

Dr. Kirk D. Rector
Email: kdr@lanl.gov
Classified Email: loreckd@lanlitp.ic.gov
C-PCS, Mail Stop J567
Los Alamos, NM 87545

Pager (505) 664-6109
Phone: (505) 667-9457
Open Lab: (505) 667-9966
Classified Lab: (505) 667-4981
Fax: (505) 667-0440

Experience

2/2003-Present

Technical Staff Member

Los Alamos National Laboratory, Chemistry Division, Los Alamos, New Mexico

Development of Bullring Project. Grew \$50k proof of principle project to \$2.5M/yr multispectral materials research program over four years. Responsible for personnel and equipment budgets. Management of >\$2M of capital instrumentation inside Classified Vault research space. Management of Safety and Security documentation. Analysis and technical report delivery to US government.

Creation of open user-based Microscopy laboratory with custom and commercial Fluorescence, Raman and IR microscope instrumentation which focuses upon biological, radiological, nanomaterial, explosive, and polymer science. Dozens of users, from TSMs to undergraduate students serviced in last five years.

Development of biosafety level (BSL)-2 human cell culture laboratory in support of the imaging space. Houses research spanning most of the kingdoms of life: plants, animals, fungi, bacteria, and yeast

Partnership with Newport Corporation to create Aegis Qube™ product line to develop world's first Eye Safe R&D laser laboratory.

Organizing Committee, "Spectroscopy of Biological Molecules" Conference Santa Fe, NM 2006

11/1999-1/2003

Frederick Reines Postdoctoral Fellow

Los Alamos National Laboratory, Los Alamos, New Mexico

Frederick Reines Position is the highest experimental postdoctoral position at LANL which enables independent research

Development of custom hyperspectral Raman and CARS microscopes including optical optimization, hardware integration, and software creation

4/1990-6/1993

Buyer

Fair, Isaac & Co., San Rafael, California

Computer hardware, software and peripheral purchasing.

Education

1994-1999

Ph.D., Stanford University, Department of Chemistry, Palo Alto, California

Thesis Title: "A comparison of ultrafast vibrational dynamics in liquids, glasses, and proteins" Advisor: Professor Michael D. Fayer

1989-1994

B.S. Sonoma State University, Chemistry Major/English Minor, Rohnert Park, California

Expertise

Hardware

Ultrafast and CW laser system, Optical Systems Design X-Ray, UV, Visible, NIR, MIR to FIR, A/D, Computer automation communication, USB, GPIB, RS-232, RS-488, and optical capture

Software

Windows, Linux, Mac OS, MS Office, MS Project, National Instrument's Labview, Matlab, Origin, Adobe Photoshop, Adobe Illustrator, Adobe Live, Visual Basic, C++, Autocad, Code V, EigenVector, Igor

Analytical Techniques

Fluorescence Confocal, Fourier transform infrared, Spontaneous and Resonance Raman, X-Ray fluorescence, Near-Infrared absorption, Scanning electron microscopy, multiphoton techniques, coherent anti-Stokes Raman, Surface enhanced Raman, differential scanning calorimetry, Liquid Chromatography/Mass Spectroscopy, fluorescence correlation

Security Clearance Information

- 2006- present Member of LANL Field Intelligence Element (FIE)
- 2006- present Special Compartmentalized Information (SCI) Security Clearance
- 2004- present Department of Energy Sigma Caveats 1-10
- 2000- present Department of Energy 'Q' Security Clearance

Honors

- 2007 LANL Chemistry Division "Spot" Award for "Exemplary Embodiment of a BSL-2 laboratory"
- 2007 Los Alamos Achievement Award for "Technical innovation, personal dedication and rapid response to meet emerging customer needs."
- 2006 Los Alamos Achievement Award for "Outstanding Contribution as a member of the Bullring team"
- 2004 Los Alamos Award for Outstanding Achievement (x2)
- 2000-2003 Los Alamos Frederick Reines Postdoctoral Fellowship in Experimental Sciences
- 2000 Los Alamos Bioscience Division Employee Award, in Recognition of Outstanding Achievement
- 1999 Los Alamos National Laboratory Director's Postdoctoral Fellowship,
- 1997 National Science Foundation Grant to attend NATO Advanced Study Institute in Erice, Sicily
- 1994 Bachelors of Science cum laude and "With Distinction"
- 1994 Optical Coating Laboratory, Inc. Outstanding Student Scientist
- 1993 National Science Foundation Research Experience for Undergraduates Award

Publication Record

- 20 Peer-Reviewed Publications
- 5 Conference Proceedings
- 1 Invited Review Article
- 1 Book Chapter
- 1 Patent Disclosure
- Numerous Conference Presentations and Posters

Personal Interests

Check out my wedding site and honeymoon site with great pictures of NYC and Italy at www.kirkandmaria.com.

I play softball for Thornburg/First National Bank of Santa Fe in Los Alamos. Check out how we're doing at www.conehead.net/softball/mens/standings.php.

I am also a big fan of Sonoma wines and have never heard of Napa...www.sonoma.com.