

BIOGRAPHICAL SKETCH for Marianne Schiffer

Education and Training

Petric Lajos Chem. Ind. Tech. School Budapest, Hungary	Matura (Equiv.B.S.)	1955	Chemistry
Smith College, Northampton, MA	M.A.	1958	Chemistry
Columbia University, New York, NY	Ph.D.	1965	Biochemistry

Research and Professional Experience

1965-present	Biosciences Division, Argonne National Laboratory
1965-1967	Research Associate
1968-1974	Assistant Biochemist
1974-1986	Biophysicist
1986-2011	Senior Biophysicist
2011-present	Special Term Appointee
1986-1999	Head Biophysics Section
1973-1974	Visiting Scientist at the Max-Planck Institute for Biochemistry in Munich, West Germany
1982-1992	Lecturer, Dept. of Biochemistry, Molecular Biology and Cell Biology, Northwestern University

Publications out of 132 total

- P.R.Pokkuluri, X.Yang, Y.Y.Londer, M. Schiffer. Pitfalls in the interpretation of structural changes in mutant proteins from crystal structures. *J. Struct. Funct. Genomics*, in press.
- L. Morgado, V.B. Paixão, M. Schiffer, P.R. Pokkuluri, M. Bruix, C.A. Salgueiro. Revealing the structural origin of the redox-Bohr effect: the first solution structure of a cytochrome from *Geobacter sulfurreducens*. *Biochem J.* 441, 179-187 (2012).
- J.M. Dantas, L. Morgado, Y.Y. Londer, A.P. Fernandes, R.O. Louro, P.R. Pokkuluri, M. Schiffer, C.A. Salgueiro. Pivotal role of the strictly conserved aromatic residue F15 in the cytochrome *c*₇ family. *J. Biol. Inorg. Chem.*, 17, 11-24 (2012).
- P.R.Pokkuluri, N. E. C. Duke, S. J. Wood, M. A. Cotta, X.-L. Li, P. Biely, M. Schiffer. Structure of the catalytic domain of glucuronoyl esterase Cip2 from *Hypocrea jecorina*. *Proteins*, 79, 2588-2592 (2011).
- P. R. Pokkuluri, Y.Y. Londer, N.E.C. Duke, M. Pessanha, X. Yang, V. Orshonsky, L. Orshonsky, J. Erickson, Y. Zagyskiy, C. A. Salgueiro, M. Schiffer. Structure of a novel dodecaheme cytochrome *c* from *Geobacter sulfurreducens* reveals an extended 12 nm protein with interacting hemes. *J. Struct. Biol.*, 174, 223-233 (2011).
- C. Chang, C. Tesar, M. Gu, G. Babbnigg, A. Joachimiak, P. R. Pokkuluri, H. Szurmant, and M. Schiffer. Extracytoplasmic PAS-like domains are common in signal

- transduction proteins. *J. Bacteriol.*, 192, 1156-1159 (2010).
- P. R. Pokkuluri, Y. Y. Londer, X. Yang, N. E. C. Duke, J. Erickson, V. Orshonsky, G. Johnson, and M. Schiffer. Structural characterization of a family of cytochromes *c*₇ involved in Fe(III) respiration by *Geobacter sulfurreducens*. *Biochim. Biophys. Acta Bioenergetics*, 1797, 222-232 (2010).
- L. Morgado, A.P. Fernandes, Y.Y.Londer, P.R.Pokkuluri, M. Schiffer. Thermodynamic characterization of the redox centres in a representative domain of a novel *c*-type multihaem cytochrome. *Biochem. J.* (2009), 420, 485-492 (2009).
51. P.R.Pokkuluri, Y. Y. Londer, S. J. Wood, N. E. C. Duke, L. Morgado, C. A. Salgueiro, M. Schiffer. Outer-membrane cytochrome-*c*, OmcF, from *Geobacter sulfurreducens*: High Structural Similarity to an Algal Cytochrome *c*₆. *Proteins: Struct. Funct. Bioinform.* 266-270 (2009).
- L. Morgado, M. Bruix, V. Orshonsky, Y. Y. Londer, N. E.C. Duke X. Yang, P.R. Pokkuluri, M. Schiffer, C.A. Salgueiro. Structural insights into the modulation of the redox properties of two *Geobacter sulfurreducens* homologous triheme cytochromes. *Biochim. Biophys. Acta. Bioenergetics*, 1777, 1157-1165 (2008).
- S. J. Wood, X.-L. Li, M. A. Cotta, P. Biely, N. E. C. Duke, M. Schiffer and P. R. Pokkuluri. Crystallization and preliminary X-ray diffraction analysis of the glucuronoyl esterase catalytic domain from *Hypocrea jecorina*. *Acta Cryst.* F64, 255-257(2008).
- P.R. Pokkuluri, M. Pessanha, Y.Y. Londer, S.J. Wood, N.E.C. Duke, R. Wilton, T. Catarino, C.A. Salgueiro, M. Schiffer. 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, 1498-1517 (2008).
- P.R. Pokkuluri, Y. Y. Londer, S. J. Wood, N. E. C. Duke, L. Morgado, C. A. Salgueiro, M. Schiffer. Outer-membrane cytochrome-*c*, OmcF, from *Geobacter sulfurreducens*: High Structural Similarity to an Algal Cytochrome *c*₆. *Proteins: Struct. Funct. Bioinform.* 266-270 (2008).
- L. Morgado, M. Bruix, V. Orshonsky, Y. Y. Londer, N. E.C. Duke X. Yang, P.R. Pokkuluri, M. Schiffer, C.A. Salgueiro. Structural insights into the modulation of the redox properties of two *Geobacter sulfurreducens* homologous triheme cytochromes. *Biochim. Biophys. Acta. Bioenergetics*, 1777, 1157-1165 (2008).
- M. Pessanha, L. Morgado, R.O.Louro, Y.Y.Londer, P.R.Pokkuluri, M.Schiffer, C.A.Salgueiro. Thermodynamic characterization of triheme cytochrome PpcA from *Geobacter sulfurreducens*: evidence for a role played in e⁻/H⁺ energy transduction. *Biochemistry*, 45, 13910-13917 (2006).

- Y.Y.Londer, I. S. Dementieva, C. A. D'Ausilio, P. R. Pokkuluri, M. Schiffer. Characterization of a *c*-type heme containing PAS sensor domain from *Geobacter sulfurreducens* representing a novel family of periplasmic sensors in *Geobacteraceae* and other bacteria. *FEMS Microbiol. Lett*, 258, 173-181 (2006).
- Y. Y.Londer, P. R.Pokkuluri, V.Orshonsky, L.Orshonsky, M.Schiffer. Heterologous expression of dodecaheme "nanowire" cytochromes *c* from *Geobacter sulfurreducens*. *Protein Express. Purifi*, 47, 241-248 (2006).
- P.R.Pokkuluri, Y.Y.Londer, N.E.C.Duke, J.Erickson, M.Pessanha, C.A.Salgueiro, M.Schiffer. Structure of a novel *c*₇-type three-heme cytochrome domain from a multi-domain cytochrome *c* polymer. *Prot. Sci*, 13, 1684-1692 (2004).
- P.R.Pokkuluri, Y.Y.Londer, N.E.C.Duke, W.C.Long, M.Schiffer. Family of cytochrome *c*₇-type proteins from *Geobacter sulfurreducens* : Structure of one cytochrome *c*₇ at 1.45 Å resolution. *Biochemistry* 43, 849-859 (2004).
- P.R.Pokkuluri, P.D. Laible, Y.-L. Deng, T.N. Wong, D.K. Hanson, M. Schiffer. The structure of a mutant photosynthetic reaction center shows unexpected changes in main chain orientations and quinone position. *Biochemistry* 41, 5998-6007 (2002).