

CONTACT

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SPECIALIZED SKILLS

Proficiency in:

- Python
- C, C++
- REST, Flask design patterns
- Qt
- Matlab
- Mathematica
- VCS (Git), CI (Travis)
- Web languages: HTML, CSS, JavaScript, XML
- SQL, noSQL
- Linux
- LaTeX
- ASP .NET, VB .NET, C# .NET

EDUCATION

Ph.D. in Physics

Fall 2009 — Dec 2014

University of California, Merced

Specialty: Molecular dynamics simulation, small angle x-ray scattering

Advisor: Prof. Linda S. Hirst

B.S. in Physics, Mathematics

Fall 2005 — Spring 2009

Randolph-Macon College

WORK EXPERIENCE

Center for Advanced Mathematics for Energy Research Applications, Lawrence Berkeley National Laboratory

Feb 2015 — Present

Project Scientist; Postdoctoral Researcher

- Lead developer and project manager of cross-facility collaboration synchrotron data analysis and management platform, Xi-cam ([Available online](#)), with 5 active developers; in use at 5 energy science laboratories, 7 universities, and 3 industry partners
- Encourage adoption of Xi-cam platform API and integration with Xi-cam as plugins
- Support scientists with data analysis, simulation, and training
- Design data flow pipelines in Tomography, NEXAFS, and Scattering

University of California, Merced

Aug 2009 — Dec 2014

Graduate Student Researcher; Teaching Assistant

- Developed molecular dynamics software, models, and experimental methods
- Directed 72 hours continuous beamtime experiments in shifts, coordinating optimal use of available time
- Teaching 4 discussion and lab sessions per week

Stanford Synchrotron Radiation Lightsource, SLAC National Accelerator Laboratory

May 2009 — Aug 2009

Summer Undergraduate Laboratory Internship

- Developed and implemented software tools for crystallographic texture analysis

Randolph-Macon College, Marketing and Communications Department

Sep 2005 — May 2009

Web Assistant

- Performed web development and programming tasks for faculty and staff
- Aided in a successful full site redesign, CMS implementation, and site administration for college website

National Science Resources Center - Communications and Media Division

May 2006 — Aug 2006

Intern

- Developed science education materials for the 2007 Smithsonian Science Education Academies for Teachers

WORKSHOPS & PRESENTATIONS

Workshop Organizer:

CAMERA Tomography Workshop, Nov 2017.

Xi-cam and other new software for synchrotron users, ALS User Meeting, Oct 2017.

Xi-cam: Synchrotron Data Reduction, Visualization, and Management, canSAS IX, June 2017.

Data Reduction and Management with Xi-cam, Workshop, GISAS Summer School, Jul 2016.

Hackathon Co-Organizer:

NLS II Data Management Planning Meeting and Hackathon, Feb 2018.

Materials Data Infrastructure Integration Workshop and Hackathon, Dayton OH, Sep 2017.

Invited Talk:

Xi-cam: Addressing the Data Challenge for X-Ray Scattering, ALS User Meeting 2016, Oct 2016.

PUBLICATIONS

"Xi-cam: A versatile interface for data visualization and analysis"

Pandolfi, R. J., et. al. J. Synchrotron Rad., 25, 1261-1270, (2018). ([Available online](#))

"On-the-fly data assessment for high throughput X-ray diffraction measurement"

Ren, F., Pandolfi, R., Van Campen, D., Hexemer, A., and Mehta, A., ACS Comb. Sci. 19, 377-385, (2017). ([Available online](#))

"Self-Assembled nanoparticle micro-shells templated by liquid crystal sorting"

A. Rodarte, B. Cao, H. Panesar, R. J. Pandolfi, M. Quint, L. Edwards, S. Ghosh, J. Hein, L. S. Hirst, Soft Matter, 11, 1701-1707 (2015). ([Available online](#))

"Magnetic field induced brightening in liquid crystal synergized magnetic and semiconducting nanoparticle composite assemblies"

J. Amaral, J. Wan, A. Rodarte, M. Quint, R. J. Pandolfi, M. Scheibner, L.S. Hirst, S. Ghosh, Soft Matter, 11, 255-260 (2015). ([Available online](#))

"An analytic toolbox for simulated filament networks"

R. J. Pandolfi, L. Edwards, L. S. Hirst, Mrss14-1688-y05-18 Spring 2014 MRS proceedings (2014). ([Available online](#))

"Designing highly tunable semi-flexible filament networks"

R. J. Pandolfi, L. Edwards, D. Johnston, P. Becich, and L. S. Hirst, Phys. Rev. E (2014). ([Available online](#))

"Tuning quantum dot organization in liquid crystal for robust photonics applications"

A. L. Rodarte, Z. S. Nuno, B.H. Cao, R. J. Pandolfi, M. Quint, S. Ghosh, J. Hein and L.S. Hirst, CHEM PHYS CHEM, Volume 15, Issue 7, pages 1413-1421, (2014). ([Available online](#))

"Quantum dot/liquid crystal composite materials: Self-assembly driven by liquid crystal phase transition templating"

A. L. Rodarte, R. J. Pandolfi, S. Ghosh, and L. S. Hirst, J. Mater. Chem. C 1, 5527 (2013). ([Available online](#))