

# CURRICULUM VITAE

Name: Mary Lynne Perille Collins

Address: Department of Biological Sciences  
University of Wisconsin Milwaukee  
Milwaukee, WI 53201

Position: Professor

Telephone/FAX No: (414) 229 5298 (414) 229 3926  
email: mlpcolli@uwm.edu

## Academic Training

B.A. 1971 Emmanuel College, Boston, MA Biology  
Ph.D. 1976 Rutgers University, New Brunswick, NJ Microbiology

## Awards

Post doctoral Fellow, National Institutes of Health National Research Service Award (76 - 78)  
UWM Foundation/Graduate School Research Award (1988)  
Graduate School Distinguished Mentor Award (1993)

## Professional Experience

10-present Professor Emerita, Senior Scientist, Department of Biological Sciences, University of Wisconsin-Milwaukee

93 - 10 Professor, Department of Biological Sciences, University of Wisconsin Milwaukee

86 - 93 Associate Professor, Department of Biological Sciences, University of Wisconsin Milwaukee

89 - 90 Shaw Visiting Professor in Aquatic Science, Center for Great Lakes Studies

80 - 86 Assistant Professor, Department of Biological Sciences, University of Wisconsin Milwaukee

78 - 80 Research Assistant Professor, Department of Microbiology, New York University School of Medicine

## Research Interests

Microbial Biochemistry, Physiology, and Molecular Biology  
Membrane Biogenesis and Differentiation  
Bacterial Expression Systems

## Patents

Collins, M. L. P. 2013. Method, vector and system for expressing polypeptides. U. S. patent 8,481,287.

Collins, M. L. P. and Y. Cheng. 2004 and 2005. Host/vector system for expression of membrane proteins. U. S. patents 6,680,179 and 6,951,741.

## Selected Publications

Butzin, N.C., H.A. Owen, and M.L.P. Collins. 2010. A new system for heterologous expression of membrane proteins: *Rhodospirillum rubrum*. *Prot. Exp. Purif.* 70: 88-94.

Butzin N.C, J.A.Benson, D.J. Merchant, M.L.P.Collins. 2010. Role of PufB and PufA C-terminal extensions in the assembly of *Rhodospirillum rubrum* light-harvesting antenna. *Curr. Microbiol.* 60: 88-94.

Benson, J.A., K.A.. Fode-Vaughan, and M.L.P. Collins. 2004. Detection of *Helicobacter pylori* in water by direct PCR. *Lett. in Appl. Microbiol.* 39: 221-225.

Fode Vaughan, K.A., J.S. Maki, J.A. Benson, and M.L.P. Collins. 2003. Direct detection of *Escherichia coli* O157:H7. *Lett. Appl. Microbiol.* 37: 239-243.

Lemos, S.S., H. Yuan, M.L.P. Collins, and W.E. Antholine. 2002. Review of multifrequency EPR of copper in particulate methane monooxygenase. *Current Topics in Biophysics.* *Curr. Topics in Biophysics.* 26: 43-48.

Brantner, C.A., C.C. Remsen, H.A. Owen, L.A.Buchholz, and M.L.P. Collins. 2002. Intracellular localization of the particulate methane monooxygenase and methanol dehydrogenase in *Methylobacterium album* BG8. *Arch. Microbiol.* 178: 59-64.

Lemos, S., M. L.P. Collins, S.S. Eaton, G.R. Eaton, and W.E. Antholine. 2000. Comparison of EPR-visible Cu<sup>2+</sup> sites in pMMO from *Methylococcus capsulatus* (Bath) and *Methylobacterium album* BG8. *Biophys. J.* 79: 1085-1094.

Cheng, Y.S., C.A. Brantner, A. Tsapin, and M.L.P. Collins. 2000. Role of the H protein in assembly of the photochemical reaction center and intracytoplasmic membrane in *Rhodospirillum rubrum*. *J. Bacteriol.* 182: 1200-1207.

Brantner, C.A., L.A. Buchholz, C.C. Remsen, and M.L.P. Collins. 2000. Isolation of intracytoplasmic membrane from the methanotrophic bacterium *Methylobacterium album* BG8. *Curr. Microbiol.* 40: 132-134.

Yuan, H., M.L.P. Collins, and W.E. Antholine. 1999. Type 2 Cu<sup>2+</sup> in pMMO from *Methylobacterium album* BG8. *Biophys. J.* 76: 2223-2229.

Yuan, H., W.E. Antholine, and M.L.P. Collins. 1998. Concentration of Cu, EPR-detectable Cu, and formation of cupric-ferrocyanide in membranes with pMMO. *J. Inorganic Biochem.* 72: 179 185.

Brantner, C.A., L.A. Buchholz, C.L. McSwain, L.L. Newcomb, C.C. Remsen, and M.L.P. Collins. 1997. Intracytoplasmic membrane formation in *Methylobacterium album* BG8 is stimulated by copper in the growth medium. *Can. J. Microbiol.* 43: 672-676.

Yuan, H., M. L. P. Collins, and W.E. Antholine. 1997. Low-frequency EPR of the copper in particulate methane monooxygenase from *Methylobacterium albus* BG8. *J. Amer. Chem Soc.* 119: 5073-5074.

Fassell, T.A., L.A. Buchholz, M.L.P. Collins, and C.C. Remsen. 1992. Localization of methanol dehydrogenase in two strains of methylotrophic bacteria detected by immunogold labeling. *Appl. Env. Microbiol.* 58: 2302 2307.

- Hessner, M.H., P.J. Wejksnora, and M.L.P. Collins. 1991. Construction characterization, and complementation of *Rhodospirillum rubrum* puf region mutants. *J. Bacteriol.* 173: 5712 5722.
- Collins, M.L.P., L.A. Buchholz, and C.C. Remsen. 1991. The effect of copper on *Methylomonas albus* BG8. *Appl. Env. Microbiol.* 57: 1261 1264.
- Collins, M.L.P. and C.C. Remsen. 1990. The purple phototrophs In J. Stolz (ed) *The Structure of Phototrophic Bacteria*. CRC Press.
- Myers, C.R. and M. L.P. Collins. 1989. Membrane fractionation based on functional composition: Evidence for membrane domains. *Curr. Microbiol.* 19: 45 51.
- Myers, C.R. and M.L.P. Collins. 1987. Cell cycle specific fluctuation in cytoplasmic membrane composition in aerobically growing *Rhodospirillum rubrum*. *J. Bacteriol.* 169: 5445 5551.
- Crook, S.M., S.B. Trembl, and M.L.P. Collins. 1986. Immunocytochemical ultrastructural analysis of chromatophore membrane formation in *Rhodospirillum rubrum*. *J. Bacteriol.* 167: 89 95.
- Myers, C.R. and M.L.P. Collins. 1986. Cell cycle specific oscillation in the composition of chromatophore membrane in *Rhodospirillum rubrum*. *J. Bacteriol.* 166: 818 823.
- Collins, M.L.P. and S.B. Trembl. 1985. Crossed immunoelectrophoretic analysis of bacterial membranes. *Biotech 3*: 368 376.
- Collins, M.L.P., and C.A.N. Hughes. 1983. Identity of succinate dehydrogenase in chemotrophically and phototrophically grown *Rhodospirillum rubrum*. *Arch. Microbiol.* 136: 7 10.
- Mueller, P.R. and M.L.P. Collins. 1983. Identification of two distinct lactate dehydrogenases in *Rhodospirillum rubrum*. *J. Bacteriol.* 153:1562 1566.
- Collins, M.L.P., and M.R.J. Salton. 1980. Preparation and crossed immunoelectrophoretic analysis of cytoplasmic and outer membranes from *Neisseria gonorrhoeae*. *Infection and Immunity* 30: 281 288.
- Collins, M.L.P., D.E. Mallon, and R.A. Niederman. 1980. Assessment of *Rhodopseudomonas sphaeroides* chromatophore membrane asymmetry through bilateral antiserum adsorption studies. *J. Bacteriol.* 143: 221 230.
- Collins, M.L.P., D.E. Mallon, and R.A. Niederman. 1979. Crossed immunoelectrophoretic analysis of chromatophore membranes from *Rhodopseudomonas sphaeroides*. *J. Bacteriol.* 139: 1089 1092.
- Collins, M.L.P. and R.A. Niederman. 1976. Membranes of *Rhodospirillum rubrum*: Physicochemical properties of chromatophore fractions isolated from osmotically and mechanically disrupted cells. *J. Bacteriol.* 126: 1326 1338.
- Collins, M.L.P. and R.A. Niederman. 1976. Membranes of *Rhodospirillum rubrum*: Isolation and physicochemical properties of membranes from aerobically grown cells. *J. Bacteriol.* 126: 1316 1325.