**CURRICULUM VITA**

Robert A. Lodder, Ph.D.

1. **GENERAL INFORMATION**

Home Address: 192 Timberlane Court  
Nicholasville, KY    40356-9779

Office Address and phone: Biopharmaceutical Complex Bldg.

789 S. Limestone St.  
University of Kentucky  
Lexington, KY 40506-0286  
859-955-0845

Social Security Number: Available upon request

Birth date: 1959

Marital Status: Married

Name of Spouse: Lisa A. Cassis, Ph.D.

Name of Children and Birthdates: Available upon request, 1991

Available upon request, 1995

1. **EDUCATION**

1983-1988 Ph.D., Analytical Chemistry, Indiana University

1981-1983 M.S., Chemistry, Xavier University

1977-1981 B.S. Cum Laude in Natural Science, Xavier University

1. **PROFESSIONAL EXPERIENCE**

1998-1999 Co-founder and Vice-President, InfraReDx

2002 Chief Technical Officer, MAReNIR Technologies

2004 Co-founder, Prescient Medical, Inc.

2005-2012 Board of Directors, Spherix (NASDAQ: SPEX)

2007-2013 President, Spherix (NASDAQ: SPEX)

2013 Interim CEO, 0trak

2013- President and CEO, Biospherics.net

**PROFESSIONAL EXPERIENCE NARRATIVE**

**Research**

Dr. Lodder has conducted academic research using grants totaling over $18 million. This research led to 28 patents and pending patent applications, the founding of five new companies, and his becoming president of a NASDAQ company. The first start-up company, InfraReDx, was founded in 1998 and has raised over $150 million in private capital for novel research. InfraReDx is headquartered in Burlington, Massachusetts. In April 2008, InfraReDx received marketing approval for the Lipiscan coronary imaging system originally invented and patented by Dr. Lodder. His second company, Prescient, raised $27 million for research and development, and Spherix spent $40 million. The total of $217 million in capital helps meet the state mandate to commercialize university research. Escent Technologies commercialized a solid-state spectral imager invented by Dr. Lodder for a NASA robotic mission to Mars. Dr. Lodder served as president and was on the board of directors of Spherix (NASDAQ: SPEX). Spherix has conducted multiple clinical trials for his companies, NIH and DARPA, including a global phase 3 clinical trial of an oral diabetes medication in 60 hospitals and clinics worldwide. Spherix licensed its lead drug candidate for dyslipidemia, SPX-106T, from Dr. Lodder’s lab at the University of Kentucky. Altogether, almost a quarter of a billion dollars has been invested in developing products of his research.

Dr. Lodder is author of 115 publications and over 300 presentations. Dr. Lodder is the recipient of two national and five international research achievement awards

Dr. Lodder’s doctoral graduates have entered academia (e.g., James K. Drennen, III, Ph.D., now associate dean for research at Duquesne University), government (e.g., William Charles Symons, Ph.D., who has a top secret clearance in his position at the Engineering Research Center at the Federal Bureau of Investigation), and industry (e.g., Robert G. Buice, Jr., Ph.D., Manager, Technical Services, Chattem Pharmaceuticals).

**Teaching**

The quality of Dr. Lodder’s teaching is demonstrated by not only teaching evaluations, but also in external evaluations of his course products submitted by scientists worldwide (for PHR 510, CHE 626 and CHE 522), by the public at large (who use the guide to Home Diagnostic Kits created by PHR 895 about 20,000 times each day), by users of Wikipedia, and by peer-reviewed publication of term papers written as lab reports for his courses.

**Service**

Dr. Lodder was appointed by the Food and Drug Administration to serve on their Process Analytical Technologies (PAT) subcommittee, which is revolutionizing the pharmaceutical industry by replacing the GMP standards under which drugs have been released for the past 40 years with new, science-based PAT methods. Dr. Lodder has served as both chair and vice chair of the local section of the American Chemical Society, and Treasurer of the local AAUP. Dr. Lodder has been twice elected to the Pharmaceutical Sciences Executive Committee by the division faculty. While in the College of Pharmacy, he also serves the university through the Office of Economic Development, appointments in the Chemistry Department, Department of Electrical and Computer Engineering, Center for Computational Sciences, Graduate Center for Nutritional Sciences, and Gill Heart Institute. Dr. Lodder is editor in chief of *Medical Instrumentation* and the astroanalytical chemistry and astrobiology journal *Contact in Context,* andhas served on several NIH study sections and has been invited to NSF, NIH and DARPA workshops.

**ACADEMIC APPOINTMENTS**

2004-PRES Professor, College of Pharmacy, Department of Pharmaceutical Sciences, University of Kentucky Medical Center

1994 – 2003 Associate Professor, College of Pharmacy, Division of Medicinal Chemistry and Pharmaceutics, University of Kentucky Medical Center

1988 – 1994 Assistant Professor, College of Pharmacy, Division of Medicinal Chemistry and Pharmaceutics, University of Kentucky Medical Center

2004 – PRES. Joint appointment, Department of Electrical and Computer Engineering, College of Engineering, University of Kentucky

1988 – PRES. Joint appointment, Department of Chemistry, Analytical Division, University of Kentucky

1998 – PRES. Joint appointment, Gill Heart Institute, University of Kentucky Medical Center

2013 - PRES. Clinical and Experimental Therapeutics track faculty, College of Pharmacy, University of Kentucky

**OTHER UNIVERSITY APPOINTMENTS:**

1999 - PRES. Graduate Center for Nutritional Sciences.

1990 - PRES. Affiliate of the Center for Computational Sciences

**OTHER APPOINTMENTS:**

Visiting Scientist, Brookhaven National Laboratory, 2003-

1. **CONSULTING ACTIVITY:**

1998 - 1999 InfraReDx, Inc.

2001 DARPA

2002- PRES U.S. Food and Drug Administration

2004 Prescient Medical, Inc.  
 2004 Biospherix, Inc.

1. **TEACHING ACTIVITY**

2013 PHR 760 Drug Discovery, Development, and Translation

9 lectures

2014 PHS 750-005 Drug Discovery, Development, and Translation

Journal Club

2006, PHR 912 Physiological Chemistry and Molecular Biology,

20 lectures, 3 credits.

2003, 2005, 2007, CHE 524 Chemical Instrumentation,

2009, 2011 30 lectures. 4 credits.

2001, 2002, 2003 PHR 941 Cardiovascular Pharmacology

2004 3 lectures / year. 5 credits.

1990, 1992, 1994, PHR 510 Modern Methods in Pharmaceutical Analysis

1996, 2000, 2001, 45 lectures / year, with laboratory. 5 credits.

2003, 2004, 2005,

2006

2001, 2002, 2003, CHE 522 Instrumental Analysis

2004 30 lecture / year, with laboratory. 4 credits

2004, 2005, 2006 PHR 760 Drug Targets And Actions

2 lectures.

2003, 2004, 2005 PHR 760 Introduction to Pharmaceutical Sciences,

2006 1 seminar.

2002 PHR 760-007 Cardiovascular Pharmacology,

1 lecture.

2001 GS 660 IGERT seminar

0 lectures. 1 credit.

2000 PHR 895, Introduction to Home Testing

10 lectures. 1-3 credits.

1997, 1998, 1999 PHR 896 Computer Applications

4 lectures / year. 1 credit.

1991, 1993, 1999 CHE 626 Advanced Analytical Chemistry,.

45 lectures / year. 3 credits.

1998, 2006 CHE 776 Analytical Radio-Nuclear seminar

0 lectures. 1 credit.

1993, 1994, 1995 PHR 395 Introduction to Home Testing

1996 10 lectures / year. 1-3 credits

2009 PHR 924 Parenteral Drugs, 7 lectures

1994-2013 BIO 395, 1-3 credits

Students’ Lab Term Papers Published From PHR 510 or CHE 522

1. William Fountain, Karen Dumstorf, Amanda E. Lowell, Robert A. Lodder, and Russell J. Mumper, Near-Infrared Spectroscopy for the Determination of Testosterone in Thin-Film Composites, *Journal of Pharmaceutical and Biomedical Analysis,* 33(2), 181-189, 2003.

2. Carr, Shana D.; Lodder, Robert A.; Urbas, Aaron. The analysis of cost of expensive perfumes and comparable imitations using GC-MS. Chemistry Preprint Server, Analytical Chemistry (2002), 1-7, CPS: analchem/0204001. CODEN: CPSAAF AN 2002:855241

3. W. Johnson-Deitemeyer, Samuel Williams, and Robert A. Lodder, Consumer Radon Testing, *EJUR*,2001**,** *2,*1-11.

4. T. P. Mills, A. R. Jones, and R. A. Lodder, "Identification of Wood Species by

Acoustic-Resonance Spectrometry Using Multivariate Subpopulation Analysis,"

*Appl. Spectrosc.*, 1993, *47*, 1880-1886.

5. P. Nair and R. A. Lodder, "Near-IR Identification of Woods for Restoration of

Historic Buildings and Furniture," *Appl. Spectrosc.*, 1993, *47*, 287-291.

6. P. Zannikos, W. Li, J. K. Drennen, and R. A. Lodder, "Spectrometric Prediction of the Dissolution Rate of Carbamazepine Tablets", *Pharm. Res.*, 1991, *8*, 974-978.

1. **ADVISING ACTIVITY**

**Primary Mentor for Graduates:**

1991 James K. Drennen, Ph.D., Pharmaceutical Science

1993 Yi Zou, Ph.D., Analytical Chemistry

1993 Prakash Nair, M.S., Analytical Chemistry

1993 Tim Mills, M.S., Analytical Chemistry

1998 Robert G. Buice, Jr., Ph.D., Pharmaceutical Science

1999 William Charles Symons, Ph.D., Electrical Engineering

2006 Joseph P. Medendorp, Ph.D., Pharmaceutical Science

2007 Aaron Urbas, Ph.D., Analytical Chemistry

2007 J. Clay Harris, Ph.D., Analytical Chemistry

2007 Bin Dai, Ph.D., Analytical Chemistry

2009 David Link, Ph.D., Analytical Chemistry

2009 Thad Hannel, Ph.D., Analytical Chemistry

2012 Nathan Fuenfinger, M.S. Analytical Chemistry

2012 Thy Nguyen, M.S. Analytical Chemistry

**Graduate Student Research Supervision:**

1991 - 1992 Ms. Liria Morrell, M.S., Analytical Chemistry

1993 - 1994 Ms. Linda Rulon, M.S., Analytical Chemistry

1999 - 2000 Mr. Don Owens, M.S., Electrical Engineering, IGERT Co-chair

1999 - 2002 Ms. Jessika Feliciano, Ph.D., Chemistry, IGERT Co-chair

1999 - 2001 Ms. Libby Puckett, Chemistry, IGERT Co-chair

2001 - 2007 Mr. Aaron Urbas, Chemistry

2001 – 2001 Ms. Shabnam Haghi, Chemistry

2001 - 2005 Ms. Amanda Sizemore, Chemistry

2002 - 2004 Ms. Adrianne Dee Nicholson, Chemistry

2002 - 2007 Mr. Bin Dai, Chemistry

2003 - 2006 Mr. Joseph Medendorp, Pharmaceutical Sciences

2003 – 2007 Mr. J. Clay Harris, Chemistry

2003 – 2004 Mr. Vamsee Thati, Computer Science

2004 – 2004 Mr. David Jackson, Electrical and Computer Engineering

2004 – 2005 Mr. Venkata Kalidindi, Computer Science

2004 – 2005 Ms. Idiyat Osinoboyejo, Chemistry

2004 – 2005 Ms. Zhan Wang, Pharmaceutical Sciences

2004 – 2005 Mr. Praveen Settipalli, Electrical and Computer Engineering

2006 – 2009 Mr. Thaddeus Hannel, Chemistry

2006 – 2009 Mr. Joshua Butcher, Chemistry

2006 – 2009 Mr. David Link, Chemistry

2010 – 2012 Mr. Nathan Fuenfinger, Analytical Chemistry

2010 – 2012 Ms. Thy Nguyen, Analytical Chemistry

2009 – 2012 Ms. Brittney Metts

2013 - Mr. Jarrod Williams, Pharm.D.

**Graduate Student Doctoral Committees:**

Current Students

Kyle McCarthy, Astronomy

Jason Meyer, Medicine

Fan Huang, Chemistry

Daniel Burris, Chemistry

Shaoying Wang, Pharmaceutical Sciences

Graduated Students

Adrianne Dee Nicholson, Chemistry

Jason Ehrick, Chemistry

Lexun Huang, Computer Science

Libby Puckett, Chemistry

Sapna Deo, Ph.D., Chemistry

Brett Wenner, Chemistry

Jessika Feliciano, Chemistry

Don Owen, Electrical Engineering

Sapna Deo, Chemistry

Chris Ball, Chemistry

Hua Shao, Chemistry

Mike Timmons, Chemistry

Kristen Grinstead, Chemistry

Chen-I Wu Chemistry

Andrea New Chemistry

Karthik Venkatachalam Chemistry

Zuber Deshmukh, Pharmaceutical Sciences

Srinivas Duggirala, Pharmaceutical Sciences

Tsuimin Tsai, Pharmaceutical Sciences

Vinod Philip, Pharmaceutical Sciences

Mahesh Kulkarni, Pharmaceutical Sciences

Harmeet Chadha, Pharmaceutical Sciences

Lingkuen Huang, Pharmaceutical Sciences

Wen-I Li, Pharmaceutical Sciences

Vijayalakshmi Sethuraman, Pharmaceutical Sciences

Chris Lockwood, Pharmaceutical Sciences

Kenneth Hensley, Chemistry

Sridhar Ramanathan, Chemistry

John Richardson, Chemistry

Kevin Burton, Pharmaceutical Sciences

Mathew Nicholls, Biochemistry

Ting Liu, Chemistry

John Spencer, Chemistry

Hua Shao, Chemistry

Ting Liu, Chemistry

Elsayed Zahran (Chemistry)

Louis Dionissopoulos (Chemistry)

Dawn Kato (Chemistry)

Richa Athalye (Chemistry)

**Other Personnel Supervision:**

Joshua Miller

Brittany Lenihan

Jayne Everson

Amy Banfield

Mark Ensor, Ph.D.

Rebecca Smith, Ph.D.

2011- Ashton Howard

2009 – 2010 Megan Johnson

2009 – 2010 Molly Binkley

2010 Katie Stutler

2010 Matt Finley

2010 David Whyte

2009 Susan Scherzer

2009 Alex Hurst

2005 – 2006 Theresa Troy

2005 – 2006 Aubrey Zich

2004 – 2005 Monica Dawn Barden, technician

2004 – 2007 Jason Fackler, undergraduate student

2004 – 2007 Karen Harris, technician

2004 – 2007 Jay Hatcher, technician

2004 – 2004 Caroline Lindsey Strasinger, Pharm. Sci. lab rotation

2003 – 2004 Ashley Wells, technician

2003 – 2004 Katherine Wilkie, technician

2002 – 2003 Amanda Lowell, technician

2002 – 2003 Kris Krawczyk, technician

2002 Kim Hindman, Pharm. Sci. Summer Research Program

2001 – 2003 Steve Alford, Computer Science

2001 – 2002 Jessica Call, Biology

2001 Paul Cherukuri, Cardiovascular Medicine

2001 Sara Hamilton, undergraduate student

2001 Karmen Hennigan, undergraduate student

2001 Colleen Scherer, technician

2001 Adam Sloan, Biology

2001 Colin Wilson, technician

2000 – 2001 Eric Whitley, Dunbar High School MSTC

1999 – 2000 Dewey Autry, Computer Science

1999 – 2000 Kah-Siew Ho, Computer Science

2000 Karen Dumstorf, Chemistry

2000 Yuvonne Swain, technician

1999 – 2000 Imran Malik, Biology

1999 – 2000 Melania Poonacha, Biology

1999 – 2000 Robb Samuell, Computer Science

1999 Nancy Meares, Physics (Tulane University)

1999 Anthony Smith, Computer Science

1999 Sophie Rozenchak, Chemistry

1999 Mohammed Danish Khan, Computer Science

1999 Lancer Ferguson, Computer Science

1999 – 2000 David Boling, Anthropology

1998 – 1999 Tiffany Bunch, Biology

1998 – 1999 Dana Rodgers, Biology

1998 – 1999 Emily Dausman, Pharmacy

1998 – 1999 Ilaaf Darrat, Biology

1998 Shawn McGee, Biology

1998 Kim Glenn, Mechanical Engineering

1998 – 1999 Phillip Riggs, Chemistry

1998 – 1999 Amy Dugan, Biology

1998 Bijoy George, Computer Science

1997 Eric Embry, HHMI high school teacher

1996 – 1998 Jay Kepperling, technician

1996 – 1997 Mikal Bailey, Allied Health

1997 Sonja Broyles, Agriculture/Biotechnology

1996 – 1997 Karl Strand, Biology

1996 – 1998 Paul Cherukuri, Physics

1994 – 1996 Jennifer Moses, Biology

1993 – 1995 Julie Yates, Chemistry

1993 – 1996 Amanda Tatro, Pharmacy

1993 Amy Butler, Biology

1993 Angela Jones, English

1992 Aaron Alford, NIH Minority High School Student

1992 Allison Cole, Chemistry, NSF REU

1991 Lisa Mayes, Pharmacy, NSF REU

1991 Paul Pinkston, Pharmacy

1991 Brent Wright, Biochemistry

**Visiting Scholar Supervision:**

2013 - Mr. Scott Gardner, University of Bath, U.K.

2004 Dr. Ricardo Claps, Prescient Medical

2000 – 2001 Dr. Bryce Fifield, Statistics, Minot State University

2000 Mr. Daniel Kennedy, Computer Science

1990 – 1991 Ms. Yu Xia, Analytical Chemistry, Shandong Medical University

1. **ADMINISTRATIVE ACTIVITY AND UNIVERSITY SERVICE**

**Committees (national):**

2014 NASA/NSBRI 2013-2014 Crew Health Step-2 Review Panel

2005 NIH study section, NIEHS ZES1 JAB-C (AB) (P)

Superfund

2004 International Science and Technology Center, U.S.

Civilian Research and Development Foundation

2003 NIH Special Study Section

"Low-Cost Imaging Devices"

2002 – 2004 Member, Process Analytical Technologies Subcommittee of the

Advisory Committee for Pharmaceutical Science, U.S. Food and

Drug Administration

2002 – PRES. U.S. Food and Drug Administration, SGE for Process Analytical

Technologies

2002 NIH Special Study Section

"Imaging Early Markers of Diabetes Microvascular Complications

in Peripheral Tissue"

2002 NIH Special Study Section

"Imaging Pancreatic Beta Cell Mass, Function, Engraftment or

Inflammation"

1. Reviewer for NASA EPSCoR Program

1998 Reviewer for Department of Energy, Biosensors Program

1992 Ad hoc reviewer for Biophysical Chemistry Study Section, NIH.

1989 – 1994 Reviewer for Analytical and Surface Chemistry Program,

Division of Chemistry, National Science Foundation.

**Committees (U.K.):**

2006 - 2009 Senate Hearing Panel (Privilege and Tenure)

2006 - 2009 Research Computing Subcommittee

2003 - 2004 Member, Senate Ad Hoc Committee on Faculty Salaries.

2003 Member, High Performance Computing Task Force

1991 - 2007 Member, University Intellectual Properties Committee

2002 - 2004 Member, College of Pharmacy Computer and Information

Systems Committee

1991 - 1996 Member, University Computing Advisory Committee, Research 2001 - 2004 Computing Subcommittee

2002 - 2004 Member, College of Pharmacy Nominations Committee

1988 - 1991, Chair, College of Pharmacy Building and Laboratory Safety

2002 - 2004 Committee

1989 - PRES Member, U.K. Center for Computational Sciences, Program and

Allocations Committee

2001 - 2003 Pharmaceutical Sciences Executive Committee

1988 - 1989 Member, College of Pharmacy Computer and Information Systems

1991 - 1992 Committee

2002 - 2003

2001 Program Review Committee for Research and Graduate Studies

2001 Member, Pharmaceutics Faculty Search Committee, College of

Pharmacy

2001 Chair, Bioanalytical Faculty Search Committee, College of

Pharmacy

2000 - 2001 Chair, College of Pharmacy Nominations Committee

1999 - 2000 Chairman, College of Pharmacy Computer and Information

Systems Committee

1996 - 1999 Chair, University Computing Advisory Committee, Research

Computing Subcommittee

1998 Pharmaceutical Sciences Executive Committee

1993 - 1998 Member, University Committee on Human Safety and

Environmental Health

1996 - 1997 Member, Committee on Pharmaceutical Engineering, Graduate

School

1995 -1996 Member, ASTeCC Executive Committee

1991 - 1996 Member, College of Pharmacy Building and Laboratory Safety

Committee

1995 - 1996 Collaborative Work Grant Advisory Group, College of Nursing

1991 - 1995 Member, U.K. Medical Center Safety Committee

1995 Member, Medical Center Advisory Committee for the HSRB

Imaging Facility

1993 - 1994 Member, Computer Committee, Department of Chemistry

1992 Member, MCP Graduate Program Subcommittee

1991 - 1992 Member, College of Pharmacy Academic Performance Committee

1991 - 1992 Member, Communications Committee, Department of Chemistry

1990 - 1991 Member, Computing and Communications Services Subcommittee,

Lexington Campus

1. **SPECIAL ASSIGNMENTS**

2006 External Review Team member, University of Kentucky Department of Statistics

2006 External Review Team member, University of Kentucky College of Engineering

2003 ACPE accreditation, Chair, Building and Facilities subcommittee

2002 - PRES. Eastern Analytical Symposium, NIR Award Jury

2001 - 2002 International Cereal Chemists (ICC) Association (Vienna, Austria)

Study Group on Chemical Imaging

1989 PittCon Tomas Hirschfeld Award Jury

**HONORS**

**International Honors:**

***Orville N. Green Award*** for extraordinary service to SETI (presented in Mountainview, California on March 17, 2005)

***Buchi NIR Award***, (presented in Frankfort, Germany on September 26, 2001)

***International 1990 IBM Supercomputing Competition, First Prize,*** Life and Health Sciences Division, (presented in conjunction with SUPER! at the 1991 Large Scale Computer Analysis and Modeling Conference in Park City, Utah, April 25, 1991).

***Research & Development 100 Award*** (presented at the Museum of Science and Industry in Chicago, Sept. 22, 1988, to the top 100 inventions of the year).

***Tomas Hirschfeld Award in Near-IR Analysis*** (presented at the Pittsburgh Conference in New Orleans, Feb. 22, 1988).

**National Honors:**

***ASAE Manuscript Award*** in 1993, given annually to the top 10 of approximately 500 papers submitted to *Applied Engineering in Agriculture* and *Transactions of the ASAE* (presented at the Winter Meeting of the American Society of Agricultural Engineers, Chicago, IL, Dec.16, 1993).

***National Young Investigator Award***, National Science Foundation, Sept. 1992 through Aug. 1997.

**University Honors:**

1. University Safety Achievement Award, for Lab Safety

Improvements in the College of Pharmacy

**Who's Who Listings:**

Who's Who in America

Who's Who of Emerging Leaders in America

Who's Who in Science and Engineering

Who's Who Among Young American Professionals

Who's Who in the South and Southwest

Who's Who in American Education

Who's Who in Technology

1. **PROFESSIONAL ACTIVITY AND PUBLIC SERVICE**

**Membership in Professional Societies:**

Council for Near-Infrared Spectroscopy

Society for Applied Spectroscopy

American Chemical Society

American Society for Testing and Materials (Group E13.03.03) on Molecular Spectroscopy

American Statistical Association

Kentucky Chapter of the American Statistical Association

American Association of University Professors

**Service:**

2010- PRES. Advisor, Trinity Christian Academy Math and Science Society

2003 - PRES. Treasurer of the University of Kentucky chapter of the American Association of University Professors (AAUP).

2001 - PRES. Member, Association for the Eradication of Heart Attack

Scientific Advisory Board, vp.org

2001 - PRES. Member, Spectral Dimensions Scientific Advisory Board

1999 - 2000 Chair, American Chemical Society, Lexington Section

1998 - 1999 Vice-Chair, American Chemical Society, Lexington Section

1991 - 1993 Delegate-at-Large to the national governing board of the

Council for Near-Infrared Spectroscopy

1991 - 1993 Member, National Publicity Committee, Society for Applied

Spectroscopy

**Journal Editor:**

Editor-in-Chief, *Medical Instrumentation*, 2013-

Editor-in-Chief, *Contact in Context*, SETI League, 2002-.

**Editorial Boards:**

*Journal of Pharmaceutical Technology and Drug Research*, 2011-PRES.

*Journal of Pharmaceutical Innovation,* 2006-PRES.

*Overtones*, SAS-Council for Near-Infrared Spectroscopy, 2003-PRES.

*Journal of Developing Drugs,* 2013

*Journal of Pharmacology & Clinical Toxicology,* 2013-PRES.

*Elyns Publishing Group,* 2014-PRES.

**Journal Reviewer:**

Analytical Chemistry

Applied Spectroscopy

Analytical and Bioanalytical Chemistry

Analytica Chimica Acta

Spectroscopy

The Analyst

Pharmaceutical Research

Pharmaceutical Science and Technology Today

Journal of Polymer Science

IEEE Transactions on Medical Imaging

Pharmaceutical Development and Technology

Journal of Biomedical Optics

Mikrochimica Acta

AAPS PharmSci

AAPS PharmSciTech

Sensors and Actuators B

Contact in Context

SETICon

Journal of the American Society for Horticultural Sciences

Measurement Science and Technology

1. **SPEAKING ENGAGEMENTS AND PRESS INTERVIEWS**

**PRESS INTERVIEWS**

“Do it yourself diagnosis” by Darla Carter, *Louisville Courier-Journal*, Thursday, Aug. 28, 2003

Testing at Home, by Shannon Brownlee and Monika Guttman, *Marie Claire,* March 2003

“Team from UK tuned in to the stars for answer” by Jim Warren, Lexington Herald-Leader, Oct. 10, 2000, p. 1, vol. 18, no. 281

“The Search for Intelligent Life” by Ashley York, Kentucky Kernel, June 22, 2000, vol. 105, no. 152, p1.

An Arterial View of Atherosclerosis*, ACCESS*, vol. 12, no. 2, pp. 18-21, 1999.

HMS Beagle Web Pick Award, BiomedNet, 1998

U.S. News and World Report, The Valley of Death: Researchers Probe a Mysterious Plague of Heart Disease, December 21, 1998.

Ch. 27 and Ch. 18 news, Nov. 8, 1998. Coverage of the paper Characterization of the Composition and Vulnerability of Atherosclerotic Plaques by Near-Infrared Spectroscopy, at the American Heart Association National Meeting in Dallas. Also in the Lexington Herald-Leader, Nov. 9, 1998.

Kentucky Kernel, UK Doctors Release New Device, Nov. 10, 1998, page 1.

Kentucky Sunrise morning news, WLEX-TV, Channel 18, 6-7 AM, August 17, 1998.

Blood analysis: Noninvasive methods hover on the horizon, Biophotonics International, May/June 1998, pp. 48-52.

The Test Market, Lexington Herald-Leader, March 17, 1998, p. 8-9

U.K. Researchers surging ahead with high-speed computer networks. Odyssey, Spring 1998, pp. 12-16.

Ch. 27 and Ch. 18 news, Nov. 8, 1998. Coverage of the paper Characterization of the Composition and Vulnerability of Atherosclerotic Plaques by Near-Infrared Spectroscopy@, at the American Heart Association National Meeting in Dallas. Also in the Lexington Herald-Leader, Nov. 9, 1998.

Kentucky Kernel, UK Doctors Release New Device, Nov. 10, 1998, page 1.

Kentucky Sunrise morning news, WLEX-TV, Channel 18, 6-7 AM, August 17, 1998.

Blood analysis: Noninvasive methods hover on the horizon, Biophotonics International, May/June 1998, pp. 48-52.

The Test Market, Lexington Herald-Leader, March 17, 1998, p. 8-9

U.K. Researchers surging ahead with high-speed computer networks. Odyssey, Spring 1998, pp. 12-16.

Chemical and Engineering News, Pittsburgh Conference Instrumentation 1995 issue, March 1995, article on vibrational imaging.

“Analyzing on the Internet”, Analytical Chemistry, *67*, Apr. 1, 1995, p. 255A. Our WWW server is listed among analytical resources on the net.

“A Zoom with a View”, NCRR Reporter, NIH, vol. 19, no. 2, pp.12-13. Article on near-IR laser and human carotid plaques.

**RECRUITING**

R. A. Lodder, Research Opportunities in Astrobiology, presented at the Magnet Science and Technology Center, Dunbar High School, Oct. 2000, Oct. 2001

1. **RESEARCH AND/OR CREATIVE PRODUCTIVITY**

**Publications:**

1. Metts B, Thatcher S, Lewis E, Karounos M, Cassis L, et al. (2013) DDDAS Design of Drug Interventions for the Treatment of Dyslipidemia in ApoE-/- Mice. *J Develop Drugs* 2: 107. doi:10.4172/2329-6631.1000107
2. Smith RR, Lodder RA (2013) When does a Nanotechnology Device Become a Drug? Size Versus Smarts. *J Dev Drugs* 2: e121. doi:10.4172/jdd.1000e121
3. Williams J, Spitnale M, Lodder R (2013) The Effect of D-Tagatose on Fructose Absorption in a Rat Model. *J Develop Drugs* 2: 111. doi:10.4172/2329-6631.1000111
4. Jarrod Williams, Michael Spitnale and Robert Lodder, The Effect of D-Tagatose on Fructose Absorption in a Rat Model, J Develop Drugs 2013, 2:3
5. Douglas, Craig C.; Deng, Li; Efendiev, Yalchin; Lodder, Robert et al., Real-time multiscale detection of defective pills during manufacturing, *International Journal of Numerical Analysis and Modeling*,  2012, 9(2),169-180.
6. Wetzel DL, Wetzel LH, Wetzel MD, Lodder RA.  Imminent cardiac risk assessment via optical intravascular biochemical analysis. Analyst (2009), Jun;134(6):1099-106.
7. Police, Sara B.; Harris, J. Clay; Lodder, Robert A.; Cassis, Lisa A. Effect of diets containing sucrose vs. D-tagatose in hypercholesterolemic mice. Obesity (2009), 17(2), 269-275.
8. Craig C. Douglas, Li Deng, Yalchin Efendiev, Gundolf Haase, Andreas Kucher, Robert Lodder, and Guan Qin. Advantages of Multiscale Detection of Defective Pills during Manufacturing. Lecture Notes in Computer Science: High Performance Computing and Applications, 2010, 5938, 8-16
9. Robert A. Lodder, Raman and SERS Investigations of Pharmaceuticals. J. Am. Chem. Soc., 2009, 131 (11), 4168
10. Craig C. Douglas, Li Deng, Gundolf Haase, Hyoseop Lee and Robert A. Lodder, Data-driven Pill Monitoring. Procedia Computer Science, 2010, 1(1), 1251-1258.
11. Anthony Vodacek, Janice L. Coen, Mohamed Iskandarani, Deng Li, Jonathan D. Beezley, Jan Mandel, Jay Hatcher, Minjeong Kim, Craig C. Douglas, Guan Qin, Christopher R. Johnson, Divya Bansal, Yalchin Efendiev, Richard E. Ewing, Robert A. Lodder, Soham Chakraborty. Dynamic Data-Driven Application Systems for Empty Houses, Contaminant Tracking, and Wildland Fireline Prediction. International Federation for Information Processing Digital Library, 2010, http://dl.ifip.org/index.php/ifip/article/view/11168.
12. Craig C. Douglas, Thad Hannel, David Link, and Robert A. Lodder. A Prototype for Detecting Defective Pills during Manufacturing. Proceedings of the 8th International Symposium on Distributed Computing and Applications to Business, Engineering and Science, 2009
13. Craig C. Douglas, Gundolf Haase, Thad Hannel, David Link, and Robert A. Lodder, Incorrect or Defective Pill Detection Using a Dynamic Data-Driven Application System Paradigm. Proceedings of the International MultiConference of Engineers and Computer Scientists 2009, 1, 1-4
14. R.A. Lodder, Raman and SERS Investigations of Pharmaceuticals, *Journal of the American Chemical Society*,, 2009.
15. C. C. Douglas, T. Hannel, D. J. Link, R. A. Lodder. "Incorrect or Defective Pill Detection" Workshop of Cyber Physical Systems. International MultiConference of Engineers and Computer Scientists, ISBN: 978-988-17012-2-0, 2009.
16. Thaddaeus Hannel, David Link, Robert Lodder, Integrated Sensing and Processing-Acoustic Resonance Spectrometry (ISP-ARS) in Differentiating D-Tagatose and other Toll Manufactured Drugs. Journal of Pharmaceutical Innovation, 3 (3), 152-160, 2008. DOI 10.1007/s12247-008-9038-y
17. Thaddaeus Hannel and Robert A. Lodder, Size Does Matter: Solid State Spectral Imager (SSSI) on a Chip and the Search for Extraterrestrial Life, *Proc. SARA*, (NRAO, Green Bank, WV), 2008, ISBN 0-87259-136-0.
18. C.C.Douglas, P.Dostert, Y. Efendiev, R.E. Ewing, Deng Li, and R. A. Lodder,

*DDDAS predictions for water spills*, in Computational Science – ICCS 2008: 8th

International Conference, Krakow, Poland, June 23-25, 2008, Proceedings, M.

Bubak, G.D. van Albada, P.M.A. Sloot, and J. J. Dongarra (eds.), Springer-

Verlag, Berlin Heidelberg, Lecture Notes in Computer Science series, 2008.

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**Book Chapters:**

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**Patents:**

1. D-Tagatose-Based Compositions And Methods For Preventing And Treating Atherosclerosis, Metabolic Syndrome, And Symptoms Thereof, Japanese Patent, application number 2011 534903, filed 2011
2. D-Tagatose-Based Compositions And Methods For Preventing And Treating Atherosclerosis, Metabolic Syndrome, And Symptoms Thereof, Indonesian Patent, application number W00201101949, filed 2011
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4. D-Tagatose-Based Compositions And Methods For Preventing And Treating Atherosclerosis, Metabolic Syndrome, And Symptoms Thereof, Brazilian Patent, application number P10921625-1, filed 2011
5. D-Tagatose-Based Compositions And Methods For Preventing And Treating Atherosclerosis, Metabolic Syndrome, And Symptoms Thereof, Russian Patent application number 20111122598, filed 2011
6. D-Tagatose-Based Compositions And Methods For Preventing And Treating Atherosclerosis, Metabolic Syndrome, And Symptoms Thereof, Chinese Patent application number 200980144133.3, filed 2011
7. D-Tagatose-Based Compositions And Methods For Preventing And Treating Atherosclerosis, Metabolic Syndrome, And Symptoms Thereof, EU Patent application 09825367.7, filed 2011
8. D-Tagatose And Biguanide Compositions And Methods, US Patent application 61/320136 filed Apr. 1, 2010
9. D-Tagatose-Based Compositions And Methods For Preventing And Treating Atherosclerosis, Metabolic Syndrome, And Symptoms Thereof, 13/099637, filed May 3, 2011
10. US patent applicaiton in process, No. 20080251530, “Method and Device for Pill Dispensing”, filed May 16, 2008
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27. US patent number 4893253, 01/09/1990, “Method for analyzing intact capsules and tablets by near-infrared reflectance spectrometry”
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**Presented Papers**

1. J. Williams and R.A. Lodder, PAT Options for Induction Seals and Blister Packs, invited presentation at the Eastern Analytical Symposium (Somerset, NJ) Nov. 2013
2. R.A. Lodder, Peering Into the Digital Crystal Ball with Hyperspectral Imaging**,** invited presentation at the FACSS / SciX 2013 national meeting (Milwaukee, WI), Oct 2013
3. Jarrod Williams, Mark Ensor, and Robert A. Lodder, An ApoE Model in Mathematica for BSN272 Metabolism, invited presentation at the FACSS / SciX 2013 national meeting (Milwaukee, WI), Oct 2013
4. Andrew Brooks, Caleb Voss, Sam Davidson and Robert A. Lodder, Some Processes R BEST Modeled in Higher Dimension, invited presentation at the FACSS / SciX 2013 national meeting (Milwaukee, WI), Oct 2013
5. Jarrod Williams, Rebecca Smith and Robert A. Lodder, When does a Nanotechnology Device Become a Drug? Size Versus Smarts, invited presentation at the FACSS / SciX 2013 national meeting (Milwaukee, WI), Oct 2013
6. Robert A. Lodder, What Would Turing Say?, invited presentation at the FACSS / SciX 2013 national meeting (Milwaukee, WI), Oct 2013
7. M. A. Ensor, A. Banfield, R. Smith, R. A. Lodder, SPX106T Reduces Cholesterol and Triglycerides in ApoE -/- Mice Fed a Western Diet and Prevents Excess Weight Gain, Poster presentation at 2013 AAPS national meeting (San Antonio, TX) Nov. 2013.
8. C.L. Kruger, D. Conze, B. Metts, R.A. Lodder, Measurement of Lipoproteins in Treatment with SPX-106, presented at PittCon (Orlando, FL), March 2012
9. C.L. Kruger, D. Conze, M. Binkley, R.A. Lodder, Molecular Factor Computing (MFC) of the Extent of Atherosclerosis in D-Tagatose Treatment, presented at PittCon (Orlando, FL), March 2012
10. R. A. Lodder, Nonparametric feature detection for multifactorial diseases with ultra high dimensional data spaces (Kansas City, Kansas) invited presentation at FACSS, October 2012
11. B. Metts, C.L. Kruger, D. Conze, R.A. Lodder, Effect of SPX106T on lipid profiles and atherosclerosis. Poster presentation at 2012 AAPS national meeting.
12. B. Metts, C.L. Kruger, D. Conze, R.A. Lodder, SPX 10624258 and D-Tagatose in the treatment of dyslipidemia. Poster presentation at 2011 AAPS national meeting.
13. C.L. Kruger, R.A. Lodder, A.W. Hayes, and D.B. Conze, Tagatose: A Therapeutic for Hypertriglyceridemia, presented at Avogadro (Toulouse, France) August 2011.
14. R. A. Lodder, Remote Sensing for the Remote Future. Invited presentation at the MOSES-III Workshop (Petropolis, Brazil), August 2011.
15. R A. Lodder, CRISP techniques for optical/acoustic spectrometry, invited presentation at the Federation of Analytical Chemistry and Spectroscopy Societies National Meeting (Louisville, KY), October 2009.
16. R A. Lodder, Integrated Sensing and Processing (ISP) Chemometrics, invited presentation at the Federation of Analytical Chemistry and Spectroscopy Societies National Meeting (Louisville, KY) October 2009.
17. R A. Lodder, Imagination is More Important Than Knowledge, invited presentation at the Federation of Analytical Chemistry and Spectroscopy Societies National Meeting (Louisville, KY), October 2009.
18. T. Hannel and R.A. Lodder, Bootstrap Error-Adjusted Single-Sample Technique Integrated Sensing and Processing (BEST-ISP) for False Sample Identification. presentation at the Federation of Analytical Chemistry and Spectroscopy Societies National Meeting (Louisville, KY), October 2009.
19. L.A. Cassis and R.A. Lodder, Tagatose Treatment of Dyslipidemias, Atherosclerosis Gordon Conference, (Tilton, NY) June 2009.
20. T.S. Hannel and R.A. Lodder, Solid State Spectral Imager (SSSI) for the Detection of Dissolved Solids in Diverse Aqueous Environments. PittCon 2009, (Chicago, IL), March 2009.
21. D. Link, T.S. Hannel, R.A. Lodder, Integrated Sensing and Processing Acoustic Resonance Spectroscopy (ISP-ARS) versus Near-Infrared Spectroscopy (NIRS) for the Quantification of D-Tagatose in Resveratrol Tablets. PittCon 2009, (Chicago, IL), March 2009.
22. Craig C. Douglas, Li Deng, Gundolf Haase, Hyoseop Lee, Robert A. Lodder. Data-Driven Pill Monitoring. International Conference on Computational Science, ICCS 2010
23. Craig C. Douglas, Gundolf Haase, Thad Hannel, David Link, Robert A. Lodder.  A Prototype For Detecting Defective Pills During Manufacturing International Symposium on Distributed Computing and Applications to Business, Engineering and Science. (2009)
24. R.A. Lodder, Modern Applications of Near-Infrared Spectrometry, invited presentation at PittCon 2009, (Chicago, IL), March 2009. R.A. Lodder, University Management of Intellectual Property, invited presentation at the National Academy of Sciences (Washington, DC), Sept. 2009.
25. C. Kruger, R. A. Lodder. Carbohydrates, MTP and Triglycerides. Rodman and Renshaw (New York, NY), Sep 2009
26. C. Kruger, R. A. Lodder. Carbohydrates for Glucose and Lipid Control. OneMedForum (San Francisco, CA) Jan 2009
27. L. Dennehy, R. Lodder. Role of Glycation of Hemoglobin and Albumin. Biotech Showcase (San Francisco, CA) Jan 2009
28. T. Hannel, R. Lodder. Computer Simulations of Glucose and Lipid Metabolism. OneMedForum (San Francisco, CA) Jan 2010
29. L. Dennehy, R. Lodder. The Role of Transporters in CaCo-2 in the Metabolic Syndrome. BIO 2010 (Chicago, IL) May 2010
30. C.L. Kruger and R. A. Lodder, Safety Evaluation of a Natural Product Extract, American College of Toxicology, (Baltimore, MD) Nov 2010.
31. M. Binkley, M. Johnson, R. Lodder. A Phase 2 Dose-Ranging Study of D-Tagatose in Diabetes. Biotech Showcase (San Francisco, CA) Jan 2010
32. Kruger, R. Lodder, Phase 3 Results of D-Tagatose in Controlling HbA1c. Rodman and Renshaw (New York, NY) Sep 2010
33. R A. Lodder, LIDAR Data Water Quality Analysis, invited presentation at the Laboratorio Nacional de Computacao Cientifica (Petropolis, Brazil), August 2008.
34. T.S. Hannel, D.J. Link, R.A. Lodder, Acoustic Resonance Spectroscopy for the Quantitative Determination of D-Tagatose in Resveratrol Tablets, AAPS National Meeting, (Atlanta, GA), Nov. 2008.
35. D.L. Link, T.S. Hannel, R.A. Lodder, Bootstrap Enhanced N-dimensional Deformation of Space (BENDS) for Calibration of Non-linear Quantitative Responses in Acoustic Resonance Spectroscopy (ARS), AAPS National Meeting, (Atlanta, GA), Nov. 2008.
36. R.A. Lodder, Research in the AAA Problems, invited presentation at the Federation of Analytical Chemistry and Spectroscopy Societies National Meeting (Reno, NV), October 2008.
37. D. L. Link, R.A. Lodder, ISP-ARS, Federation of Analytical Chemistry and Spectroscopy Societies National Meeting (Reno, NV), October 2008.
38. T. Hannel and R.A. Lodder, Surreptitious Sensing of Blood Alcohol Content: Remote Molecular Factor Computing (MFC) Near-Infrared Spectroscopic (NIRS) Imaging and Laser Speech Detection, Federation of Analytical Chemistry and Spectroscopy Societies National Meeting (Reno, NV), October 2008.
39. R.A. Lodder, University Management of Intellectual Property, invited presentation at the National Academy of Sciences (Washington, DC), Sept. 2009.
40. R.A. Lodder, Opening session of IDRC: From Chemistry to Biology, International Diffuse Reflectance Conference, (Chambersburg, PA), August 2008.
41. T. Hannel and R.A. Lodder, Surreptitious Sensing of Blood Alcohol Content: Remote Molecular Factor Computing (MFC) Near-Infrared Spectroscopic (NIRS) Imaging and Laser Speech Detection, UK Clinical Translational Science meeting (Lexington, KY) 2008.
42. T. Hannel and R.A. Lodder, Surreptitious Sensing of Blood Alcohol Content: Remote Molecular Factor Computing (MFC) Near-Infrared Spectroscopic (NIRS) Imaging and Laser Speech Detection, 4th Annual Kentucky Enterprise and Innovation Conference (Lexington, KY) April 2008.
43. D. L. Link, T.S. Hannel, R.A. Lodder. ISP-ARS and prevention of medication errors, Ohio Valley Affiliates for Life Sciences (OVALS), (Dayton, OH), April 2008.
44. A. Urbas and R.A. Lodder, Spectroscopic Cleaning Validation, invited presentation at the Eastern Analytical Symposium (Somerset, NJ), Nov. 2007
45. J. A. Fackler, R. Peyyala, A. Urbas, M. Govindaswami, J. Ebersole, K. Novak and R. Lodder, Differentiation of Oral Bacteria using Near Infrared Spectroscopy (NIRS), NCURS (Lexington, KY) April 2007
46. Jason A. Fackler, Joseph P. Medendorp, Aaron Urbas, Tom Henninger, Bill Dieter, and Robert A. Lodder, NIR spectrometry for the characterization of fuel components in a novel tamper-resistant pill bottle, NCURS (Lexington, KY) April 2007.
47. R A. Lodder, DDDAS for Water Analysis, PittCon 2007 (Chicago, IL) Feb. 2007
48. R A. Lodder, Synchrotron NIR-NSOM with Molecular Computing for Evaluation of Drug Therapies, PittCon 2007 (Chicago, IL) Feb. 2007
49. David L. Wetzel and Robert A. Lodder, Synchrotron IR microspectroscopic study of aorta atherosclerotic plaque inhibition in drug treated APOE knock out mice, PittCon 2007 (Chicago, IL) Feb. 2007
50. R A. Lodder, Experimental Evidence for Diffuse Reflectance, International Diffuse Reflectance Spectroscopy Conference, (Chambersburg, PA) Aug. 2006.
51. J. Clay Harris and Robert A. Lodder, In Situ Metabolic Characterization of Subterranean Biofilms, Instruments, Methods and Missions for Astrobiology X, SPIE Optics and Photonics, (San Diego, CA), Aug. 13-17, 2006.
52. R. A. Lodder, Solid State Spectral Imaging of Contaminant Transport in Water, invited presentation at the DDDAS Workshop at the Laboratorio Nacional de Computacao Cientifica (Petropolis, Brazil), July 2006.
53. J. Clay Harris, Robert A. Lodder, Near-Infrared Near-field Scanning Optical Microscopy (NIR-NSOM) of Carbon Nanotubes, presented at PittCon 2006 (Orlando, FL) March 2006.
54. Bin Dai and Robert A. Lodder, Photonics, NMR, and Ultrasound: Which Technology is Best for Detecting Vulnerable Plaque and Predicting Sudden Cardiac Death?, presented at PittCon 2006 (Orlando, FL) March 2006.
55. J. Clay Harris, Joseph Medendorp, and Robert A. Lodder, Transdermal Drug Delivery Rates Determined by Solid State Spectral Imaging and Simulated in 3-D, presented at PittCon 2006 (Orlando, FL) March 2006.
56. Joseph Medendorp and Robert A. Lodder, A portable near-infrared sensor for noninvasively measuring drug concentrations in the skin after topical application, presented at PittCon 2006 (Orlando, FL) March 2006.
57. J. Clay Harris, Lisa A. Cassis, and Robert A. Lodder, Synchrotron IR Analysis of Murine Abdominal Aortic Aneurysm, presented at PittCon 2006 (Orlando, FL) March 2006.
58. Joseph Medendorp, Jason Fackler, and Robert A. Lodder, Spectrometric Prediction of Burn Rate and Ignition Time for the Pill Safe, presented at PittCon 2006 (Orlando, FL) March 2006.
59. Bin Dai and Robert A. Lodder, Differentiation of Cholesterol, Elastin and Collagen through Blood with Near-Infrared Spectroscopy, presented at PittCon 2006 (Orlando, FL) March 2006.
60. Joseph Medendorp, Bin Dai, Aaron Urbas, and Robert A. Lodder, In Vivo Multimodal Remote Sensing of Ethanol Concentrations, presented at PittCon 2006 (Orlando, FL) March 2006.
61. Joseph Medendorp, Clay Harris, Aaron Urbas, and Robert A. Lodder, Imaging using integrated sensing and processing, invited presentation at the Eastern Analytical Symposium (Somerset, NJ), Nov. 2005
62. Robert A. Lodder. The Experimental Evidence for Diffuse Reflectance.invited presentation at the Eastern Analytical Symposium (Somerset, NJ), Nov. 2005
63. Joseph Medendorp, Robert Lodder, Applications of Integrated Sensing and Processing (ISP) in Acoustic and Optical Spectroscopy, PGSRM (U Kansas), June 2005.
64. Bin Dai, Aaron A. Urbas, Ali Shamsaie, and Robert A. Lodder Differentiation of cholesterol, elastin, and collagen through blood with near-infrared spectroscopy, presented at the Naff Symposium (Lexington, KY) April 2005.
65. J. Clay Harris Jay Hatcher and Robert A. Lodder, Solid State Spectral Imaging for Rapid Analysis in Diverse Environments (SSSI-RADE) presented at the Naff Symposium (Lexington, KY) April 2005.
66. J. Clay Harris, Robert A. Lodder. Remote Spectral Imaging of Biofilm. Instruments, Methods, and Missions for Astrobiology IX, SPIE Conference, (San Diego, CA) July 2005.
67. Aaron Urbas, David Wetzel, and Robert Lodder. The Roeder algorithm for Classification of Vulnerable Plaques Using Infrared Microspectroscopy. ICAVS-3, (Delavan, WI) August 2005.
68. R. A. Lodder, Scanning for Extinct Astrobiological Residues and Current Habitats (SEARCH) Using Integrated Computational Imaging paper number 200-10 at PittCon 2005 (Orlando, FL), February 2005.
69. R. A. Lodder, Chemical Microstructural Characterization of the COX II Genetic Mouse Aorta with Synchrotron Infrared Microspectroscopy, paper number 1190-6 at PittCon 2005 (Orlando, FL), February 2005.
70. R. A. Lodder, In-situ Spectroscopic Cleaning Validation, paper number 1240-1 at PittCon 2005 (Orlando, FL), February 2005.
71. R. A. Lodder, Determination of Cholesterol by Hyperspectral Integrated Computational Imaging, paper number 1420-6 at PittCon 2005 (Orlando, FL), February 2005.
72. R. A. Lodder, Integrated Sensing & Processing (ISP) with a Tailored Excitation Signal for ARS, paper number 1710-8 at PittCon 2005 (Orlando, FL), February 2005.
73. R. A. Lodder, NIR-NSOM Using Hyperspectral Integrated Computational Imaging, paper number 1830-10 at PittCon 2005 (Orlando, FL), February 2005.
74. R. A. Lodder, Molecular Computing-Based Remote Ethanol Sensing, paper number 2020-5 at PittCon 2005 (Orlando, FL), February 2005.
75. R. A. Lodder, Spectrometric Process Analytical Technology for Reduction of Pharmaceutical Manufacturing Problems. Analytical Laboratory Expo, October 2004.
76. Joseph Medendorp and Robert Lodder, Integrated Sensing and Processing and a Novel Acoustic Resonance Spectrometer, AAPS National Meeting (Baltimore, MD) Nov. 2004.
77. R. A. Lodder, Using the SEARCH Instrument to Probe Biofilms. NASA Ames Conference Center (Moffett Field, CA), November 2004.
78. Aaron A. Urbas, David Wetzel, Ginell Post, Robert A. Lodder. Synchrotron Infrared Microspectroscopic Analysis of Human Thin-Cap Fibroatheromas. Gill Heart Institute Cardiovascular Research Day (Lexington, KY) October 2004.
79. J. Clay Harris and Robert A. Lodder Remote Spectral Imaging With Active Excitation Diode Arrays Using Integrated Sensing And Processing. NASA Second Conference On Early Mars: Geologic, Hydrologic, And Climate  
    Evolution And The Implications For Life. October 11 - 15, 2004  
    Jackson Hole, Wyoming
80. Gilbert V. Levin and Robert A. Lodder Remote Spectral Imaging Of Geologic Formations And Biofilms With Active Excitation Diode Arrays. NASA Mars Astrobiology Science and Technology Workshop, 8-10 September 2004, Carnegie Institution of Washington, Washington, DC
81. Bin Dai and Robert A. Lodder, Parallel Hyperspectral Integrated Computational Imaging, DCABES (Wuhan, China) September 2004.
82. Robert A. Lodder, Diffuse Reflectance Imaging Spectrometry Using Molecular Factor Computing, invited paper at the International Diffuse Reflectance Conference 2004 (Chambersburg, PA), August 2004.
83. Robert Lodder, Aaron Urbas, and Dai Bin, Hyperspectral imaging and molecular computing in analysis of aneurysm, invited paper at the national meeting of the American Chemical Society (Philadelphia, PA) August 2004.
84. Robert Lodder, Aaron Urbas, and Dai Bin, Chemometrics for ISP: Integrated sensing and processing, invited paper at the national meeting of the American Chemical Society (Philadelphia, PA) August 2004.
85. Robert Lodder, Multivariate Response Data Reduction, SETICon04 (Trenton, NJ) August 2004.
86. Allen Tough, Cindy Corriveau, Richard Factor, Muriel Hykes, Robert Lodder, George Raynault, Paul Shuch, Heather Wood. Achieving Contact -- Fresh Views, New Paths. SETICon04 (Trenton, NJ) August 2004.
87. Robert A. Lodder, Remote Measurement of Ethanol Concentrations Using a Molecular Computing-Based Hyperspectral NIR Sensor, Research Society on Alcoholism International Meeting (Vancouver, Canada) June 2004.
88. Aaron Urbas, Tracey Henriques, Debra Rateri, Alan Daugherty, Lisa A. Cassis, and Robert A. Lodder, Near-Infrared Spectrometry of Abdominal Aortic Aneurysm in the ApoE-/- Mouse 5th Annual Conference on Arteriosclerosis, Thrombosis and Vascular Biology (San Francisco, CA) May 2004.
89. Aaron Urbas, Tracey Henriques, Debra Rateri, Alan Daugherty, Lisa A. Cassis, and Robert A. Lodder, Near-Infrared Diagnostic for Atherosclerosis and Aneurysm in the ApoE -/- Mouse, presented at the Kentucky Innovation and Enterprise Conference (Louisville, KY) March 2004.
90. Joseph Medendorp, Steve Post, Robert A. Lodder. Near-Field NIR Spectra of HEK Membrane Bound Class A Scavenger Receptor, PittCon 2004 (Chicago, IL), March 2004.
91. Aaron Urbas, Gerald Thompson, Karthik Venkatachalam, Erika Wanner, Robert Lodder. Magnetohydrodynamic Currents In Blood Coagulation, PittCon (Chicago, IL), March 2004.
92. Ashley Wells and Robert A. Lodder, Near-Infrared Observations of GRB 030329 Synchronized with Gamma Ray Burst. PittCon 2004 (Chicago, IL), March 2004.
93. Katherine Wilkie and Robert A. Lodder, A Freely Roving Robot With Multiplex Bandpass Spectrometer. PittCon 2004 (Chicago, IL), March 2004.
94. Aaron Urbas, Michael W. Manning, Alan Daugherty, Lisa A. Cassis, and Robert A. Lodder, Near-Infrared Spectrometry of Abdominal Aortic Aneurysm in the ApoE-/- Mouse, PittCon 2004 (Chicago, IL), March 2004.
95. Aaron A. Urbas, Robert A. Lodder. Quantification of Bovine Serum Albumin (BSA) on Glass by Laser Scatter for Cleaning Validation. PittCon 2004 (Chicago, IL), March 2004.
96. Bin Dai, Robert A. Lodder, Molecular computing-based high-throughput NIR spectrometer. PittCon 2004 (Chicago, IL), March 2004.
97. Joseph Medendorp, Charles Loftin, Robert A. Lodder. Real-Time Determination of Hemoglobin Oxygenation State in Neonatal Mice. PittCon 2004 (Chicago, IL), March 2004.
98. W. Charles Symons, III, Keith W. Whites, and Robert A. Lodder, Characterization of a Near-Field Scanning Microwave Microscope and a Near-Field Scanning Near-Infrared Microscope. PittCon 2004 (Chicago, IL), March 2004.
99. Joseph Medendorp, Robert A. Lodder. Acoustic-Resonance Spectrometry and Analysis of Powder Drying, PittCon 2004 (Chicago, IL), March 2004.
100. David L. Wetzel and Robert A. Lodder, Infrared Imaging and Microspectroscopy of Aneurysm and Preaneurysm C57BL\6 LDL Receptor -\- Mouse Aorta Tissue, PittCon 2004 (Chicago, IL), March 2004.
101. Amanda Sizemore, Aaron Urbas, Leonidas Bachas, Robert A. Lodder. A Novel Approach to Sample Preparation Method Selection for Drug Candidates from Biological Fluids, PittCon 2004 (Chicago, IL), March 2004.
102. Amanda Sizemore, Aaron Urbas, Leonidas Bachas, Robert A. Lodder. Development of a Novel Sorbent with Improved Characteristics for Bioanalytical SPE, PittCon 2004 (Chicago, IL), March 2004.
103. Bin Dai and Robert A. Lodder, A Molecular Computing-Based High-Throughput NIR Spectrometer. SPIE (San Jose, CA) January 2004.
104. Aaron Urbas, Tracey Henriques, Debra Rateri, Alan Daugherty, Lisa A. Cassis, and Robert A. Lodder, Near-Infrared Spectrometry of Abdominal Aortic Aneurysm in the ApoE-/- Mouse, Gill Heart Institute Cardiovascular Research Day (Lexington, KY), Oct. 2003
105. Robert A. Lodder, 3-D Aorta paper, Gill Heart Institute Cardiovascular Research Day (Lexington, KY), Oct. 2003
106. David L. Wetzel, Lisa A. Cassis, Alan Daugherty, Robert A. Lodder, Infrared Microspectroscopy Of Abdominal Aortas From ApoE -/- Mice, 2nd International Conference on Advanced Vibrational Spectroscopy (ICAVS-2), (Nottingham, UK) Aug. 2003.
107. Aaron Urbas Adam Sloan, Michael W. Manning, Lisa A. Cassis, Alan Daugherty, Robert A. Lodder, Spectrometric Analysis of Atherosclerosis and Aortic Aneurysm, invited presentation at the Eastern Analytical Symposium (Somerset, NJ) Nov. 2003.
108. Robert A. Lodder, Evolutionary and Revolutionary Approaches to Process Analytical Technologies (PAT), invited presentation at the U.S. Pharmacopoeia (Rockville, MD) Aug. 2003.
109. Robert A. Lodder, Spectrometric Imaging Using Optical and Microwave Telescopes, invited seminar for the Central Kentucky Computer Society (Lexington, KY) May 2003.
110. Robert A. Lodder, Remote Sensing Using Spectrometric Methods, AstraZeneca (Wilmington, DE) June 2003.
111. Robert A. Lodder, Remote Sensing as a PAT for Pharmaceutical Sciences, Bristol-Meyers Squibb (New Brunswick, NJ) June 2003.
112. Coorg Prasad and Robert A. Lodder, A Non-invasive Near-IR Integrated Alcohol Sensor System, DARPA/NIAAA Alcohol Sensing Workshop (Washington, DC), May 2003.
113. Robert A. Lodder, Simulations, Small Sample Correlations and Probability, SETICon03 (Trenton, NJ), April 2003.
114. Amanda E. Lowell and Robert A. Lodder, A Parallel Processing Algorithm for Signal Detection, SETICon03 (Trenton, NJ), April 2003.
115. Amanda E. Lowell and Robert A. Lodder, Building an Argus Station: Lessons Learned. invited presentation at SETICon03 (Trenton, NJ), April 2003.
116. Aaron Urbas, Robert A. Lodder, Reduction of Manufacturing Problems Using Near-Infrared Spectrometry (NIRS) as a Process Analytical Technology, IVT Process Analytical Technologies Meeting (San Francisco, CA) April 2003.
117. Aaron Urbas, Robert A. Lodder, In Situ Spectroscopic Cleaning Validation, The Naff Symposium on Chemistry and Molecular Biology (Lexington, KY) April 2003.
118. Aaron Urbas, Robert A. Lodder , Reduction of Manufacturing Problems Using Near-Infrared Spectrometry (NIRS) as a Process Analytical Technology, Practical Real World Applications of Process Analytical Technologies (Philadelphia, PA) March 2003.
119. Robert A. Lodder, New Directions in Analytical Spectroscopy, invited seminar in the Yale University Applied Mathematics Department (New Haven, CT) Mar. 2003.
120. Maggie Abbassi, Cynthia L. Banyon, Robert A. Lodder, Noninvasive Spectrometric Imaging Analysis of Powders Inside Sealed Envelopes, PittCon 2003 (Orlando, FL), March 2003.
121. Philip E. Empey and Robert A. Lodder , Detection of Tampering in Parenteral Filgrastim (G-CSF) Vials by Laser Light Scatter, PittCon 2003 (Orlando, FL), March 2003.
122. Aaron Urbas, Adam Sloan, Michael W. Manning, Lisa A. Cassis, Alan Daugherty, Robert A. Lodder, Near-IR Spectrometric Prediction of Abdominal Aortic Aneurysm, PittCon 2003 (Orlando, FL), March 2003.
123. Kimberly P. Hindman, Aaron Urbas, Robert A. Lodder, Hyperspectral Methods for Pharmaceutical Process Cleaning Validation, PittCon 2003 (Orlando, FL), March 2003.
124. Robert A. Lodder, UV / Visible - Near-IR / IR Hyperspectral Imaging for Monitoring Bacteria, invited seminar at Xavier University Chemistry Department (Cincinnati, OH), Feb. 2003.
125. Robert A. Lodder, New Directions in Analytical Spectroscopy, invited presentation at the Yale University Computer Science Colloquium (New Haven, CT) Dec. 2002.
126. Robert A. Lodder, Near-Infrared Spectrometry from Powders in Presses to Powders in Envelopes, invited presentation at the AAPS National Meeting (Toronto, CA) Nov. 2002.
127. Paul Cherukuri, Morteza Naghavi, S. Ward Casscells, and Robert A. Lodder, A Novel Method of Measuring CRP and Other Elements of Arterial Inflammation Using Photonic Analysis, Gill Heart Institute Cardiovascular Research Day (Lexington, KY), Oct. 2002.
128. Craig Douglas and Robert Lodder, MAReNIR Spectrometry of Oxidation in the Brain, invited presentation at the Laboratório Nacional de Computação Científica (LNCC), (Petropolis, Brazil) Oct. 2002
129. Urbas and R.A. Lodder, Reduction of Manufacturing Problems Using Near-Infrared Spectrometry (NIRS) as a Process Analytical Technology, invited presentation at the IVT Process Analytical Technology Meeting, (Washington, DC) Oct. 2002
130. Robert A. Lodder, Near-IR Spectrometry over 25 Orders of Scale, invited keynote address at the International Diffuse Reflectance Spectroscopy Conference (Chambersburg, PA) Aug. 2002.
131. Steven R. Alford and Robert A. Lodder, Analysis of Bacteria and Bacterial Spores by Hyperspectral Imaging, invited lecture at the International Diffuse Reflectance Spectroscopy Conference (Chambersburg, PA) Aug. 2002.
132. Amanda Lowell and Robert Lodder, Hyperspectral Remote Sensing of Capsules and Tablets, 2002 Post-Graduate Conference (University of Kentucky, Lexington, KY), May 2002.
133. Robert A. Lodder, A Critical Evaluation of Current SETI Programs, invited presentation at SETICon02 (Trenton, NJ), April 2002.
134. Karen Dumstorf, Kah-Siew Ho, Adrienne Ellis, and Robert A. Lodder, A Planetary Probe with Hyperspectral Vision for Detection of Blue-Green Algae, SETICon02 (Trenton, NJ), April 2002.
135. Jessica Call and Robert A. Lodder, Application of a Liquid Crystal Tunable Filter to Near-Infrared Spectral Searches, SETICon02 (Trenton, NJ), April 2002.
136. Robert A. Lodder, LS-LAMP Introduces IGERT Program to Minority Exceptional Students, Southern University at New Orleans, (New Orleans, LA) March 2002.
137. Robert A. Lodder, LS-LAMP Introduces IGERT Program to Minority Exceptional Students, Southern University at Baton Rouge, (Baton Rouge, LA) March 2002.
138. Robert A. Lodder, Kah-Siew Ho, Karen Dumstorf, Adrienne Ellis, Using a Roving Robot with UV / Visible - Near-IR / IR Imager for Monitoring Growth of Cyanobacteria Colonies, PittCon 2002 (New Orleans, LA), March 2002.
139. Robert A. Lodder and Karmen Hennigan, Imaging Spectrometry and Foam Fractionation in Purification of Proteins, PittCon 2002 (New Orleans, LA), March 2002.
140. Robert Lodder and Sara Hamilton, Analysis of Lysine Crosslinks in a Single Gelatin Capsule at a Distance of One Mile, PittCon 2002 (New Orleans, LA), March 2002.
141. Steven R. Alford and Robert A. Lodder, Near-Infrared Spectroscopy: Near To or Far From Our Expectations?, 3rd Vulnerable Plaque Symposium, American College of Cardiology 51st Annual Scientific Sessions (Atlanta, GA), March 2002.
142. Sara Hamilton, Aaron Urbas, and Robert A. Lodder, Hyperspectral Imaging Technology for Pharmaceutical Analysis, invited paper at the SPIE International Symposium on BiOS, Photonics West (San Jose, CA), January 2002.
143. Sara Hamilton and Robert A. Lodder, Remote Hyperspectral Imaging in Pharmaceutical and Biological Applications, invited paper at the International Federation of Process Analytical Chemistry annual meeting - IFPAC (San Diego, CA) Jan. 2002
144. Adam Sloan, Jessica Call, Mike Manning, Lisa Cassis, Alan Daugherty, and Robert Lodder, Near-IR Spectrometric Analysis of Collagen and Elastin in Aneurysm, Gill Heart Institute Cardiovascular Research Meeting (Lexington, KY) Oct. 2001.
145. S. J. Hamilton and R.A. Lodder, “Remote Sensing of Gelatin Capsules”, Summer Undergraduate Research Symposium, University of Kentucky (Lexington, KY), July 2001.
146. R. Lodder, Pharmaceutical Applications of Hyperspectral Imaging, invited seminar at Texas Tech University, May 2001.
147. Robert Lodder, FT-MAReNIR Chip for Implantable Use, DARPA/NIH Workshop on Alcohol Biosensors (Washington, DC), May 2001.
148. Robert Lodder and Cynthia Banyon, Near-Infrared (IR) Spectrometric Imaging Using a One-Meter Fresnel Telescope, The College of New Jersey, (Trenton NJ), April 2001.
149. K. Dumstorf and Robert A. Lodder, High Resolution 2D NearIR Correlation Spectrometry of the Aorta, abstract #492 at PittCon 2001, (New Orleans, LA), March 2001.
150. Malik and Robert A. Lodder, NearIR Imaging Spectrometry of Tablets in Blister Packaging, abstract #498 at PittCon 2001, (New Orleans, LA), March 2001.
151. Dumstorf and Robert A. Lodder, Application of Supernova Explosions and NearIR Spectrometry in Astrobiology, abstract #504 at PittCon 2001, (New Orleans, LA), March 2001.
152. K.S. Ho and Robert A. Lodder, Microwave Spectrometry of Eridanus, abstract #511 at PittCon 2001, (New Orleans, LA), March 2001.
153. P. Cherukuri, P. Riggs, I. Darrat, K. Dumstorf, and Robert A. Lodder, High Resolution 2-D Near-IR Laser Correlation Spectrometry of Atherosclerotic Plaque Susceptible to Rupture or Erosion, Gill Heart Institute Cardiovascular Research Day, University of Kentucky (Lexington, KY), Oct. 27, 2000.
154. Lisa A. Cassis, Marc Helton, Robert A. Lodder, Gerome Burke, Mechanisms Contributing to Angiotensin II Regulation of Body Weight. Gill Heart Institute Cardiovascular Research Day, University of Kentucky (Lexington, KY), Oct. 27, 2000.
155. Robert A. Lodder, Infrared Spectrometric Imaging About the Stars of the Summer Triangle, invited presentation in the Infrared Imaging Symposium at FACSS 2000 (Nashville, TN), Sept 24 - 30, 2000.
156. David Boling and Robert A. Lodder, Using Near-Infrared Laser Spectrometry as a Remote Biosensor, CMACS 2000 (Cincinnati, OH) May 2000.
157. Robert A. Lodder and Robb Samuell, Remote Biosensing by Fourier Transform Microwave Spectrometry, CMACS 2000 (Cincinnati, OH) May 2000.
158. R. Samuell, N. Meares, L. Ferguson, and Robert A. Lodder, Astrobiological Applications of Microwave Spectrometry and Chemometrics, CONFCHEM 2000, May 2000.
159. D. Boling and Robert A. Lodder, Near-Infrared Laser Spectrometry and Chemometrics in Astrobiology, CONFCHEM 2000, May 2000
160. M. Poonacha, Lisa A. Cassis, Robert A. Lodder, Energy Transfer Modeling of Living Organisms for Metabolic Studies and Obesity Research, CONFCHEM 2000, May 2000
161. Robert A. Lodder, Advances in Instrumentation for Remote Biosensing, invited presentation at the Gill Center for Instrumentation and Measurement Science, Indiana University (Bloomington, IN), April 2000.
162. Malik and Robert A. Lodder, Near-Infrared Imaging Spectrometry of Tablets Through Blister Packaging, 2000 AAPS University of Kentucky Postgraduate Conference (Lexington, KY), April 2000.
163. P. Riggs, P. Moreno, W. O'Connor, J. E. Muller, and Robert A. Lodder. Multisynchronous 2-D Near-IR Correlation Spectrometry for Identification of Vulnerable Atherosclerotic Plaque, 2000 University of Kentucky Postgraduate Conference (Lexington, KY), April 2000.
164. R. Samuell, N. Meares, L. Ferguson, and Robert A. Lodder, Astrobiological Applications of Microwave Spectrometry and Chemometrics, PittCon 2000, (New Orleans, LA), March 2000.
165. D. Boling and Robert A. Lodder, Near-Infrared Laser Spectrometry and Chemometrics in Astrobiology, PittCon 2000, (New Orleans, LA), March 2000.
166. Robert A. Lodder, invited presentation on Galactic Microwave Simulation and Radiotelescope Sensors at the National Science Foundation Workshop on Dynamic DataDriven Application Systems (Washington, DC) March 2000.
167. P. R. Moreno, Robert A. Lodder, W. N. O'Connor, V. A. Vyalkov, K. R. Purushothaman, J. E. Muller. "Characterization of Vulnerable Plaques by Near-Infrared Spectroscopy in the Atherosclerotic Rabbit Model", American College of Cardiology 48th Annual Scientific Sessions, (New Orleans, LA) March 1999.
168. W. C. Symons and Robert A. Lodder, Near-IR Spectral Imaging Beyond the Diffraction Limit. PittCon 99 (Orlando, FL), March 1999.
169. P. Moreno, J. Muller, W. O'Connor, and Robert A. Lodder. Detection of Vulnerable Atherosclerotic Plaques in Humans Using Fiber-Optics by 2-D Near-Infrared Correlation Spectrometry. PittCon 99 (Orlando, FL), March 1999.
170. Boiana Budevska, Emily Dausman, and Robert A. Lodder. Imaging Aerosol Deposition by 2-D Tunable Near-IR Laser Spectrometry. PittCon 99 (Orlando, FL), March 1999.
171. P. Moreno, W. O’Connor, J. Muller, and Robert A. Lodder, Characterization of Composition and Vulnerability of Atherosclerotic Plaques by Near-Infrared Spectrometry. American Heart Association 71st Scientific Sessions (Dallas, TX), November 1998.
172. P. Riggs, P. Moreno, W. O’Connor, J. Muller, and Robert A. Lodder, Multisynchronous 2-D Near-IR Correlation Spectrometry for Identification of Vulnerable Atherosclerotic Plaque. Gill Heart Institute Cardiovascular Research Day, (Lexington, KY), November 1998.
173. W. Charles Symons and Robert A. Lodder, Electromagnetic scattering analysis of sample objects within the near field of a subwavelength aperture utilizing FDTD methods. IEEE International Symposium / National Radio Science Meeting, (Atlanta, GA), June 1998.
174. Robert A. Lodder, Bioanalytical Near-Infrared Spectrometry, PittCon 98, paper number 627, (New Orleans, LA) March 1998.
175. Robert A. Lodder, Near-field scanning optical microscopic imaging from X-band to near-infrared, PittCon 98, paper number 119, (New Orleans, LA) March 1998
176. Robert A. Lodder, Comparison of MAReNIR and near-infrared spectrometry for nondestructive determination of glucose in a simulated biological matrix, PittCon 98, paper number 127, (New Orleans, LA) March 1998.
177. W. C. Symons and Robert A. Lodder, NIR Near-Field Microscopy, invited presentation at the Eastern Analytical Symposium (Somerset, NJ) November 1997.
178. Michael. J. Jay and Robert A. Lodder, Keeping Pharmaceutical Sciences Programs up the Flagpole, Meeting of the Pharmaceutics/Pharmaceutical Sciences Department and Division Chairs, AACP, American Association of Pharmaceutical Scientists Annual Meeting, (Boston MA) November 1997.
179. Robert A. Lodder, More Power to You, invited presentation at the Federation of Analytical Chemistry and Spectroscopy Societies Annual Meeting (Providence, RI) October 1997
180. Robert A. Lodder, Biomedical Applications of Near-Infrared Imaging@ plenary speaker at the 8th International Conference on Near-Infrared Spectroscopy (Essen, Germany) September 1997.
181. Robert A. Lodder, Near-Infrared Imaging in Stroke Research, invited presentation at Microscopy and Microanalysis, (Cleveland, OH) August 1997.
182. R. G. Buice and Robert A. Lodder, MAReNIR of Lipoproteins in Carotid Plaque, paper no. at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Atlanta, GA) March 1997.
183. Robert A. Lodder, Near-IR Imaging of Crosslinking in Pharmaceutical Capsules, paper no. at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Atlanta, GA) March 1997.
184. Robert A. Lodder, Biomedical Applications of Near-Infrared Imaging Spectrometry invited seminar at Indiana University (Bloomington, IN) February 1997.
185. Lisa A. Cassis and Robert A. Lodder, Angiotensin II regulates body weight through alterations in energy intake and expenditure NASSO, 1996.
186. Robert A. Lodder, "Biological and medical applications of near-infrared imaging spectrometry," Dupont (Wilmington, Delaware) June 1996.
187. Robert A. Lodder, "Biological and medical applications of near-infrared imaging spectrometry," Society for Applied Spectroscopy tour speaker, (Indianapolis, IN) April 1996.
188. Robert A. Lodder, "Biological and medical applications of near-infrared imaging spectrometry," Society for Applied Spectroscopy tour speaker, (Chicago, IL) April 1996.
189. Robert A. Lodder, "Biological and medical applications of near-infrared imaging spectrometry," Society for Applied Spectroscopy tour speaker, (Milwaukee, WI) April 1996.
190. Robert A. Lodder, "Near infrared imaging and spectroscopy in stroke research", invited presentation at the Conference on current and emerging technologies in monitoring brain structure and function, NIH, (Bethesda, MD) March 1996.
191. A. Tatro and Robert A. Lodder, "Spectrophotometric and Electrophoretic Analysis of Carotid Plaque Lipoproteins", paper no. at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1996.
192. W. C. Symons and Robert A. Lodder, "Near-Infrared Scanning Near-Field Microscopic Imaging," paper no. at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1996.
193. J. Moses and Robert A. Lodder, "Lipoprotein Determination in Single Cells by Near-Infrared Spectromicrography," paper no. at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1996.
194. Robert A. Lodder, "Computerized Assignment of Near-IR Absorbances to Molecular Motions of Proteins and Peptides," paper no. at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1996.
195. R. G. Buice and Robert A. Lodder, "Application of Near-Infrared Imaging to Determination of Uniformity of Hydration and Extent of Formaldehyde-Induced Cross-Linking in Intact Gelatin Capsules," paper no. at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1996.
196. R. G. Buice and Robert A. Lodder, "Magnetohydrodynamic Acoustic-Resonance Near-Infrared (MAReNIR) Assay for Lipoproteins in Carotid Plaque," paper no. 1073 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1996.
197. Robert A. Lodder, "Near-IR Imaging in Stroke Research" invited seminar at the University of Michigan (Ann Arbor, MI) October 1995.
198. Robert A. Lodder, "Near-IR Spectrometry: Workhorse among Imaging Techniques", Federation of Analytical Chemistry and Spectroscopy Societies Annual Meeting (Cincinnati, OH) November 1995.
199. Robert A. Lodder, "Pharmaceutical Applications of Near IR Spectroscopy" to Abbott Laboratories Pharmaceutical Products Division Product Development Department, (Chicago, IL) June 1995.
200. Robert A. Lodder, "Nondestructive Spectroscopic Video Imaging Methods for Pharmaceutical Analysis", H. B. Kostenbauder symposium at the Hyatt Hotel (Lexington, KY) April 1995.
201. Robert A. Lodder, "Biomedical applications of near-infrared imaging", invited seminar at the University of Pittsburgh (Pittsburgh, PA) April 1995.
202. R. G. Buice, Robert A. Lodder, "Multiple Analyte Effects on the Calibration of MAReNIR Spectroscopy for Blood Substrates" paper no. 111P at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New Orleans, LA) March 1995.
203. J. Yates and Robert A. Lodder, "Atherosclerosis: A Near-IR Imaging Approach", paper no. 209P at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New Orleans, LA) March 1995.
204. Robert A. Lodder, "Near-Infrared Spectroscopic Imaging in Stroke Research", invited paper no. 046 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New Orleans, LA) March 1995.
205. C. Symons and Robert A. Lodder, "Scanning Near-Field Near-IR Microscopy", paper no. 646 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New Orleans, LA) March 1995.
206. R. J. Dempsey, Robert A. Lodder, D. G. Davis, and R. W. Moore, "Lipoprotein oxidation and symptomatic carotid artery atherosclerosis", paper #68 at the American Heart Association 20th International Joint Conference on Stroke and Cerebral Circulation (Charleston, SC) February 1995.
207. R. G. Buice, W. C. Symons and Robert A. Lodder, "Eliminating Interferences in the Near-IR Analysis of Whole Blood: Chemometrics vs. Hyphenated Instrumental Approaches" paper no. APQ 1066 at the national meeting of the AAPS (San Diego, CA) 1994.
208. Robert A. Lodder, "Breaking the Analytical Bottleneck", Glaxo, Inc. (Research Triangle Park, NC) November 1994.
209. Robert A. Lodder, invited presentation at the European Congress of Pharmaceutical Scientists (Berlin, Germany) 1994.
210. R. J. Dempsey, Robert A. Lodder, D. Davis, and R. W. Moore, "Lipoprotein Oxidation and Symptomatic Carotid Artery Atherosclerosis," 1994 Annual Meeting of the Neurological Society of America (Blaine, WA) 1994.
211. R. J. Dempsey, D. Davis, Robert A. Lodder and R. W. Moore, "Carotid Plaque Morphology and Clinical Characteristics," 19th International Joint Conference on Stroke and Cerebral Circulation (San Diego, CA) February 1994.
212. T. P. Mills and Robert A. Lodder, "The Effect of Acoustic and Magnetic Signals on the Near Infrared Spectrum of Some Important Proteins in Solution," Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1994.
213. Robert A. Lodder, J. M. Carney and W. Landrum, "Near-IR Spectrophotometric Monitoring of Prednisolone Treatment of Edema in Post-Ischemic Gerbil Brains," Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1994.
214. Y. Zou, V. Majidi and Robert A. Lodder, "A Novel Near-IR Measurement System Based on Stimulated Raman Scattering Using the Nd:YAG/Dye Laser as a Source," Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1994.
215. R. G. Buice and Robert A. Lodder, "Moving Toward a Noninvasive Cholesterol Assay," Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1994.
216. R. G. Buice, L. A. Cassis and Robert A. Lodder, "Noninvasive Near-IR Monitoring of Developing Obesity in Newborn Zucker Rats," Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1994.
217. R. G. Buice and Robert A. Lodder, "Noninvasive Near-IR/ARS/MHD Analysis of Pharmaceuticals," Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1994.
218. Rulon, Lisa A. Cassis and Robert A. Lodder, "Near-Infrared Imaging Catheters for Measurement of Oxidized LDL in Atherosclerosis," Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1994.
219. W. C. Symons and Robert A. Lodder, "New Instruments for Magnetohydrodynamic Acoustic-Resonance Near-Infrared Spectrometry," Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1994.
220. Robert A. Lodder, R. J. Dempsey, and R. W. Moore, "Near-IR Spectrometric Imaging in Symptomatic Carotid Occlusive Disease," invited presentation at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1994.
221. R. G. Buice, Jr., Lisa A. Cassis, and Robert A. Lodder, "A Noninvasive Near-IR Assay for Obesity in Newborn Zucker Rats", presented at the annual national meeting of the American Association of Pharmaceutical Scientists (AAPS) (Orlando, FL), November 1993.
222. R. G. Buice, Jr. and Robert A. Lodder, "The Use of Acoustic-Resonance Spectrometry to Test Intact Tablets for Dissolution Constraints", presented at the annual national meeting of the American Association of Pharmaceutical Scientists (AAPS) (Orlando, FL), November 1993.
223. R. G. Buice, Jr. and Robert A. Lodder, "MARNIR: A First Step Toward a Noninvasive Cholesterol Assay", presented at the annual national meeting of the American Association of Pharmaceutical Scientists (AAPS) (Orlando, FL), November 1993.
224. R. J. Dempsey, M. Kindy, and Robert A. Lodder, "Near-Infrared Spectroscopy in the Carotid Endarterectomy Patient", Annual Meeting of the Research Society of Neurological Surgeons, 1993.
225. Robert A. Lodder and R. J. Dempsey, "Near-IR Spectrometry of Human Carotid Plaques", invited presentation at the 32nd Annual Eastern Analytical Symposium (Somerset, NJ), November 1993.
226. R. J. Dempsey, M. Kindy, and Robert A. Lodder, "Lessons from Carotid Endarterectomy: Early Detection of the Patient at Risk of Progressive Plaque Development", at the 1993 Annual Meeting of the Neurological Society of America (Boca Raton, FL), 1993.
227. Robert A. Lodder, "Bioanalytical Spectrometry in the Near-Infrared,” the Lippincott Memorial Lecture at Bowdoin College (Brunswick, Maine) July 1993.
228. Robert A. Lodder and R. J. Dempsey, "Near-Infrared Imaging in Stroke Research," invited paper #674 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Atlanta, GA) March 1993.
229. Y. Zou and Robert A. Lodder, "An Investigation of the Performance of the Extended Quantile BEAST in High Dimensional Hyperspace", paper #885 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Atlanta, GA) March 1993.
230. R. G. Buice, Jr. and Robert A. Lodder, "A Novel Magnetohydrodynamic Acoustic-Resonance Near-IR [MARNIR] Spectrometer", paper #588 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Atlanta, GA) March 1993.
231. Y. Zou and Robert A. Lodder, "The Effect of Different Data Distributions on the Performance of the Extended Quantile BEAST in Pattern Recognition", paper #593 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Atlanta, GA) March 1993.
232. P. Nair and Robert A. Lodder, "Determination of Fertility in Eggs Using Near-infrared Spectroscopy", paper #1375 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Atlanta, GA) March 1993.
233. T. P. Mills and Robert A. Lodder, "The Experimental Reduction of Dimensionality of Acoustic-Resonance Spectra Using Selected Fourier Transform Coefficients", paper #587 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Atlanta, GA) March 1993.
234. D. L. Wetzel, A. J. Eilert, and Robert A. Lodder, "Diffuse Transmittance Near-IR Acousto-optic TFS Quantitative Monitoring Using Nonimaging Concentrating Optics", paper #123 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Atlanta, GA) March 1993.
235. Robert A. Lodder, "Ten Tricks to Try: Testing Tablet Dissolution Rate Spectrometrically," invited paper at the Eastern Analytical Symposium (Somerset, NJ) November 1992.
236. Robert A. Lodder, "Analytical Spectrometric Research in a Medical Center," invited paper at the Eastern Analytical Symposium (Somerset, NJ) November 1992.
237. Robert A. Lodder, "The New Analytical Chemistry", invited presentation at the Eighth Annual EPSCoR Conference (Las Vegas, Nevada) October 1992.
238. R. J. Dempsey, Lisa A. Cassis, Robert A. Lodder, "Toward Noninvasive Biochemical Analysis of Carotid Artery Plaque Lipids", Congress of Neurological Surgeons Annual Meeting (Washington, DC) October 1992.
239. Robert A. Lodder, "NIR Investigations of Stroke-Related Changes in Brain Tissue", invited paper, #1132 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New Orleans, LA) March 1992.
240. Lisa A. Cassis and Robert A. Lodder, "Lipoprotein and Apolipoprotein Determinations Without Separations", paper #620 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New Orleans, LA) March 1992.
241. Mayes, J. M. Carney, and Robert A. Lodder, "Near-IR Evaluation of Lipid Modifications in the Gerbil Brain Following Transient Ischemia and Reperfusion", paper #621 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New Orleans, LA) March 1992.
242. P. Nair and Robert A. Lodder, "Near-IR Identification of Woods for Restoration of Historic Buildings and Furniture", paper #622 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New Orleans, LA) March 1992.
243. Y. Zou, Y. Xia, L. Mayes, and Robert A. Lodder, "A Clustering Algorithm for Parallel Processors to Locate the Points of Origin of Soil Samples", paper #382 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New Orleans, LA) March 1992.
244. T. P. Mills and Robert A. Lodder, "Acoustic-Resonance Spectrometry with Multivariate Analysis for the Identification of Wood Species", The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New Orleans, LA) March 1992.
245. Robert A. Lodder, "Detection of Oxidized LDL Epitopes With Near-IR Fiber-Optics", Eastern Analytical Symposium (Somerset, NJ) November 1991.
246. Lisa A. Cassis and Robert A. Lodder, "High Resolution Near-IR Imaging of Living Arterial Tissue Using a Fiber-Optic Probe", 1991 AAPS National Meeting (Washington, D.C.) November 1991.
247. Robert A. Lodder, "Supercomputers That Will Become PCs (Parallel Computers) for Chemical Analysis", invited symposium at the Federation of Analytical Chemistry and Spectroscopy Societies Annual Meeting (Anaheim, CA), October 1991.
248. E. G. Kraemer and Robert A. Lodder, "Massively Parallel Spectrometric Analysis", invited presentation at the 1991 PharmTech Conference (New Brunswick, NJ), September 1991.
249. Robert A. Lodder, "Near-IR Imaging of Atheromas in Living Arterial Tissue", invited presentation at the 19th Annual Speakeasy Computing Conference (Chicago, IL), July 1991.
250. Lisa. A. Cassis and Robert A. Lodder, "Near-IR Imaging of Atheromas in Living Arterial Tissue", invited presentation in conjunction with SUPER! at the 1991 Large Scale Computer Analysis and Modeling Conference (Park City, Utah), April 1991.
251. Robert A. Lodder and Lisa Cassis, “Arterial Analysis of Lipoprotein Composition with a Near-IR Fiber-Optic Probe”, paper #5107 at the 75th Annual Federation of American Societies of Experimental Biology (FASEB) Meeting (Atlanta, GA) April 1991.
252. B. D. Gebhart, J. K. Drennen, and Robert A. Lodder, “Spectral Library compression and Searching with the Bootstrap Error-Adjusted Single-sample Technique in the Near-Infrared”, paper #474 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1991.
253. Robert A. Lodder, “Inverse Paraboloidal Mirror for Near-Infrared Spectroscopic Analysis of Intact Pharmaceuticals, Whole Grains and Polymer Pellets”, paper #476 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1991.
254. Robert A. Lodder, “Near-IR Imaging of the Protein and Lipoprotein Composition of Arteries”, paper #271 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1991.
255. Robert A. Lodder, “Determination of Anticonvulsant Activity Using Near-IR Spectrometry”, paper #798 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1991.
256. Robert A. Lodder, “Spectrometric Testing of Agents for Treatment of AIDS Patients”, paper #276 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1991.
257. Robert A. Lodder, “Spectroscopic Studies with a Composite Electrorheological Fluid for Controlled Release of Drugs”, paper #451P at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1991.
258. Robert A. Lodder, “Prediction of Tablet Dissolution Rate Using Acoustic-Resonance Spectrometry”, paper #802 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (Chicago, IL) March 1991.
259. S. Way, V. A. Philip, J. Eichman, T. Tsai, and Robert A. Lodder, “HPLC Analysis of Riboflavin and its Photodegradation Products in an Intravenous Infusion Formulation”, paper #1103 at the AAPS National Meeting (Las Vegas, NV) November 1990.
260. S. M. Toler, T. Deshmukh, and Robert A. Lodder, “UV Determination of Pentamidine Isethionate Concentrations Through Polyvinyl Chloride Administration Bags”, paper #1067 at the AAPS National Meeting (Las Vegas, NV) November 1990.
261. Y. Poppell, M. Kulkarni, K. Kasraian, and Robert A. Lodder, “Near-Infrared Technique for Detecting Microbial Contamination in Intact Intravenous Bags”, paper #1068 at the AAPS National Meeting (Las Vegas, NV) November 1990.
262. P. Zannikos, W. Li, and Robert A. Lodder, “Spectrometric Prediction of the Dissolution Rate of Carbamazepine Tablets”, paper #1114 at the AAPS National Meeting (Las Vegas, NV) November 1990.
263. J. K. Drennen and Robert A. Lodder, “Near-Infrared Determination of Ointment Homogeneity”, paper #1120 at the AAPS National Meeting (Las Vegas, NV) November 1990.
264. Robert A. Lodder, “Spectrometric Analysis of Pharmaceutical Samples”, Eastern Analytical Symposium (Somerset, NJ) November 1990.
265. Robert A. Lodder, “Near-IR Analysis of Living Arteries”, Ohio Section of the Society for Applied Spectroscopy (Cincinnati, OH), November 1990.
266. Robert A. Lodder, “What Ever Happened to the Soda Fountain at the Corner Drugstore?”, presented at Butler University (Indianapolis, IN) October 1990.
267. Robert A. Lodder, “Theoretical Pharmaceutics Steps Out of the Laboratory”, submission #1148 to the Federation of Analytical Chemistry and Spectroscopy Societies Annual Meeting (Cleveland, OH) October 1990.
268. Robert A. Lodder, “New Developments in Parallel Assimilation for NIR Spectroscopy”, submission #852 to the Federation of Analytical Chemistry and Spectroscopy Societies Annual Meeting (Cleveland, OH) October 1990.
269. Robert A. Lodder, “Near-IR Spectrometry of Living Arteries”, invited lecture at the 5th International Diffuse Reflectance Conference (Chambersburg, PA) August 1990.
270. Robert A. Lodder, “Hyperspace Curvature in Cellular Automata”, presented at the IBM Interactive Computing and Visualization Conference at Rice University (Houston, TX) April 1990.
271. Robert A. Lodder, “Near-IR Spectrometry is Easy with the BENDS”, paper #525 at the Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (New York, NY) March 1990.
272. J. K. Drennen and Robert A. Lodder, “Testing the Limits of a Novel Algorithm Used for Chemical and Pharmaceutical Research”, paper #972 at the Pittsburgh Conference on Analytical and Applied Spectroscopy (New York, NY) March 1990.
273. Robert A. Lodder, “Near-IR Analysis of Intact Sterile Products”, paper #575 at the 16th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (Chicago, IL) October 1989.
274. J. K. Drennen, B. D. Gebhart, and Robert A. Lodder, “Spectrometric Analysis of Samples Under Vacuum Using a Diffuse-Reflectance Fiber-Optic Probe”, paper #176 at the 16th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (Chicago, IL) October 1989.
275. Robert A. Lodder., “Analysis of Light-Scattering Measurements from Living Cells”, presented at the 17th Annual Speakeasy Computing Conference (Chicago, IL) August 1989.
276. Robert A. Lodder, “Computerized Multicomponent Techniques in Pharmaceutical Analysis”, APQ session at the Midwest Regional Meeting of the American Association of Pharmaceutical Sciences (Chicago, IL) May 1989.
277. T. W. Brueggemeyer, F. L. Fricke, and Robert A. Lodder, “Classification of Cyanides in Tampering Cases - Trace Metal Patterns in Atomic Spectrometric Data”, paper #070 at the Pittsburgh Conference (Atlanta, GA) March 1989.
278. Robert A. Lodder, “Spectroscopic Subsurface Image Reconstruction in the Minnesota State Capitol”, paper #1096 at the Pittsburgh Conference (Atlanta, GA) March 1989.
279. Robert A. Lodder and B. D. Gebhart, “A Novel Acoustic Resonance Spectrometer”, paper #1123 at the Pittsburgh Conference (Atlanta, GA) March 1989.
280. Robert A. Lodder, “Near-Infrared Spectrometry with a Diffuse-Reflectance Fiber-Optic Probe”, seminar at the Upjohn Company (Kalamazoo, MI) March 1989.
281. Robert A. Lodder, “The Beauty of the BEAST”, seminar at the Eastman Kodak Company (Rochester, NY) January 1989.
282. Robert A. Lodder, “Spectroscopic Examination of Intact Capsules and Tablets”, seminar at Glaxo, Inc. (Cary, NC) December 1988.
283. Robert A. Lodder, “Spectroscopic Examination of Intact Capsules and Tablets”, seminar at Burroughs-Wellcome (Greenville, NC) December 1988.
284. Robert A. Lodder, “The BEAST Stalking Cyanide Killers”, lecture at East Carolina State University (Greenville, NC) December 1988.
285. Robert A. Lodder, “Near-IR Spectrometry of Small Intact Products”, College of St. Elizabeth (Convent Station, NJ) November 1988.
286. J. Drennen and Robert A. Lodder, “Nondestructive Spectroscopic Analysis of Pharmaceutical Products for Zero-Defect Process Control”, Meeting of the Kentucky Academy of Science at Eastern Kentucky University (Richmond, KY) November 1988.
287. Robert A. Lodder, “Trace Analysis and Near-IR Spectrometry”, Midwest Universities Analytical Chemistry Conference (East Lansing, MI) November 1988.
288. Robert A. Lodder, “The Beauty of the BEAST”, #308 at the Scientific Computing and Automation Conference (Philadelphia, PA) October 1988.
289. Robert A. Lodder, “Analytical Spectroscopy in Pharmaceutics”, Pharmaceutical Sciences Post-Graduate Conference (Lexington, KY) October 1988.
290. P. J. Galley, G. M. Hieftje, and Robert A. Lodder, “Investigation of Pharmaceutical Tablets by NIR Reflectance”, paper #301 at the 27th Eastern Analytical Symposium (New York, NY) October 1988.
291. Robert A. Lodder, “Practical Near-Infrared Spectrometry”, Milwaukee Section of the Society for Applied Spectroscopy Meeting (Milwaukee, WI) September 1988.
292. Robert A. Lodder, “Detection of Capsule Tampering”, presented at the 16th Annual Speakeasy Computing Conference (Chicago, IL) July 1988.
293. Robert A. Lodder and G. M. Hieftje, “Near-Infrared Determination of Cholesterol in Blood Serum”, seminar at Abbott Laboratories (Abbott Park, IL) April 1988.
294. Robert A. Lodder and G. M. Hieftje, “Revenants in Chemical Analysis - Tomas Hirschfeld Award Address”, paper #258 at the Pittsburgh Conference (New Orleans, LA) February 1988.
295. Robert A. Lodder, W. Moorehead, S. Robertson, and G. M. Hieftje, “Determination of Cholesterol and Other Blood Constituents by Near-Infrared Reflectance Analysis”, paper #576 at the Pittsburgh Conference (New Orleans, LA) February 1988.
296. Robert A. Lodder and G. M. Hieftje, “ART and Science: Adaptive Resonance Theory and NIRA”, paper #262 at the Pittsburgh Conference (New Orleans, LA) February 1988.
297. Robert A. Lodder and G. M. Hieftje, “Solving the False-Sample Problem in Near-Infrared Reflectance Analysis”, seminar at Texas Tech University (Lubbock, TX) October 1987.
298. Robert A. Lodder and G. M. Hieftje, “Solving the False-Sample Problem in Near-Infrared Reflectance Analysis”, seminar at the University of Georgia (Athens, GA) November 1987.
299. Robert A. Lodder and G. M. Hieftje, “Solving the False-Sample Problem in Near-Infrared Reflectance Analysis”, seminar at the University of Arizona (Tucson, AZ) November 1987.
300. Robert A. Lodder and G. M. Hieftje, “Solving the False-Sample Problem in Near-Infrared Reflectance Analysis”, seminar at Rutgers University (Piscataway, NJ) November 1987.
301. Robert A. Lodder and G. M. Hieftje, “Solving the False-Sample Problem in Near-Infrared Reflectance Analysis”, seminar at the University of Akron (Akron, OH) December 1987.
302. Robert A. Lodder and Gary M. Hieftje, “Determination of Cholesterol and Other Blood Constituents by Near-Infrared Reflectance Analysis”, seminar at Miles Laboratories, Inc. (Elkhart, IN) January 1988.
303. Robert A. Lodder and G. M. Hieftje, “Solving the False-Sample Problem in Near-Infrared Reflectance Analysis”, seminar at the College of Pharmacy, the University of Kentucky (Lexington, KY) January 1988.
304. Robert A. Lodder and G. M. Hieftje, “Solving the False-Sample Problem in Near-Infrared Reflectance Analysis”, seminar at the University of Hawaii at Manoa (Honolulu, HW) January 1988.
305. Robert A. Lodder and G. M. Hieftje, “A BEAST to Battle Analytical Apparitions”, invited presentation at the 14th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (Detroit, MI) October 1987.
306. Robert A. Lodder and G. M. Hieftje, “Starving the BEAST: Qualitative and Quantitative NIRA With Few Samples”, paper #117 at the 194th National Meeting of the American Chemical Society (New Orleans, LA) September 1987.
307. Robert A. Lodder and G. M. Hieftje, “An ARCANE Method of Calibration in Very High Noise Environments”, paper #H3.5 at the 25th Colloquium Spectroscopicum International (Toronto, Canada) June 1987.
308. Robert A. Lodder, M. Selby, and G. M. Hieftje, “Rapid Detection of Product Tampering with Near-Infrared Reflectance Analysis”, paper #566 at the Pittsburgh Conference (Atlantic City, NJ) March 1987.
309. Robert A. Lodder, M. Selby, and G. M. Hieftje, “Applications of Cellular Automata: Attractors and Fractals in Analytical Chemistry?”, paper #026 at the Pittsburgh Conference (Atlantic City, NJ) March 1987.
310. Robert A. Lodder and G. M. Hieftje, “A Son of a BEAST Solves a False-Sample Problem in NIRA”, paper #620 at the 13th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (St. Louis, MO) September 1986.
311. Robert A. Lodder and G. M. Hieftje, “New Nonparametric Methods and NIRA”, paper #621 at the 13th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies (St. Louis, MO) September 1986.
312. Robert A. Lodder and G. M. Hieftje, “Quantile BEAST Attacks the False-Sample Problem in NIRA”, paper #245 at the 28th Rocky Mountain Conference (Denver, CO) August 1986.
313. Robert A. Lodder and G. M. Hieftje, “False Sample Identification Using Quantile Analysis in NIRA”, paper #086 at the Pittsburgh Conference (Atlantic City, NJ) March 1986.
314. Robert A. Lodder and G. M. Hieftje, “False Sample Identification in NIRA”, paper #21 at the 190th National Meeting of the American Chemical Society, (Chicago, IL) September 1985.

**GRANT ACTIVITY**

**Funded Grants:**

1. TITLE: Vulnerable Plaque Identification by NearIR Spectroscopy

P.I.: Eric Ryan

Co-PI: Robert A. Lodder, Ph.D., et al.

AGENCY: NIH (SBIR) InfraReDx, LLC, 5R44HL063607-03

PERIOD: 9/29/1999-7/31/2002

AMOUNT: $850,000

2. TITLE: Fiber-Optic Camera Equipment Grant

P.I.: Robert A. Lodder, Ph.D.

AGENCY: QED, Inc.

PERIOD: 7/1/1998 - 6/30/1999

AMOUNT: $5,000

3. TITLE: Angiotensin, Leptin, and the Sympathetic Nervous System

P.I.: Lisa A. Cassis, Ph.D.

Co-PI: Robert A. Lodder, Ph.D.

AGENCY: NIH, NHLBI, RO1 HL58927

PERIOD: 7/1/1998 - 6/30/2003

AMOUNT: $992,049

4. TITLE: Near-Infrared Imaging of Lipoproteins in Carotid Plaque

P.I.: Robert A. Lodder, Ph.D.

AGENCY: AHA National, # 9750230N

PERIOD: 1/1/1998 - 12/31/2001

AMOUNT: $165,000

5. TITLE: A Programmable Laser Dermatome

P.I.: Robert A. Lodder, Ph.D.

AGENCY: UKMC Small Research Grant

PERIOD: 7/15/1997 to 6/30/1998

AMOUNT: $14,925

6. TITLE: Near-Infrared Near-Field Scanning Optical Microscope

P.I.: Robert A. Lodder, Ph.D.

AGENCY: UKMC Major Equipment

PERIOD: 7/15/1997 to 6/30/1998

AMOUNT: $7,947.50

7. TITLE: Near-IR Spectrometric Imaging of Fungicide Droplets on Leaves

P.I.: Robert A. Lodder, Ph.D.

AGENCY: Dupont Agricultural Products

PERIOD: 7/1/97 - 6/30/98

AMOUNT: $22,000

8. TITLE: Determination of lipoprotein distribution profiles correlated to disease by near-infrared imaging

P.I.: Robert A. Lodder, Ph.D.

AGENCY: American Heart Association - Kentucky Affiliate, KY-97-GS-32

PERIOD: 7/97 to 6/99

AMOUNT: $44,000

9. TITLE: Near-IR Spectra of Lipoproteins and Apolipoproteins

P.I.: Robert A. Lodder, Ph.D.

AGENCY: NIH, NCRR, Pittsburgh Supercomputer Center, 1 P41 RR06009

PERIOD: 10/19/93 to 11/15/94

AMOUNT: 10 CM2 su

10. TITLE: Near-Infrared Laser for Medical Imaging

P.I.: Robert A. Lodder, Ph.D.

Co-PI: Robert J. Dempsey, M.D., et al.

AGENCY: NIH, 1S10RR08242-01

PERIOD: 4/93 to 3/94

AMOUNT: $102,000

11. TITLE: Detection of Carotid Artery Plaque Oxidation

P.I.: Robert J. Dempsey, M.D.

Co-PI: Robert A. Lodder, Ph.D.

AGENCY: American Heart Association (Kentucky Affiliate)

PERIOD: 7/93 to 6/95

AMOUNT: $27,000

12. TITLE: Near-IR Imaging of Proteins in Alzheimer's Disease

P.I.: Robert A. Lodder, Ph.D.

Co-PI: John M. Carney

AGENCY: NIH, 5P50 AG05144-09

PERIOD: 1/93 to 12/93

AMOUNT: $17,000

13. TITLE: Parallel Supercomputing in Near-IR Spectrometry

P.I.: Robert A. Lodder, Ph.D.

Co-PI: none

AGENCY: NSF Young Investigators Program, no. 9257998

PERIOD: 7/92 to 8/97

AMOUNT: $312,500

14. TITLE: Oxidized LDL and Atherosclerosis: A Near-Infrared Imaging Approach

P.I.: Robert A. Lodder, Ph.D.

Co-PI: Lisa A. Cassis, Ph.D.

AGENCY: American Heart Association (Kentucky Affiliate)

PERIOD: 7/92 to 6/94

AMOUNT: $29,950

15. TITLE: Near-IR Imaging in Stroke Research

P.I.: Robert A. Lodder, Ph.D.

Co-PI: Robert J. Dempsey, M.D., et al.

AGENCY: U.K. Campuswide Major Equipment Competition

PERIOD: 1/92 to 12/92

AMOUNT: $25,000

16. TITLE: Massively Parallel Processing

P.I. : Raphael Finkel, Ph.D.

Co-PI: Robert A. Lodder, Ph.D., et al.

AGENCY: NSF EPSCoR, STI-9108764

PERIOD: 1/92 to 12/94

AMOUNT: $430,700

17. TITLE: Optical Catheters in Analysis of Arterial Lesions

P.I.: Robert A. Lodder, Ph.D.

AGENCY: UKMC Small Project Competition

PERIOD: 11/91 to 10/92

AMOUNT: $9,994

18. TITLE: A Modern Approach to Near-Infrared and Acoustic-Resonance Spectrometry

P.I.: Lisa Mayes

Co-PI: Robert A. Lodder, Ph.D.

AGENCY: National Science Foundation REU

PERIOD: 5/91 to 7/91

AMOUNT: $4,000

19. TITLE: Asymptotic Performance of a Parallel Assimilation Method: Detection of Subpopulations

P.I.: Yi Zou

Co-PI: Robert A. Lodder, Ph.D.

AGENCY: University of Kentucky Center for Computational Sciences

PERIOD: 7/91 to 6/93

AMOUNT: $26,000

20. TITLE: Near-IR Spectra of Lipoproteins and Apolipoproteins

P.I.: Robert A. Lodder, Ph.D.

AGENCY: NIH, NHLBI, 1 R29 HL45143-01A1

PERIOD: 4/91 to 3/96

AMOUNT: $516,354

21. TITLE: Light Scattering From Organisms in Parenteral Products

P.I.: Robert A. Lodder, Ph.D.

AGENCY: Glaxo, Inc.

PERIOD: 3/90 to 4/90

AMOUNT: $8,164

22. TITLE: Asymptotic Performance of a Parallel Assimilation Method

P.I.: Denise R. Lowe, Ph.D.

Co-PI: Robert A. Lodder, Ph.D.

AGENCY: University of Kentucky Lyman T. Johnson Fellowship

PERIOD: 9/90 to 9/91

AMOUNT: $30,000

23. TITLE: Asymptotic Performance of a Parallel Assimilation Method: Detection of Subpopulations

P.I.: Denise R. Lowe, Ph.D.

Co-PI: Robert A. Lodder, Ph.D.

AGENCY: University of Kentucky Center for Computational Sciences

PERIOD: 7/90 to 6/91

AMOUNT: $27,933

24. TITLE: Color Near-IR Images of Arterial Lesions In Vivo

P.I.: Robert A. Lodder, Ph.D.

AGENCY: U.K. Medical Center Major Equipment Fund

PERIOD: 1/90 to 12/90

AMOUNT: $19,000

25. TITLE: Matching Grant: Near-IR Images of Arterial Lesions

P.I.: Robert A. Lodder, Ph.D.

AGENCY: Bran+Luebbe Analyzing Technologies, Inc.

PERIOD: 1/90 to 12/90

AMOUNT: $16,000

26. TITLE: Background Correction for Lipoprotein and Apoprotein Determination in Human Serum Analysis

P.I.: Robert A. Lodder, Ph.D.

AGENCY: U.K. B.R.S.G. S07 RR05857-09

PERIOD: 6/89 to 5/90

AMOUNT: $3,100

27. TITLE: Asymptotic Performance of a Parallel Assimilation Method (Fellowship)

P.I.: James K. Drennen

Co-PI: Robert A. Lodder, Ph.D.

AGENCY: University of Kentucky Center for Computational Sciences

PERIOD: 7/89 to 6/90

AMOUNT: $6,625

28. TITLE: A Preliminary Study of Self-Organization and Attractors in Assimilation Automata

P.I.: Robert A. Lodder, Ph.D.

AGENCY: Bran+Luebbe Analyzing Technologies, Inc.

PERIOD: 6/89 to 12/89

AMOUNT: $12,000

29. TITLE: Development of a Novel Acoustic Spectrometer

P.I.: Robert A. Lodder, Ph.D.

AGENCY: University of Kentucky Lexington Campus Research Fund

PERIOD: 12/88 to 6/89

AMOUNT: $2,925

30. TITLE: Sample Cells for Multicomponent Optical Analysis of Blood

P.I.: Robert A. Lodder, Ph.D.

AGENCY: University of Kentucky Medical Center Research Fund

PERIOD: 11/88 to 6/89

AMOUNT: $9,280

31. TITLE: Near-IR Determination of Hydrogen Ion, Glucose, and Human Serum Albumin in Phosphate-Buffered Saline

P.I.: Robert A. Lodder, Ph.D.

AGENCY: Miles Laboratories, Inc.

PERIOD: 11/88 to 12/88

AMOUNT: $20,000

32. TITLE: Integrated Sensing Architectures

P.I.: Leonidas Bachas, Ph.D.

Co-PI: Robert A. Lodder, Ph.D., Art Cammers, Kim Anderson, Janet Lumpp, Sylvia Daunert, Dibakar Bhattacharyya, Vijay Singh

AGENCY: NSF IGERT DGE-9870691

PERIOD: 9/1/98-8/31/04

AMOUNT: $2,330,876

33. TITLE: 2D NearIR Spectrometric Catheter for Identification of Vulnerable Plaque

P.I.: Robert A. Lodder, Ph.D.

Co-P.I.: none

AGENCY: AHA Ky affiliate 0151018B

PERIOD: 07/01/2001-06/30/2003

AMOUNT: $110,000

34. TITLE: Device for Prevention of Heart Attack and Stroke

P.I.: Robert A. Lodder, Ph.D.

AGENCY: KSEF-148-502-03-61

PERIOD: 4/1/2003-6/31/2005

AMOUNT: $60,000

35. TITLE: Topical Bioequivalence Determination Using Near-Infrared

Spectroscopy

P.I.: Audra Stinchcombe, Ph.D.

Co-P.I.: Robert A. Lodder, Ph.D.

AGENCY: FDA, #200406251503

PERIOD: 2004-2005

AMOUNT: $25,041

36. TITLE: GMP Sorting of MCC and FA Capsules by NIR

P.I.: Mike Jay, Ph.D.

Co-P.I.: Robert A. Lodder, Ph.D.

AGENCY: ISIS Pharmaceuticals

PERIOD: 3/1/2005-3/31/2005

AMOUNT: $32,000

37. TITLE: Molecular Computing System

P.I.: Robert A. Lodder, Ph.D.,

Co-P.I.: none

AGENCY: Prescient Medical Corp

PERIOD: July 1, 2004-June 30, 2006

AMOUNT: $385,000

38. TITLE: Carbon and Silicon Nanowire Chemical Sensors

P.I.: Brian Hunt, Ph.D.

Co-P.I.: Robert A. Lodder, Ph.D., et al.

AGENCY: NASA

PERIOD: 7/1/2005-6/30/2006

AMOUNT: $400,000

39. TITLE: Nutrition and superfund chemical toxicity

P.I.: Bernhard Hennig, Ph.D., R.D.

Co-P.I.: Robert Lodder, Ph.D. et al.

AGENCY: NIEHS 2P42ES007380

PERIOD: 4/7/1997-3/31/2006

AMOUNT: $6,600,000

40. TITLE: A Non-invasive Near IR Integrated Alcohol Sensor System

P.I.: Robert A. Lodder, Ph.D.

AGENCY: NIH N01AA 33003, SESI Subcontract SC-NIAAA-93-01

PERIOD: 5/1/2003-4/30/2008

AMOUNT: $853,980

41. TITLE: Interdisciplinary Cardiovascular Training Program

P.I.: Dave Randall, Ph.D.

Co-P.I.: Robert A. Lodder, Ph.D., et al.

AGENCY: NIH, 5 T32 HL072743

PERIOD: 4/1/04-3/31/09

AMOUNT: $1,622,279

42. TITLE: Fast Solvers for Computational Pharmacy, Life Sciences,

Mathematics, Physics, and Environmental Modeling

P.I.: Craig Douglas, Ph.D.

Co-P.I.: Robert A. Lodder, Ph.D., et al.

AGENCY: NSF 0405349

PERIOD: 2004-2006

AMOUNT: $57,174

43. TITLE: Analysis of Collagen I, III, and Elastin on the Shoulders of Thin Cap Fibroatheromas

P.I.: Robert A. Lodder, Ph.D.

Co-P.I.: none

AGENCY: DOE DE-AC02-98CH10886, Brookhaven National Laboratory 5388

PERIOD: 2004-2006

AMOUNT: 18 days synchrotron beam time

44. TITLE: Nanoscale Fabrication for Electronic Devices, Chemical/Bio Sensors, and Advanced Materials

P.I.: Zhi Chen, Ph.D.

Co-P.I.: Robert A. Lodder, Ph.D., V. Singh, B. Hinds, T. Hastings, L. Delany, L. Bachas, K. Saito, S. Rankins, F. Yang, D. Bhattacharyya, G. Gerhardt, T. Li, S. Wu, G. Sumanasekera, C. Jayanthi

AGENCY: NSF EPSCOR

PERIOD: 2005-2007

AMOUNT: $3,880,000

45. TITLE: DDDAS-TMRP: Collaborative Research: Adaptive Data-Driven Sensor

Configuration, Modeling, and Deployment for Oil, Chemical, and Biological

Contamination near Coastal Facilities

P.I.: Craig Douglas

Co-P.I.: Robert A. Lodder

AGENCY: NSF CNS-0540178

PERIOD: 10/1/2005-9/30/06

AMOUNT: $272,000

46. TITLE: In Situ Biofilm Metabolism Studies

P.I.:, Robert A. Lodder, Ph.D.

Co-P.I.: Bill Dieter, Jim Lumpp

AGENCY: KSEF

PERIOD: 12/1/2005-11/30/07

AMOUNT: $60,000

47. TITLE: REU Site: Undergraduate Research for Appalachian Students at the the

Department of Chemistry, University of Kentucky

P.I.:, Dennis Clouthier

Co-P.I.: John Anthony, Leonidas Bachas, Carol Brock, Allan Butterfield, Art Cammers, Sylvia Daunert, Bob Grossman, Fola Ladipo, Rob Lodder, Anne-Frances Miller, and Steve Yates

AGENCY: NSF 0552247

PERIOD: 03/15/2006 - 03/14/09

AMOUNT: $238,197

48. TITLE: Development of food model systems and application of QuEChERS

technologies for detection of chemical and biological threats to the food supply

P.I.:, Robert Lodder

Co-P.I.: n/a

AGENCY: Homeland Security

PERIOD: 12/1/2011-11/30/2014

AMOUNT: $2,970,758

49. TITLE: D-Tagatose Treatment of Hypertriglyceridemia.

P.I.:, Robert Lodder

Co-P.I.: Claire Kruger

AGENCY: NIH-IRS(PPACA)

PERIOD: 1/1/2011-12/31/2011

AMOUNT: $469,479

**Active Grants**

1. TITLE: Development of food model systems and application of QuEChERS

technologies for detection of chemical and biological threats to the food supply

P.I.:, Robert Lodder

Co-P.I.: n/a

AGENCY: Homeland Security

PERIOD: 12/1/2011-11/30/2014

AMOUNT: $2,970,758