

## CURRICULUM VITAE

Michael H. Fox  
Department of Environmental and Radiological Health Sciences  
Colorado State University  
Fort Collins, Colorado 80523

### Personal Data:

Birthdate: March 19, 1946  
Marital Status: Married, Mary Ann Fox; 2 children, 3 grandchildren

### Education:

INSTITUTION	DEGREE	YEAR	FIELD
McPherson College, McPherson, KS	B.S.	1968	Physics
Kansas State University, Manhattan, KS	M.S.	1972	Physics
Kansas State University, Manhattan, KS	Ph.D.	1977	Physics/Biophysics
Colorado St. University, Ft. Collins, CO	PostDoc	1979	Radiation Biology

### Professional Experience:

2009 - present Emeritus Professor, Dept of Environmental & Radiological Health Sciences, Colorado State University  
1995 - 2009 Professor, Dept. of Radiological Health Sciences, Colorado State University  
1990 - 2005 Chairman, Cell and Molecular Biology Graduate Program  
1989 - 1990 Visiting Scientist, Max Planck Institute for Biophysics, Goettingen, Germany  
1988 - 1995 Associate Professor, Dept of Radiological Health Sciences, Colorado State University  
1981 - 2009 Graduate Faculty, Cell and Molecular Biology Graduate Program, Colorado State University  
1979 - 1988 Assistant Professor, Dept. of Radiology and Radiation Biology, Colorado State University  
1977 - 1979 Postdoctoral Research Fellow, Dept. of Radiology and Radiation Biology, Colorado State University  
1972 - 1973 Assistant Professor and Acting Dept. Chairman, Dept. of Physics, McPherson College, McPherson, KS  
1968 - 1970 Peace Corps Volunteer, Universidad Mayor de San Andres, La Paz, Bolivia

### Society Memberships:

International Society for Analytical Cytology 1979-present  
Offices: Councilor, 1985-1989; Chair, Publications Comm. 1985-1989; Chair, Local Organizing Comm. 1989; Nominating Comm. 1988-90; Site Selection Comm. 1996-98; Membership Committee 2002-04; Program Committee 2007-08  
Radiation Research Society 1980 - present

**Teaching Experience:***Colorado State University, Dept. of Environmental & Radiological Health Sciences*

R300	Medical Radiation Biology, S 1981- 1989 (Course Coordinator & Lecturer)
R300	Introduction to Radiation Biology, S 2000-2012 (Course Coordinator & Lecturer)
R550	Principles of Radiation Biology, S 1995-1998, 2001-2009 (Course Coordinator & Lecturer)
R760	Advanced Radiation Biology, F 1977, 1979, 1982 Lectures and labs on light production and measurement; Cell kinetics, mutagenesis and carcinogenesis of radiation
R753	Advanced Radiation Biology II, S 1985, 1987, 91,93,95,97,99, 2001, 2004, 2007 (Course Coordinator & Lecturer) Cell kinetics, cell cycle, apoptosis
R595K	Microcomputer Analysis, F 1986-88
R795L	Hyperthermia, F 1993, 1997
R530	Radiological Physics and Dosimetry I (taught about 1/4 of class) F 1997

*Colorado State University, Cell and Molecular Biology Graduate Degree Program*

BY703	Advanced Cell Biology, 1981, 1982; Lectures on flow cytometry and cell sorting
CM702E	Flow Cytometry and Cell Sorting, F 1983-2005; 2 credit lab module
CM501	Advanced Cell Biology, F 1999-2005; (Course Coordinator and Lecturer)
CM793	Graduate Seminar, F,S 1998-2005

*McPherson College, Dept. of Physics, 1972-1973*

General Physics I  
General Physics II  
Engineering Physics I  
Engineering Physics II  
Modern and Atomic Physics  
Mechanics  
Statistical Mechanics

*Universidad Mayor de San Andres, La Paz, Bolivia, 1968-1970*

General Physics, lecture and lab, in Spanish

**Publications:***Books:*

Fox, Michael H. Why We Need Nuclear Power: The Environmental Case. Oxford University Press, 2014.

### *Theses & Dissertations:*

1. Fox, M.H., Beam-foil lifetimes of FeI. M.S. Thesis, Physics Department, Kansas State University 1972.
2. Fox, M.H., Purification and comparison of  $\alpha$ -factor isolated from wild-type and mutant strains of *Saccharomyces cerevisiae*. Ph.D. Dissertation, Physics Department, Kansas State University, 1977.

### *Refereed Publications*

1. Fox MH, Coulter JR: Enhanced light collection in a flow cytometer. *Cytometry* 1:21-25, 1980.
2. Fox MH: A model for the computer analysis of synchronous DNA distributions obtained by flow cytometry. *Cytometry* 1:71-77, 1980.
3. Raaphorst GP, Azzam EI, Fox M: Thermal sensitivity of chinese hamster V79 cells related to time after plating and cell-cycle redistribution. *J Therm Biol* 8:327-332, 1983.
4. Read RA, Fox MH, Bedford JS: The cell cycle dependence of thermotolerance: I. CHO cells heated at 42° C. *Radiat Res* 93:93-106, 1983.
5. Read RA, Fox MH, Bedford JS: The cell cycle dependence of thermotolerance: II. CHO cells heated at 45.0° C. *Radiat Res* 98:491-505, 1984.
6. Anderson LK, Stack SM, Fox MH, Chuanshan Z: The relationship between genome size and synaptonemal complex length in higher plants. *Exp Cell Res* 156:367-378, 1985.
7. Fox MH, Read RA, Bedford JS: The cell cycle dependence of thermotolerance: III. HeLa cells heated at 45.0° C. *Radiat Res* 104:429-442, 1985.
8. Fox MH, Read RA, Bedford JS: Comparison of synchronized Chinese hamster ovary cells obtained by mitotic shake-off, hydroxyurea, aphidicolin, or methotrexate. *Cytometry* 8:315-320, 1987.
9. Fox MH, Delohery TM: Membrane fluidity measured by fluorescence polarization using an EPICS V cell sorter. *Cytometry* 8:20-25, 1987.
10. Gillies RJ, Cook J, Fox MH, Giuliano KA: Flow cytometric analysis of intracellular pH in 3T3 cells. *Am J Physiol* 253(Cell Physiol.22):C121-C125, 1987.
11. Cook JA, Fox MH: Effects of acute pH 6.6 and 42.0° C heating on the intracellular pH of Chinese hamster ovary cells. *Cancer Res* 48:496-502, 1988.
12. Cook JA, Fox MH: Effects of chronic pH 6.6 on growth, intracellular pH, and response to 42.0° C hyperthermia of Chinese hamster ovary cells. *Cancer Res* 48:2417-2420, 1988.
13. Cook JA, Fox MH: Intracellular pH measurements using flow cytometry with 1,4-diacetoxy-2,3-dicyanobenzene. *Cytometry* 9:441-447, 1988.
14. Cook JA, Fox MH: Development of thermotolerance and changes in intracellular pH in CHO cells heated at 45.0° C at pH 6.6. *Radiat Res* 115:106-114, 1988.
15. Cook JA, Fox MH: Intracellular pH of Chinese hamster ovary cells heated at 45.0° C at pH 6.6. *Radiat Res* 115:96-105, 1988.
16. Fox MH: Summary of Symposium A: Cancer Research. XII international meeting of the Society for Analytical Cytology. *Cytometry* 9:189-190, 1988.
17. Fox MH, Armstrong LW, Withrow SJ, Powers BE, LaRue SM, Straw RC, Gillette EL: Comparison of DNA aneuploidy of primary and metastatic spontaneous canine osteosarcomas. *Cancer Res* 50:6176-6178, 1990.
18. Jensen WA, Sheehy SE, Fox MH, Davis WC, Cockerell GL: In vitro expression of bovine leukemia virus in isolated B-lymphocytes of cattle and sheep. *Vet Immunol Immunopath* 26:333-342, 1990.

19. Dynlacht JR, Wieder ED, Fox MH: Effects of procaine on the intracellular pH of Chinese hamster ovary cells heated at 42.0 or 45.0° C. *Radiat Res* 128:14-18, 1991.
20. Fox MH, Arndt-Jovin DJ, Jovin TM, Baumann PH, Robert-Nicoud M: Spatial and temporal distribution of DNA replication sites localized by immunofluorescence and confocal microscopy in mouse fibroblasts. *J Cell Science* 99:247-253, 1991.
21. Dynlacht JR, Fox MH: Heat-induced changes in the membrane fluidity of chinese hamster ovary cells measured by flow cytometry. *Radiat Res* 130:48-54, 1992.
22. Dynlacht JR, Fox MH: The effect of 45° C hyperthermia on the membrane fluidity of cells of several lines. *Radiat Res* 130:55-60, 1992.
23. Dynlacht JR, Fox MH: Effects of hyperthermia and membrane-active compounds or low pH on the membrane fluidity of chinese hamster ovary cells. *Int J Hyperthermia* 8:351-362, 1992.
24. Wieder ED, Hang H, Fox MH: Measurement of intracellular pH using flow cytometry with carboxy-SNARF-1. *Cytometry* 14:916-921, 1993.
25. Wieder ED, Fox MH: The role of intracellular pH changes in heat sensitization by procaine. *Radiat Res* 133:67-72, 1993.
26. Hang H, Fox MH: Low pH suppresses synthesis of HSPs and thermotolerance. *Radiat Res* 140:24-30, 1994.
27. LaRue SM, Fox MH, Withrow SJ, Powers BE, Straw RC, Côté IM, Gillette EL: Impact of heterogeneity in the predictive value of kinetic parameters in canine osteosarcoma. *Cancer Res* 54:3916-3921, 1994.
28. Wieder ED, Fox MH: Isolation and characterization of a Chinese hamster ovary cell mutant with improved staining for Indo-1. *Cytometry* 17:33-38, 1994.
29. Amorino GP, Fox MH: Intracellular Na<sup>+</sup> measurements using sodium green tetraacetate with flow cytometry. *Cytometry* 21:248-256, 1995.
30. Hang H, He L, Fox MH: Cell cycle variation of hsp70 levels in HeLa cells at 37° C and after a heat shock. *J Cell Physiol* 165:367-375, 1995.
31. Hang H, Fox MH: Expression of HSP70 induced in CHO cells by 45.0° C hyperthermia is cell cycle associated and DNA synthesis dependent. *Cytometry* 19:119-125, 1995.
32. Liu JC-K, Fox MH: Modification of intracellular pH and thermotolerance development by amiloride. *Int J Hyperthermia* 11:511-523, 1995.
33. Wieder ED, Fox MH: The role of intracellular free calcium in the cellular response to hyperthermia. *Int J Hyperthermia* 11:733-742, 1995.
34. Amorino GP, Fox MH: Effects of hyperthermia on intracellular chloride. *J Membrane Biol* 152:217-222, 1996.
35. Amorino GP, Fox MH: Heat-induced changes in intracellular sodium and membrane potential: Lack of a role in cell killing and thermotolerance. *Radiat Res* 146:283-292, 1996.
36. Hang H, Fox MH: Levels of 70-kDa heat shock protein through the cell cycle in several mammalian cell lines. *Cytometry* 25:367-373, 1996.
37. He L, Fox MH: Comparison of flow cytometry and western blotting to measure hsp70. *Cytometry* 25:280-286, 1996.
38. He L, Fox MH: Variation of heat shock protein 70 through the cell cycle in HL-60 cells and its relationship to apoptosis. *Exp Cell Res* 232:64-71, 1997.
39. He L, Gong X, Fox MH: Activation of heat shock transcription factor 1 in heated Chinese hamster ovary cells is dependent on the cell cycle and is inhibited by sodium vanadate. *Radiat Res* 151:283-292, 1999.

40. LaRue SM, Fox MH, Ogilvie GK, Page RL, Getzy DM, Thrall DE, Johnson JL, Dewhirst MW, Gillette EL: Tumor kinetics as predictors of response in canine lymphoma treated with chemotherapy alone or combined with whole body hyperthermia. *Int J Hyperthermia* 15:475-486, 1999.
41. Liao KH, Gustafson DL, Fox MH, Chubb LS, Reardon KF, Yang RSH: A biologically-based model of growth and senescence of Syrian hamster embryo (SHE) cells after exposure to arsenic. *Environ Health Perspect* 109:1207-1213, 2001.
42. He L, Bradrick TD, Karpova TS, Wu X, Fox MH, Fischer R, McNally JG, Knutson JR, Grammer AC, Lipsky PE: Flow cytometric measurement of fluorescence (Forster) resonance energy transfer from cyan fluorescent protein to yellow fluorescent protein using single-laser excitation at 458 nm. *Cytometry A* 53:39-54, 2003.
43. Perez DS, Armstrong-Lea L, Fox MH, Yang RS, Campain JA: Arsenic and benzo[a]pyrene differentially alter the capacity for differentiation and growth properties of primary human epidermal keratinocytes. *Toxicol Sci* 76:280-290, 2003.
44. Fox MH: Methods for synchronizing mammalian cells. *Methods Mol Biol* 241:11-16, 2004.
45. Hang H, Fox MH: Analysis of the mammalian cell cycle by flow cytometry. *Methods Mol Biol* 241:23-35, 2004002E
46. French CT, Ross CD, Keysar SB, Joshi DD, Lim C-U, Fox MH: Comparison of the mutagenic potential of 17 physical and chemical agents analyzed by the flow cytometry mutation assay. *Mut Res* 2005.
47. Purdy PH, Fox MH, Graham JK: The fluidity of Chinese hamster ovary cell and bull sperm membranes after cholesterol addition. *Cryobiology* 51:102-112, 2005.
48. Ross CD, Lim CU, Fox MH: Assay to measure CD59 mutations in CHO A(L) cells using flow cytometry. *Cytometry A* 66A:85-90, 2005.
49. Safadi-Chamberlain F, Wang LP, Payne SG, Lim CU, Stratford S, Chavez JA, Fox MH, Spiegel S, Summers SA: Effect of a membrane-targeted sphingosine kinase 1 on cell proliferation and survival. *Biochem J* 388:827-834, 2005.
50. Zhang Y, Lim CU, Williams ES, Zhou J, Zhang Q, Fox MH, Bailey SM, Liber HL: NBS1 Knockdown by Small Interfering RNA Increases Ionizing Radiation Mutagenesis and Telomere Association in Human Cells. *Cancer Res* 65:5544-5553, 2005.
51. Lim C-U, Zhang Y, Fox MH: Cell cycle dependent apoptosis and cell cycle blocks induced by hyperthermia in HL-60 cells. *Int J Hyperthermia* 22:77-91, 2006.
52. French CT, Ross CD, Keysar SB, Joshi DD, Lim C-U, Fox MH. Comparison of the mutagenic potential of 17 physical and chemical agents analyzed by the flow cytometry mutation assay. *Mut Res* 602: 14-25, 2006.
53. Ross CD, French CT, Keysar SB, Fox MH. Mutant spectra of irradiated CHO A<sub>L</sub> cells determined with multiple markers analyzed by flow cytometry. *Mutat Res* 624:61-70, 2007.
54. Ross CD, Fox MH: Multiparameter analysis of CHO A<sub>L</sub> mutant populations sorted on CD59 expression after gamma irradiation. *Radiat Res* 170:628-637, 2008.
55. Keysar SB, Fox MH: Kinetics of CHO A<sub>L</sub> mutant expression after treatment with radiation, EMS and asbestos. *Cytometry Part A*: 412-419, 2009.
56. Keysar SB, Fox MH: EMS mutant spectra generated by multi-parameter flow cytometry. *Mutat Res* 671:6-12, 2009.
57. Keysar SB, Trncic N, LaRue SM, Fox MH: Hypoxia/reoxygenation- induced mutations in mammalian cells detected by the flow cytometry mutation assay and characterized by mutant spectrum. *Radiat Res* 173, 21-26, 2010.
58. Spizziri BE, Fox MH, Bruemmer JE, Squires EL, Graham JK, Cholesterol-loaded-cyclodextrins and fertility potential of stallions spermatozoa. *Animal Reprod Sci* 118, 255-264, 2010.

### *Book Chapters*

1. Fox MH: Flow systems for analyzing cells. In: Prospects for Sexing Mammalian Sperm, Amann RP and Seidel GE, Jr. (eds). Colorado Associated University Press, Boulder, CO, 1982, pp. 192-197.
2. Fox MH, Galbraith DW: Application of flow cytometry and sorting to higher plant systems. In: Flow Cytometry and Sorting, 2 Edition, Melamed MR, Lindmo T, and Mendelsohn ML (eds). Wiley-Liss, New York, 1990, pp. 633-650.
3. Fox MH: Cell cycle models for analyzing flow cytometry DNA histograms. In: Reviews of Biotechnology and Bioengineering. Volume 1: Cytometry, Tyrer HW (ed). Ablex Publishing Corp., Norwood, New Jersey, 1994, pp. 111-145.
4. Fox MH: Intracellular pH Measured by ADB. In: In Living Color: Protocols in Flow Cytometry and Cell Sorting, Diamond RA and DeMaggio S (eds). Springer, New York, 2000, pp. 472-480.
5. Fox MH: Measuring Intracellular pH Using SNARF-1. In: In Living Color: Protocols in Flow Cytometry and Cell Sorting, Diamond RA and DeMaggio S (eds). Springer, New York, 2000, pp. 481-489.

### *Conference Proceedings*

1. Bedford JS, Mitchell JB, Fox MH. Variations in responses of several mammalian cell lines to low dose-rate irradiation. In: Meyn RE, Withers HR eds. Radiation Biology in Cancer Research. New York: Raven Press, 1980; 251-262.
2. Read RA, Fox MH, Bedford JS. Thermotolerance and chronic hyperthermia. In: Dethlefsen LA, Dewey WC eds. Third International Symposium: Cancer Therapy by Hyperthermia, Drugs, and Radiation. Natl. Cancer Inst. Monogr. 61. 1 ed. Washington, D.C.: National Cancer Institute Monograph 61, 1980; 271-273.
3. Amorino GP, Fox MH. Effects of hyperthermia on intracellular sodium levels and membrane potential. In: Hagen U, Harder D, Jung H, Streffer C eds. Radiation Research 1895-1995: Congress Proceedings. Wurzburg, Germany: 10th ICRR Society, 1996; 969-972.
4. Fox MH, Hang H, He L. Flow cytometric measurements of heat shock proteins and their variation through the cell cycle. In: Williams J, Wolf ED eds. 1 ed. McPherson, KS: McPherson College, 2002; 137-148.