1990

Community Talks and Outreach:

Recent endeavors

Molecular Gastronomy: “From Paris to Plattsburgh” Talk and Demonstration at Science @ 30 City 2016 Followed by a short article and picture in the Plattsburgh Press

Reviewer for Master Teacher Candidates 2014

“Molecular Gastronomy- How to Teach Science in the Kitchen”-Talk for Afternoon Rotary Club 2014

Article in the local magazine Food for Thought on Culinary Chemistry 2012

“The DOD Breast Cancer Program” Guest Talk at Treasure Chests (Breast Cancer Support Group) at the local hospital CVPH 2007

<http://www.agroparistech.fr/News-from-the-US-Molecular-Gastronomy-initiatives.html>

Courses developed and taught:

I was key in designing the Biomolecular Program at Clarkson University which is a huge success. Also set up the PreMedical Advising Program at Clarkson which also has been a success.

Courses taught at Clinton Community College

General Chemistry I and II

Courses taught at Clarkson:

General Biology Laboratories Semester 1 and 2

Cell Biology

Biotechnology Laboratory

Non majors Biology (First semester Human and Cell Biology)(120 students)

Biochemistry I and II

Physical Biochemistry

NMR Spectroscopy

Inorganic Chemistry

Bioinformatics

Course taught at Plattsburgh State:

Biochemistry I and II

Biochemistry Laboratory

Introduction to Biochemistry

Physical Biochemistry

General Chemistry Laboratories

Honors Seminar-Kitchen Chemistry

Food Science

Culinary Chemistry/Molecular Gastronomy