

Curriculum Vitae

Norma Edith Cope Duke

Beamline Scientist, Protein Crystallographer

University of Calgary	B. Science	1982	Chemistry
University of Calgary	B. Arts	1983	English
University of Calgary	Ph.D. Science	1989	Physical Chemistry
Yale University	Post-Doc	1990	Protein Crystallography
University of Alberta	Post-Doc	1995	Protein Crystallography

Positions and Employment

2004-present	Scientist, level 706; Argonne National Laboratory
1998-2004	Scientist, level 705; Argonne National Laboratory
1995-1998	Visiting Scientist, Argonne National Laboratory

Other Experience and Professional Memberships

1983-1988	Studentship; Alberta Heritage Fund for Medical Research (AHFMR)
1983-present	Member, American Crystallographic Association (ACA)
1999	D.O.E. Review Committee, Dept. of Educational Programs, Oakridge National Laboratory, TN, U.S.A.
2000	D.O.E. Review Committee, Dept. of Educational Programs, Lawrence Berkeley National Lab., CA, U.S.A.

Honors

2000	Pacesetter Award, Argonne National Laboratory
2003	Pacesetter Award, Argonne National Laboratory
2011	Award of Excellence, Society for Technical Communication (Chicago Chapter)

Publications since 2000: (peer reviewed)

1. Zhang R-G, Dementieva I, Duke N, Collart F, Quaiter-Randall E, Alkire R, Dieckman L, Maltsev N, Korolev O, Joachimiak A. Crystal structure of Bacillus subtilis IolI shows Endonuclease IV fold with altered Zn binding. *Proteins*, 48:423-426 (2002).
2. Alkire RW, Duke NEC, Rotella FJ. Setting the twist of a sagittally bent crystal using a beam position monitor. Eighth International Conference on Synchrotron Radiation Instrumentation, San Francisco, CA, AIP Conference Proceedings 705, pp. 827-830 (2004).
3. Pokkuluri PR, Londer YY, Duke NEC, Erickson J, Pessanha M, Salgueiro CA, Schiffer M. Structure of a novel c(7)-type three-heme cytochrome domain from a multidomain cytochrome c polymer. *Protein Sci.*, 13, pp.1684-1692 (2004). Correction: *Protein Science*, 18, pp. 675-675 (2009).
4. Pokkuluri PR, Londer YY, Duke NEC, Long WC, Schiffer M. Family of cytochrome c(7)-type proteins from *Geobacter sulfurreducens*: structure of one cytochrome c(7) at 1.45 angstrom resolution. *Biochem.* 43, pp. 849-859 (2004).
5. Rosenbaum G, Alkire RW, Evans G, Rotella FJ, Lazarski K, Zhang RG, Ginell SL, Duke N, Naday I, Lazarski J, Molitsky MJ, Keefe L, Gonczy J, Rock L, Sanishvili R, Walsh MA, Westbrook E, Joachimiak A. The Structural Biology Center 19ID undulator beam line: Facility specifications and protein crystallographic results. *J. Synchrotron Radiat.* 13, pp. 30-45 (2006).

6. Alkire RW, Molitsky M, Rotella FJ, Duke NEC, De Lurgio PM, Lee J, Madden T. Development of a real-time timing-shutter performance monitor for protein crystallography. *J. Synchrotron Radiat.* 13, pp. 408-410 (2006).
7. Alkire RW, Duke NEC, Rotella FJ. Is your cold-stream working for you or against you? An in-depth look at temperature and sample motion. *J. Appl. Cryst.*, 41, pp.1122-1133 (2008).
8. Morgado L, Bruix M, Orshonsky V, Londer YY, Duke NEC, Yang XJ, Pokkuluri PR, Schimmer M, Salgueiro CA. Structural insights into the modulation of the redox properties of two *Geobacter sulfurreducens* homologous triheme cytochromes. *BBA-Bioenergetics*, 1777, pp. 1157-1165 (2008).
9. Wood SJ, Li XL, Cotta MA, Biely P, Duke NEC, Schiffer M, Pokkuluri PR. Crystallization and preliminary x-ray diffraction analysis of the glucuronoyl esterase catalytic domain from *Hypocrea jecorina*. *Acta Cryst.*, F64, pp. 255-257 (2008).
10. Pokkuluri PR, Pessanha M, Londer YY, Wood SJ, Duke NEC, Wilton R, Catarino T, Saigueiro CA, Schiffer M. Structures and solution properties of two novel periplasmic sensor domains with c-type heme from chemotaxis proteins of *Geobacter sulfurreducens*: Implications for signal transduction. *J. Mol. Biol.*, 377, pp. 1498-1517 (2008).
11. Pokkuluri PR, Londer YY, Wood SJ, Duke NEC, Nirgadi KM, Salgueiro CA, Schiffer M. Outer membrane cytochrome c, OmcF, from *Geobacter sulfurreducens*: high structural similarity to an algal cytochrome c(6). *Proteins: Struct., Func., and Bioinf.*, 74, pp. 266-270 (2009).
12. Pokkuluri PR, Londer YY, Yang X, Duke NEC, Erickson J, Orshonsky V, Johnson G, Schiffer M. Structural characterization of a family of cytochromes c(7) involved in Fe(III) respiration by *Geobacter sulfurreducens*. *BBA-Bioenergetics*, 1797, pp. 222-232 (2010).
13. Pokkuluri PR, Yonder YY, Duke NEC, Pessanha M, Yang X, Orshonsky V, Orshonsky L, Erickson J, Zagayanskiy Y, Salgueiro CA, Schiffer M. Structure of a novel dodecaheme cytochrome c from *Geobacter sulfurreducens* reveals an extended 12 nm protein with interacting hemes. *J. Struct. Biol.* 174, pp. 223-233 (2011).
14. Pokkuluri PR, Duke NEC, Wood SJ, Cotta MA, Li XL, Biely P, Schiffer M. Structure of the catalytic domain of glucuronoyl esterase Cip2 from *Hypocrea jecorina*. *Proteins: Struct., Func., and Bioinf.* 79, pp.2588-2592 (2011).
15. Rotella FJ, Alkire RW, Duke NEC, Molitsky MJ. Diagnostic tools used in the calibration and verification of protein crystallography synchrotron beam lines and apparatus. *Nucl. Instrum. Meth. A*, 649, pp. 228-240 (2011).
16. Gofron KJ, Duke NEC. Using X-ray excited UV fluorescence for biological crystal location. *Nucl. Instrum. Meth. A*, 649, pp. 216-218 (2011).