

MARTHA M. HOWE
 Van Vleet Professor of Virology
 Department of Molecular Sciences
 University of Tennessee Health Science Center
 858 Madison Avenue
 Memphis TN 38163

EDUCATION

Bryn Mawr College, Bryn Mawr PA	A.B.	1966	Biology
Massachusetts Institute of Technology	Ph.D.	1972	Biology-Microbiology
Centro Degli Acidi Nucleici, Rome, Italy	postdoc	1972	Mu molecular biology
Cold Spring Harbor Laboratory, NY	postdoc	1973-4	Mu molecular biology

ACADEMIC APPOINTMENTS

Assistant Professor of Bacteriology, University of Wisconsin-Madison, 1975-1977.
 Associate Professor of Bacteriology, University of Wisconsin-Madison, 1977-1981.
 Professor of Bacteriology, University of Wisconsin-Madison, 1981-1984.
 Vilas Professor of Bacteriology, University of Wisconsin-Madison, 1984-1986.
 Van Vleet Professor of Virology, University of Tennessee Memphis, 1986-present.

NATIONAL REVIEW ACTIVITIES

National Science Foundation, Genetic Biology Review Panel, 1980-1982.
 General Research Support Review Committee, DRR, NIH, 1982-1986.
 NIH, Member, Microbial Physiology & Genetics Study Section 2, 1997-2001.
 NSF Congressional Oversight Committee, Division of Molecular Biosciences, 1985, 1992.
 American Cancer Society, Scientific Advisory Committee on IRGs, 1991-1994.
 Associate Editor, Virology, 1983-1992.
 Member, Editorial Board, Journal of Bacteriology, 1985-1990.
 Associate Editor, Genetics, 1994-1995.
 National Science Foundation, Advisory Panel for Prokaryotic Biology, 2004-2006.

MAJOR FELLOWSHIPS, HONORS, AND AWARDS

Research Career Development Award (NIH), 1978-1983
 H. I. Romnes Faculty Fellowship for Excellence in Research, 1981
 Amoco Award for Excellence in Teaching, 1981
 Vilas Professorship, 1984
 Eli Lilly Award presented by the American Society for Microbiology, 1985
 Van Vleet Professorship of Virology, 1986
 American Academy of Microbiology, 1990
 American Academy of Microbiology, Board of Governors, 1990-1999
 ASM Founders Distinguished Service Award, 1999
 President-Elect, President, Past-President, American Society for Microbiology, 1999-2002

SELECTED PUBLICATIONS (out of 75)

48. Margolin, W., G. Rao, and M. M. Howe (1989) Bacteriophage Mu late promoters: Four late transcripts initiate near a conserved sequence. *J. Bacteriol.* 171, 2003-2018.
49. Stoddard, S. F. and M. M. Howe (1989) Localization and regulation of bacteriophage Mu promoters. *J. Bacteriol.* 171, 3440-3448.

50. Marrs, C. F. and M. M. Howe (1990) Kinetics and regulation of transcription of bacteriophage Mu. Virology 174, 192-203.
51. Glasgow, A. C., J. L. Miller, and M. M. Howe (1990) Bacteriophage Mu sites and functions involved in the inhibition of λ ::mini-Mu growth. Virology 177, 95-105.
52. Stoddard, S. F. and M. M. Howe (1990) Characterization of the C operon transcript of bacteriophage Mu. J. Bacteriol. 172, 361-371.
53. Margolin, W. and M. M. Howe (1990) Activation of the bacteriophage Mu *lys* promoter by Mu C protein requires the σ^{70} subunit of Escherichia coli RNA polymerase. J. Bacteriol. 172, 1424-1429.
54. Mathee, K. and M. M. Howe (1990) Identification of a positive regulator of the Mu middle operon. J. Bacteriol. 172, 6641-6650.
59. Chiang, L., I. Kovari, and M. M. Howe (1993) Mutagenic oligonucleotide-directed PCR amplification (MOD-PCR): an efficient method of generating random base substitution mutations in a DNA sequence element. PCR Methods and Applications, 2, 210-217.
60. Mathee, K. and M. M. Howe (1993) The bacteriophage Mu middle operon: essential and non-essential functions. Virology 196, 712-721.
61. Mathee, K. and M. M. Howe (1993) Bacteriophage Mu Mor protein requires σ^{70} to activate the Mu middle promoter. J. Bacteriol. 175, 5314-5323.
62. Chiang, L.W. and M. M. Howe (1993) Mutational analysis of a C-dependent late promoter of bacteriophage Mu. Genetics, 135, 619-629.
63. Zha, J., Z. Zhao, and M. M. Howe (1994) Identification and characterization of the terminators of the *lys* and *P* transcripts of bacteriophage Mu. J. Bacteriol. 176, 1111-1120.
64. Sutherland, M., H. J. J. VanVuuren and M. M. Howe (1994) Cloning, DNA sequence, and in vitro transcription/translation analysis of a 3.2kb EcoRI-HindIII fragment of Leuconostoc oenos bacteriophage L10. Gene 148, 125-129.
65. Kahmeyer-Gabbe, M. K. and M. M. Howe (1996) Regulatory factors acting at the bacteriophage Mu middle promoter. J. Bacteriol. 178, 1585-1592.
66. Artsimovitch, I. and M. M. Howe (1996) Transcription activation by the bacteriophage Mu Mor protein: analysis of promoter mutations in P_m identifies a new region required for promoter function. Nucl. Acids Res. 24, 450-457.
67. Artsimovitch, I., M. Kahmeyer-Gabbe, and M. M. Howe (1996) Distortion in the spacer region of P_m during activation of middle transcription of phage Mu. Proc. Natl. Acad. Sci. USA, 93, 9408-9413.
68. Artsimovitch, I., K. Murakami, A. Ishihama, and M. M. Howe (1996) Transcription activation by the bacteriophage Mu Mor protein requires the C-terminal regions of both α and σ^{70} subunits of Escherichia coli RNA polymerase. J. Biol. Chem. 271, 32343-32348.
69. Howe, M. M. (1997) Bacteriophage Mu. In Molecular Microbiology (S. J. W. Busby, C. M. Thomas, and N. L. Brown, eds.) Springer Verlag, Heidelberg, 65-80.
70. Takeda, S., T. Sasaki, A. Ritani, M. M. Howe, and F. Arisaka (1998) Discovery of the tail tube gene of bacteriophage Mu and sequence analysis of the sheath and tube genes. Biochem. Biophys. Acta 1399, 88-92.

71. Zhang, L., M. M. Howe, and T. P. Hatch (2000) Characterization of in vitro DNA binding sites of the EUO protein of *Chlamydia psittaci*. Infection and Immunity 68, 1337-1349.
72. Siboo, I. R., F. Sieder, K. Kumar, M. M. Howe, and M. S. DuBow. (2004) Characterization of P_{lys}-proximal morphogenetic genes of transposable phage Mu. Arch. Virol. 149, 241-259.
73. Kumaraswami, M., M. M. Howe, and H. W. Park (2004) Crystal structure of the Mor protein of bacteriophage Mu - a member of the Mor/C family of transcription activators. J. Biol. Chem. 279, 16581-16590.
74. Braid, M. D., J. L. Silhavy, C. L. Kitts, R. J. Cano, and M. M. Howe. (2004) Complete genomic sequence of bacteriophage B3, a Mu-like phage of *Pseudomonas aeruginosa*. J. Bacteriol. 186, 6560-6574.
75. Ma, J. and M. M. Howe. (2004) Binding of the α CTD of RNA polymerase to the phage Mu middle promoter. J. Bacteriol. 186, 7858-7864.

BOOKS

Symonds, N., A. Toussaint, P. van de Putte, and M. M. Howe (1987) Phage Mu. Cold Spring Harbor Laboratory, Cold Spring Harbor, New York.

Berg, D. E. and M. M. Howe (1989) Mobile DNA. Am. Soc. Microbiol., Washington, D.C.

STUDENTS TRAINED

17 Ph.D.

5 M.S.

6 postdoctoral

9 undergraduate