

Sean Parkin, Ph.D.

Director, X-Ray Laboratory
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PERSONAL

British citizen, permanent resident alien of the US.

EDUCATION

Ph. D. (Physical Chemistry) University of California, 1993
M. Sc. (Physical Chemistry) University of British Columbia, 1989
B. Sc. (Chemistry, hons.) University of Kent, 1987

O level (Mathematics, Physics, Chemistry, Biology, Geography, French, English Language, English Literature, History, General Studies)
A level (Mathematics, Physics, Chemistry, General Studies)
S level (Chemistry)

AWARDS

Imperial Chemical Industries Undergraduate Scholarship (3 years)
University of California Regents Fellowship (2 years)
Clorox Graduate Research Award (University of California)

PROFESSIONAL EXPERIENCE

Aug. 2019 – **Prof. of Chemistry**
Department of Chemistry, UK.

Apr. 2014 – **Assoc. Prof. of Chemistry**
Department of Chemistry, UK.

- Jan. 2006 – **Asst. Prof. of Chemistry**
Department of Chemistry, UK.
- Feb. 2000 – **Director, X-Ray Crystallography**
Department of Chemistry,
University of Kentucky (UK)
Lexington, KY, 40506-0055
- Sept. 1997 – Feb. 2000 **Manager, X-Ray Facility**
Department of Biochemistry
Duke University Medical Center
Durham, NC, 27710
- Jan. 1996 – Aug. 1997 **Senior Scientist**
Biology and Biotechnology Research Program
Lawrence Livermore National Laboratory
Livermore, CA, 94550
- Jan. 1994 – Dec. 1995 **Post Doctoral Fellow**
Biology and Biotechnology Research Program
Lawrence Livermore National Laboratory
Livermore, CA, 94550

PUBLICATIONS

Author/co-author of 544 (and counting) scientific papers.
Book chapter: International Tables for Crystallography, vol. F (2nd ed.)
Citations: 22,632 as of October 10 2024 (Google Scholar)
H-index: 71 (Google Scholar)

PRESENTATIONS

Numerous lectures/seminars (national and international)
Main author of numerous poster presentations (national and international)
Co-author on too many presentations to track

PROFESSIONAL SOCIETY MEMBERSHIPS

American Crystallographic Association (ACA)
American Physical Society (APS)
Pittsburgh Diffraction Society (PDS)
Materials Research Society (MRS)

GRANTS

“Acquisition of a hybrid small/macro-molecular diffractometer system”

PI: Sean Parkin, co-PIs John Anthony, David Atwood, Carol Brock, Anne-Frances Miller. (Dept. of Chemistry, U. of Kentucky.) NSF–MRI CHE–0319176.

Total: \$659,059 (70% NSF-MRI, 30% UK Match).

“Novel Materials and Their Applications in Epitaxial Thin Films and Device Structures: Formation of a Center for Advanced Materials”

PI: John Connolly, coPIs G. Cao, J. W. Brill, W. P. Crummett, L. E. De Long, W. R. Grise, B. J. Hinds, A. Lahamer, K.-W. Ng, S. Parkin.

NSF KY EPSCoR, 09/01/08 – 08/31/13.

Total: \$4,687,649 (69% NSF, 20% KY, 11% UK).

“MRI: Acquisition of a Single-Crystal Diffractometer for Chemistry and Materials Research”

PI: Sean Parkin, co-PIs John Anthony, Phoebe Glazer, Susan Odom, Oleg Tsodikov. NSF–MRI CHE–1625732.

Total: \$383,133 (70% NSF–MRI, 30% UK Match).

TEACHING

Chemical Crystallography – CHE640 (previously CHE580, CHE540). Introduction to the theory and practice of small-molecule X-ray diffraction.

Autumn 2001 – 2004; Spring 2006 – 2011; Autumn 2013 – 2023

Physical Chemistry Laboratory – CHE441G, Fall 2007, 2008

Informal: Practical crystallography training for graduate students, post-doctoral scholars and Faculty on an *ad hoc* basis (ongoing since about 1991)

PATENTS

Anthony, John E., Eaton, David L., Parkin, Sean.

"Substituted pentacenes and electronic devices made with substituted pentacenes."

U.S. (2004) Patent no. 6,690,029.

Anthony, John E., Payne, Marcia M., Odom, Susan A., Parkin, Sean R.

"Silylethynylated heteroacenes and electronic devices made therewith."

U.S. (2008) Patent no. 7,385,221.

Ladipo, F., Eaves, R., Zazybin, A, Parkin, S.

"Precatalysts useful in polyolefin polymerization reactions."

U.S. (2011) Patent no. 7,851,570.

SERVICE

Frequent collaborator with research groups at UK (Chemistry, Pharmacy, Physics and Toxicology) as well as at other universities (Stanford, Princeton, Brandeis, UMass Amherst, UT Knoxville, Miami Ohio, Scripps, U. of Iowa, U. of Louisville, EKV, WKU, UCSB, Ohio State, Ole Miss., MS State, UT San Antonio, U of S. Arkansas, CSofM) and industry.

Section Editor, Acta Crystallographica E (2019 – present).

Co-Editor, Acta Crystallographica E (2007 – 2019).

Co-Editor, IUCrData (2015 – present).

Commission on Journals (IUCr).

Commission on Crystallographic Nomenclature (IUCr).

Center for Advanced Materials, University of Kentucky.

NSF MRI review panel (2018).

Editor, MRS Online Proceedings, (2015) vol. 1799 – Symposium MM (Apr. 2015).

Editor, MRS Online Proceedings, (2013) vol. 1501 – Symposium P (Nov. 2012).

REU program in Chemistry at UK. Direction of research efforts, construction and maintenance of an REU website (2006 – 2008).

Graduate Faculty in Chemistry, auxiliary member (2000 – 2005).

Graduate Faculty in Chemistry (since July 2005).

Chair, Website Committee, Dept. of Chemistry, UK (2016 – 2018).

Member, Website Committee, Dept. of Chemistry, UK (2018 – 2019).

Member, Website Committee, Dept. of Chemistry, UK (2020 – 2021).

Webmaster (*ad hoc*), Dept. of Chemistry, UK (2004 – 2018).

Webmaster, X-Ray Facility, UK (2000 – present).

Ph.D. Thesis committee for Xiang Hao (2005).

Department of Chemistry, University of Kentucky.

External Examiner, Ph.D. Thesis committee for Yuzhao Zhao (2006).

Graduate Group in Toxicology, University of Kentucky.

Ph.D. Thesis committee for Maxime Siegler (2007).
Department of Chemistry, University of Kentucky.

Ph.D. Thesis Committee for Vinobalan Durairaj (2008).
Department of Physics and Astronomy, University of Kentucky.

External Examiner, Ph.D. Thesis committee for Amanda Ensminger (2011).
Department of Biology, University of Kentucky.

Ph.D. Thesis Committee for Tongfei Qi (2012).
Department of Physics and Astronomy, University of Kentucky.

External Examiner, Ph.D. Thesis committee for Nidhi Tibrewal (2013).
College of Pharmacy, University of Kentucky.

Ph.D. Thesis Committee for Kamal Butrouna (2014).
Department of Physics and Astronomy, University of Kentucky.

Ph.D. Thesis Committee for Jasminka Terzic (2017).
Department of Physics and Astronomy, University of Kentucky.

External Examiner, Ph.D. Thesis committee for Abishek Kognole (2017).
College of Engineering, University of Kentucky.

Ph.D. Thesis Committee for Rose Pham (2022). Chemistry, University of Kentucky.

Ph.D. Thesis Committee for Manisha Goonatillek (Guiton group, 2019 –).
Chemistry, University of Kentucky.

Ph.D. Thesis Committee for Ayanthi Thisera (Guiton group, 2019 –). Chemistry,
University of Kentucky.

External Examiner, Ph.D. Thesis committee for Ruben Sarabia Riquelme (2020).
CAER, University of Kentucky.

External Examiner, Ph.D. Thesis committee for Laura Kelton (2022). Physics,
University of Kentucky.

Ph.D. Thesis Committee for Youselie Joseph (Huckaba group, 2023 –). Chemistry,
University of Kentucky.

Referee for numerous scientific journals, including:
Acta Crystallographica sections B, C, D, E, Journal of Applied Crystallography,
Inorganic Chemistry, Crystal Growth and Design, Journal of Chemical

Crystallography, Journal of Materials Chemistry, Journal of Coordination Chemistry, Synthetic Metals, Nature Comm.

Stanford Synchrotron Radiation Laboratory 22nd Annual Users Meeting (1995)
Demonstration and instruction in low-temperature methods in biocrystallography.
Workshop on Techniques in Macromolecular Crystallography: Cryocooling and Data Reduction/Analysis.
Stanford Synchrotron Radiation Laboratory, Stanford University, Palo Alto, CA. 94309, USA.

RapiData 1999 – 2006.
Demonstration and instruction in low-temperature methods in biocrystallography.
Rapid Data Collection and Structure Solving at the NSLS: A Practical Course in Macromolecular X-Ray Diffraction Measurement.
NSLS, BNL, Upton, NY. 11973, USA.