# CURRICULUM VITAE FOR RANDY MOORE

**IDENTIFYING INFORMATION**

 **Academic Rank**

Professor of Biology, Biology Program, University of Minnesota

 **Education**

 B.S., 1975, Texas A & M University, College Station, Texas

 Major: Biology
M.S., 1977, University of Georgia, Athens, Georgia
 Major: Botany
 Thesis: The relationship of nitrogen metabolism to photosynthesis in
 *Digitaria sanguinalis* (L.) Scop.
Ph.D., 1980, University of California at Los Angeles (UCLA)

 Field: Plant Development
 Dissertation: Studies of vegetative compatibility-incompatibility in higher plants

 **Positions/Employment**

 Assistant and Associate Professor of Biology, Baylor University, 1980-1988

 Visiting Professor, Department of Botany, Pontificia Universidad Católica de Chile,
 Santiago, Chile, 1985, 1987

 Fulbright Scholar, Thailand, 1987

 Professor of BIology, The University of Akron, 1993-1995

 Professor of Biology, College of Arts & Sciences, University of Louisville, 1997-2000

 Professor of Biology, University of Minnesota, 2000-present

 **Current Membership in Professional Organizations**

National Association of Biology Teachers

 Minnesota Science Teachers Association

 National Center for Science Education

 National Science Teachers Association

**HONORS AND AWARDS FOR RESEARCH/CREATIVE WORK, TEACHING, PUBLIC ENGAGEMENT, AND SERVICE**

 A. Distinguished Student, Texas A & M University, 1972-1975
 B. Graduated *cum laude* from Texas A & M University, 1975
 C. Presidential Scholarship, from the Electron Microscopy Society of America, 1978
 D. Invited Post-Graduate Student, 9th International Congress on Electron Microscopy, 1978
 E. Chancellor's Special Commendation as a Teaching Assistant, UCLA, 1979
 F. Sigma Xi
 G. Outstanding Teaching Assistant, UCLA, 1980
 H. Presidential Scholarship, from the Electron Microscopy Society of America, 1980
 I. Model Teacher, "Mastery of Teaching" film series, 1982, distributed by Instructional
 Dynamics, Inc., Pacific Palisades, California
 J. Young People In Achievement
 K. Presidential Award, Scanning Electron Microscopy, 1982
 L. Elected Fellow, Texas Academy of Science, 1984
 M. Recipient of the *Excellence in Educational Journalism Award* of the Education Press
 Association of America, 1986, 1991, 1992
 N. Selected as participant in Great Teacher Workshop, 1986
 O. Most Outstanding Professor, Baylor University, 1986
 P. Recipient of the *Excellence in Educational Journalism Award* of the Washington Press
 Association, 1986
 Q. Mortar Board "Circle of Achievement" Award as Outstanding Professor at Baylor
 University, 1986

 R. Outstanding Young Men in America, 1987

 S. Honoree, Baylor University Homecoming Parade, 1987

 T. Honorary Member, Texas Society for Electron Microscopy, 1987

 U. Fulbright Scholar, Thailand, 1987

 V. Invited Member, People to People Botanical Science Delegation to the People's

 Republic of China, 1987, 1990

 W. Invited Instructor, Workshops On Electron Microscopic Immunocytochemistry, People's

 Republic of China, October, 1988

 X. American Men and Women of Science, 1988

 Y. Kendall Teacher Exemplar Award, presented by the Society for College Science Teachers

 (the college/university branch of the National Science Teachers Association) to “the

 most outstanding undergraduate science teacher of the year,” 1993

 Z. Who's Who in Science and Engineering, 1992

 AA. Omicron Delta Kappa, 1996

 BB. Most Outstanding Faculty Member, Wright State University, 1992

 CC. Outstanding Scientist Award, presented by the Affiliate Societies Council, 1993

 DD. Men of Achievement, 1994

 EE. Outstanding Administrator Award, presented by the Southeast Section of the National Association of Academic Affairs Administrators, 1998

 FF. Honorary Member, National Association of Biology Teachers, 2005. This is the Association’s

 highest honor.

 GG. Horace T. Morse-University of Minnesota Alumni Award for Outstanding Contributions to

 Undergraduate Education, 2006.

 HH. Friend of Darwin Award, National Center for Science Education, 2006

 II. CASE/Carnegie Minnesota Professor of the Year, 2006

 JJ. Biology Research/Teaching Award, National Association of Biology Teachers, 2006

 KK. Inductee, Academy of Distinguished Teachers, University of Minnesota, 2006

 LL. Inductee, Distinguished Alumni Hall of Fame, Columbus School System, Columbus, TX, 2007

 MM. Evolution Education Award, National Association of Biology Teachers, 2008

 NN. Most Dogmatic Indoctrinator in an Evolutionary Biology Course, The Discovery Institute, 2010

## RESEARCH, SCHOLARSHIP, AND CREATIVE WORK

 A. Sigma Xi Grants-In-Aid for Research, 1979, 1981; "Plant Grafting," $500
 B. National Institutes of Health (N.I.H.), 1980; "High Voltage Electron Microscopy of
 Cellular Interactions During Graft Formation In Plants," $1,500.
 C. Office of Instructional Development. UCLA, 1979; "Teaching Methods and Materials In
 Introductory Biology," $300.
 D. American Philosophical Society, 1980; "Graft Compatibility and Incompatibility In
 Higher Plants," $3,000.
 E. University Research Committee, Baylor University, 1980; "Grafting In Higher Plants,"
 $5,000.
 F. University Research Committee, Baylor University, 1981; "Engineering A Graft-Induced
 Periclinal Cytochimaeral Plant," $1,000.
 G. University Research Committee, Baylor University, 1982; "Cellular Differentiation In
 The Root Cap of *Zea mays*," $2,000.
 H. National Science Foundation, 1981; Travel Grant to Attend 9th International Botanical
 Congress, Sydney, Australia, $500.
 I. Botanical Society of America, 1981; Travel Grant to Attend 9th International Botanical
 Congress, Sydney, Australia, $500.
 J. American Orchid Society, 1982; "Experimental Hybridization Between *Dendrobium* and

 *Brassavola*," $1,200.

 K. Botanical Society of America, 1982; Expenses for Symposium on "Vegetative
 Compatibility Responses In Plants," $700.
 L. National Science Foundation, 1982; Grant No. PCM-8207933, "Graft Compatibility-
 Incompatibility In Higher Plants," $65,000.
 M. University Research Committee, Baylor University, 1984; "How Roots Perceive and

 Respond to Gravity," $3,000
 N. National Aeronautics and Space Administration, 1985; "Gravitropism in Primary and
 Lateral Roots of Higher Plants," $120,000 (through 1990)

 O. National Science Foundation, 1984; Grant No. 8207933 (renewal of 82 NSF Grant); "Graft

 Compatibility-Incompatibility in Plants," $90,000

 P. American Society of Plant Physiologists, 1985; Travel grant to attend XII International
 Conference on Plant Growth Substances, Heidelberg, Germany.
 Q. National Aeronautics and Space Administration, 1986; "The Influence of Gravity on Plant

 Growth and Development," $27,000

 R. Kazato Research Grant for the XI International Congress on Electron Microscopy, 1987

 S. Research Challenge Grant, 1988. Wright State University, $7,500.

 T. NASA, 1991, "Signal Transduction During Root Gravitropism," $40,000

 U. NASA, 1989, "How Roots Perceive and Respond to Gravity," $40,000

 V. NASA, 1990, "Structure-Function Relations During Root Gravitropism," $40,000

 W. Dayton Engineering and Science Foundation, 1990, "Workshops for High School Biology

 Teachers," $9900

 X. President's Club, Wright State University, 1989, "Workshops for High School Biology Teachers,"

 $3000

 Y. Research Challenge Program, Wright State University, 1990, "Mimicking the Effects of

 Microgravity in Plants," $25000

 Z. National Science Foundation, 1990, "Purchasing a Transmission Electron Microscope," $172,816

 AA. Eisenhower Foundation, 1990, "Implementing a Hands-on Science Curriculum in the Trotwood

 Madison School District," $32,816 (Co-PI: Arlene Foley)

 BB. National Science Foundation, 1991-94, "Hands-on Science," $402,499

 CC. International Business Machines (IBM) Corporation, 1991. "Establishing a Computer-Assisted

 Learning Center for Science Students," $51,240.

 DD. Kettering Foundation, 1991. "A Computer-Assisted Learning Center for Disabled Students,"

 $6,200

 EE. National Aeronautics and Space Administration, 1991-93. "The role of auxin in root gravitropism," $40,000 per year.

 FF. Department of Education, Upward Bound Program, 1991, "A Program to Enhance Math and

 Science Education," $174,711 (with A. Shearer).

 GG. Technology Enhanced Learning (TEL), University of Minnesota, 2001. Using digital technology to help students learn science. $9,705 (excluding match from General College)

 HH. Grant-in-Aid of Research, University of Minnesota Graduate School, 2001. Understanding the

 evolution-creationism controversy. $2,715.

II. Faculty Summer Research Fellowship. Understanding the History of the Evolution-Creationism Controversy. University of Minnesota. Funded: $5,000 for Summer, 2002 salary.

JJ. McKnight Summer Fellow. Understanding the History of the Evolution-Creationism Controversy. University of Minnesota. Funded: $5,000 for Summer, 2002 salary.

KK. Hsu, L., Jensen, M., Moore, R., and Hatch, J. Funds to support publication of monograph entitled *Teaching Academic Skills in the First-Year Science Course*. Funded: $1500.

 ***Received at the University of Minnesota – Student Grants***

 **Publications [Note if these are published electronically with a URL if appropriate]**

 1. Moore, Randy and Clanton Black. 1979. Nitrogen assimilation pathways in leaf
 mesophyll and bundle sheath cells of C4 photosynthesis plants formulated from
 comparative studies with *Digitaria sanguinalis* (L.) Scop. Plant Physiol. 64: 309-313.
 2. Black, C.C., R.H. Brown, and R.C. Moore. 1978. Plant photosynthesis. In (Eds.)
 Dobereiner, J., R.H. Burris, A. Hollaender, A.A. Franco, C.A. Neyra, and D.B. Scott.
 **Limitations and Potentials for Biological Nitrogen Fixation in the
 Tropics**. Plenum Press, New York. pp. 95-110.
 3. Moore, Randy. 1978. An ultrastructural study of vegetative incompatibility in plants.
 Proc. Ninth Intl. Cong. Electron Micros. 2: 436-437.

 4. Moore, Randy and Dan B. Walker. 1981. Studies of vegetative plant
 tissue compatibility-incompatibility. I. A structural study of a compatible autograft in
 *Sedum telephoides* (Crassulaceae). Amer. J. Bot. 68: 820-830.
 5. Moore, Randy and Dan B. Walker. 1981. Studies of vegetative plant tissue
 compatibility-incompatibility. II. A structural study of an incompatible heterograft
 between *Sedum telephoides* (Crassulaceae) and *Solanum pennellii* (Solanaceae). Amer.
 J. Bot. 68: 831-842.
 6. Moore, Randy and Dan B. Walker. 1981. Graft compatibility and incompatibility in
 plants. BioScience 31: 389-391.
 7. Moore, Randy and Dan B. Walker. 1981. Studies of vegetative plant tissue
 compatibility-incompatibility. III. The involvement of acid phosphatase in the lethal
 cellular senescence in an incompatible heterograft. Protoplasma 109: 317-334.
 8. Moore, Randy. 1981. Graft compatibility-incompatibility in higher plants. Dev. Compar.
 Immunol. 5: 377-390.
 9. Moore, Randy. 1981. Plant grafting. What's New in Plant Physiol. 12: 13-16.
 10. Moore, Randy. 1980. Vegetative plant tissue compatibility and incompatibility. Proc.

 Elect. Micros. Soc. Amer. 38: 530-531.
 11. Mullins, Ted D. and Randy Moore. 1982. An ultrastructural study of muscular and
 nervous tissue in *Drosophila*. Bios 53: 66-72.
 12. Moore, Randy. 1982. Graft development in *Kalanchoë blossfeldiana.* J. Exp. Bot. 33:

 533-540.
 13. Moore, Randy. 1982. Further evidence for cell wall deposition during graft formation.
 Ann. Bot. 50: 599-604.
 14. Moore, Randy. 1982. The cytochemical localization of acid phosphatase in plant cells.
 Texas Soc. Elect. Micros. J. 13: 9-13.
 15. Moore, Randy. 1983. Studies of vegetative plant tissue compatibility and
 incompatibility. IV. The development of tensile strength in a compatible and an
 incompatible graft. Amer. J. Bot. 70: 226-231.
 16. Moore, Randy and C. Edward McClelen. 1983. Ultrastructural aspects of cellular
 differentiation in the root cap of *Zea mays.* Can. J. Bot. 61: 1566-1572.
 17. Moore, Randy and C. Edward McClelen. 1983. A morphometric analysis of cellular
 differentiation in the root cap of *Zea mays*. Amer. J. Bot. 70: 611-617.
 18. Moore, Randy. 1982. Studies of vegetative plant tissue compatibility and
 incompatibility. V. A morphometric analysis of the development of a compatible and
 an incompatible graft. Can. J. Bot. 60: 2780-2787.
 19. Moore, Randy and Dan B. Walker. 1983. Studies of vegetative plant tissue
 compatibility-incompatibility. VI. Grafting of *Sedum* and *Solanum* callus tissue in
 vitro. Protoplasma 115: 114-121.
 20. Ransom, J. Steven and Randy Moore. 1983. Geoperception in primary and lateral roots of
 *Phaseolus vulgaris* (Fabaceae). I. Structure of columella cells. Amer. J. Bot. 70: 1048-
 1056.
 21. Moore, Randy. 1983. A morphometric analysis of the ultrastructure of columella
 statocytes of primary roots of *Zea mays*. Ann. Bot. 51: 771-778.
 22. Moore, Randy. 1983. Physiological aspects of graft formation in plants. *In* Moore,
 Randy (Ed.), **Vegetative Compatibility Responses In Plants**. Baylor University
 Press, Waco, Texas.
 23. Moore, Randy (Editor). 1983. **Vegetative Compatibility Responses In Plants.**
 Baylor University Press, Waco, Texas.
 24. Moore, Randy. 1984. Grafting in plants. *In* S.B. Parker (Ed.), **1984 Yearbook of
 Science and Technology**. McGraw Hill, New York. pp. 202-204.
 25. Smith, Houston and Randy Moore. 1990. A morphometric analysis of epidermal differentiation

 in primary roots of *Zea mays*. Amer. J. Bot. 77: 727-735.

 26. Moore, Randy. 1982. A SEM study of the early events in graft formation in plants.
 Scanning Electron Microscopy/1982 3: 1103-1107.
 27. Simpson, W.L. and Randy Moore. 1984. Leaf structure and light absorption in *Frithia
 pulchra* (Mesembryanthemaceae). Ann. Bot. 53: 413-420.
 28. McGarry, Mary T. and Randy Moore. 1983. Development of tensile strength in compatible
 autografts in *Solanum pennellii* and *Lycopersicon esculentum*. Texas J. Sci. 35: 327-
 331.
 29. Moore, Randy. 1988. Preparing students to teach biology in higher education. The
 American Biology Teacher, In Press.
 30. Moore, Randy. 1985. *In vitro* propagation of geranium. Avery Publishing Co. Series on
 Plant Tissue Culture. Avery Publishing Co., Garden City Park, New York.
 31. Moore, Randy. 1985. *In vitro* propagation of broccoli. Avery Publishing Co. Series on
 Plant Tissue Culture. Avery Publishing Co., Garden City Park, New York.

 32. Moore, Randy. 1988. Studies of vegetative plant tissue compatibility and
 incompatibility. VII. Contributions of individual organs to graft development.
 Submitted to New Phytol.
 33. Moore, Randy. 1985. *In vitro* propagation of sweet potato. Avery Publishing Co. Series on
 Plant Tissue Culture. Avery Publishing Co., Garden City Park, New York.

 34. Moore, Randy. 1984. Ultrastructural aspects of graft incompatibility between pear and
 quince. Ann. Bot. 53: 447-451.

 35. Ransom, J. Steven and Randy Moore. 1984. Geoperception in primary and lateral roots of
 *Phaseolus vulgaris* (Fabaceae). II. Intracellular distribution of organelles in columella
 cells. Can. J. Bot. 62: 1090-1094.
 36. Moore, Randy. 1988. Ultrastructural aspects of graft incompatibility between *Brassica
 oleraceae* and *Lycopersicon esculentum.*  Submitted to Ann. Bot.
 37. Ransom, J. Steven and Randy Moore. 1985. Geoperception in primary and lateral roots
 of *Phaseolus vulgaris* (Fabaceae). III. A model to explain the differential
 graviresponsiveness of primary and lateral roots. Can. J. Bot. 63: 21-24.
 38. Moore, Randy and John Pasieniuk. 1984. Structure of columella cells in primary and
 lateral roots of *Ricinus communis* (Euphorbiaceae). Ann. Bot. 53: 715-726.
 39. Moore, Randy and John Pasieniuk. 1984. Graviresponsiveness and cap dimensions in
 primary and secondary roots of *Ricinus communis* (Euphorbiaceae). Can. J. Bot. 62:
 1767-1769.
 40. Moore, Randy and John Pasieniuk. 1984. Graviresponsiveness and the development of
 columella tissue in primary and secondary roots of *Ricinus communis*. Plant Physiol.
 74: 529-533.
 41. Moore, Randy. 1984. How roots perceive and respond to gravity. American Biology
 Teacher 46: 257-265.
 42. Moore, Randy. 1985. Graft incompatibility is not reduced by treatment with plant
 growth regulators. Texas J. Sci. 36: 285-289.
 43. Moore, Randy and Cynthia Stickney. 1991. The structure of cells that perceive gravity
 in plant roots. American Biology Teacher, In Press.
 44. Moore, Randy. 1984. A model to explain graft compatibility and incompatibility in
 higher plants. Amer. J. Bot. (Special Invited Paper) 71: 752-758.
 45. Moore, Randy. 1984. Structure of graviperceptive cells in plant roots. Texas Soc. Electron
 Micros. J. 15: 16-21.
 46. Moore, Randy. 1984. The role of direct cellular contact in graft formation in *Sedum
 telephoides*. Ann. Bot. 54:127-133.
 47. Moore, Randy. 1984. Graft formation in *Solanum pennellii*. Plant Cell Reports 3: 172-
 175.
 48. Moore, Randy. 1984. Haustorium formation in *Cuscuta salina*, a holoparasitic
 angiosperm. Scanning Electron Microscopy/1984 2: 787-789.
 49. Stoker, Robert and Randy Moore. 1984. Structure of graviperceptive cells in primary
 and lateral roots of *Helianthus annuus.* New Phytol. 97: 205-212.
 50. Moore, Randy and John Pasieniuk. 1984. Graviresponsiveness and columella cell
 structure in roots of *Ricinus communis.* Plant Cell Reports 3: 48-50.
 51. McClelen, C.E. and Randy Moore. 1984. The cytochemical localization of glucose-6-
 phosphatase in plant cells. Texas Soc. Electron Micros. J. 15: 11-13.
 52. Moore, Randy and James D. Smith. 1984. Root growth, graviresponsiveness, and abscisic
 acid content of *Zea mays* seedlings treated with fluridone. Planta 162: 342-344.
 53. Moore, Randy and Relvert Coe. 1984. A morphometric analysis of cellular differentiation
 in root caps of *Cucurbita pepo.* Plant Cell Reports 3: 98-101.
 54. Moore, Randy. 1984. The development of tensile strength in conventional and approach
 grafts in *Sedum telephoides.* Can. J. Bot. 62: 1580-1582.
 55. Moore, Randy. 1984. Acid efflux patterns of primary and lateral roots of *Phaseolus
 vulgaris*. Amer. J. Bot. 71: 1168-1170.
 56. Vodopich, Darrell S. and Randy Moore. 1984. A computer program to facilitate
 morphometric analyses of cellular ultrastructure. Texas Soc. Electron Micros. J. 15: 9-10.
 57. Moore, Randy. 1984. Dimensions of root caps and columella tissues of primary roots of
 *Ricinus communis* characterized by differing degrees of graviresponsiveness. Ann. Bot.
 55: 375-380.
 58. Moore, Randy. 1984. Acid efflux patterns of primary and secondary roots of *Ricinus
 communis.* Ann. Bot. 55: 381-385.
 59. Moore, Randy. 1984. Cellular volume and tissue partitioning in root caps of *Zea mays.*
 Amer. J. Bot. 71: 1452-1454.
 60. Moore, Randy. 1985. Cellular volume and tissue partitioning in caps of primary and
 lateral roots of *Helianthus annuus*. Ann. Bot. 55: 367-373.
 61. Moore, Randy. 1985. A morphometric analysis of cellular differentiation in caps of
 primary and lateral roots of *Helianthus annuus.* Amer. J. Bot. 72: 1048-1053.
 62. Moore, Randy. 1984. Inhibition of gravitropism in roots of *Zea mays*  treated with
 chloramphenicol. Amer. J. Bot. 72: 733-736.
 63. Moore, Randy and James D. Smith. 1985. Root graviresponsiveness and ABA content of
 carotenoid-deficient mutants of *Zea mays.* Planta 164: 126-128.
 64. Moore, Randy, C. Edward McClelen, and Houston Smith. 1987. Phosphatases. *In* Kevin
 Vaughn (Ed.), **CRC Handbook of Plant Cytochemistry**, Vol. 1. CRC Press, Boca

 Raton, Florida . pp. 37-64

 65. Ng, Yuk-Kiu and Randy Moore. 1985. The effect of ABA on root growth, secondary root
 formation, and gravitropism in *Zea mays* L. Ann. Bot. 55: 387-394.
 66. Moore, Randy and C.E. McClelen. 1985. Changes in the distribution of plastids and
 endoplasmic reticulum during the differentiation of columella cells in *Zea mays*. Ann.
 Bot. 56: 73-81.
 67. Moore, Randy and C. Edward McClelen. 1985. Graviresponsiveness and columella cell
 structure in carotenoid-deficient seedlings of *Zea mays.* Ann. Bot. 56: 83-90.
 68. Moore, Randy. 1985. Calcium movement across tips of primary and lateral roots of
 *Phaseolus vulgaris*. Amer. J. Bot. 72: 785-787.
 69. Vodopich, Darrell S. and Randy Moore. 1986. **Laboratory Exercises in Biology.**
 Mosby Publishing Co., St. Louis, MO. 341 pp.
 70. Moore, Randy. 1987. Root graviresponsiveness in a cultivar of *Zea mays* whose
 columella cells contain starch-deficient amyloplasts. Annals of Botany 59: 661-666.
 71. Moore, Randy. 1986. A morphometric analysis of the redistribution of cellular
 organelles in graviresponding roots of *Zea mays.*  Ann. Bot. 57: 119-131.
 72. Moore, Randy. 1986. Graft incompatibility between pear and quince: The influence of
 metabolites of *Cydonia oblonga* on growth of suspension cultures of *Pyrus communis.*
 Amer. J. Bot. 73: 1-4.
 73. Moore, Randy. 1985. Calcium movement, graviresponsiveness, and the structure of
 columella cells and columella tissues in *Allium cepa.* Ann. Bot. 56: 173-187.
 74. Moore, Randy and C.E. McClelen. 1985. The involvement of glucose-6-phosphatase in
 mucilage secretion by root caps of *Zea mays.* Ann. Bot. 56: 139-142.
 75. Moore, Randy. 1985. Cellular interactions during the formation of approach grafts in
 *Sedum telephoides*. Can. J. Bot. 62: 2476-2484.
 76. Smith, J.D., R. Moore, and F. Fong. 1985. Gravitropism in abscisic-acid deficient
 seedlings. Maize Genetics Coop. Newsletter 59: 31.

 77. Moore, Randy, J.D. Smith, and F. Fong. 1985. Gravitropism in abscisic-acid deficient
 seedlings of *Zea mays.* Amer. J. Bot. 72: 1311-1313.

 78. Moore, Randy. 1985. A morphometric analysis of the redistribution of organelles in
 columella cells of normal seedlings and agravitropic mutants of *Hordeum vulgare.* J.
 Exp. Bot. 36: 1275-1286.
 79. Moore, Randy. Cellular differentiation and tissue partitioning in caps of primary and
 lateral roots of *Phaseolus vulgaris.* Submitted to New Phytologist.
 80. Moore, Randy. 1986. Calcium movement, graviresponsiveness, and the structure of
 columella cells in primary roots of amylomaize mutants of *Zea mays*. Amer. J. Bot.
 73: 417-426.
 81. Moore, Randy. 1985. Nodes from the underground. Natural History 95: 64-67.
 82. Moore, Randy. 1986. Cytochemical localization of calcium in root cap cells of *Zea mays*.
 J. Exp. Bot. 37: 73-79.
 83. Moore, Randy and K. Dickey. 1985. Growth and graviresponsiveness of primary roots of
 *Zea mays* seedlings deficient in abscisic acid and gibberellic acid. J. Exp. Bot. 36: 1793-
 1798.
 84. Moore, Randy and Michael L. Evans. 1986. How roots perceive and respond to gravity.
 Amer. J. Bot. (Special Paper) 73: 574-587.
 85. Moore, Randy, W. Mark Fondren, and H. Marcum. 1987. Characterization of
 root agravitropism induced by genetic, chemical, and developmental constraints.
 Amer. J. Bot. 74: 329-336.

 86. Moore, Randy and W. Mark Fondren. 1986. Possible involvement of root-cap mucilage
 in gravitropism and calcium movement across root tips of *Allium cepa* L. Annals of
 Botany 58: 381-387.

 87. Moore, Randy, C. Edward McClelen, Chia-Lien Wang, and W. Mark Fondren. 1986. The
 influence of microgravity on root-cap regeneration and the structure of columella cells
 in *Zea mays.* American Journal of Botany 74: 218-223.

 88. Moore, Randy. 1987. Cytochemical localization of endogenous heavy metals in root tips
 of *Zea mays.* Submitted to Annals of Botany.
 89. Evans, M., Randy Moore and Karl Hasenstein. 1986. How roots respond to gravity.

 Scientific American 255: 112-119.

 90. Moore, Randy, M. Fondren, C.E. McClelen, and C-L. Wang. 1987. The influence of
 microgravity on cellular differentiation in root caps of *Zea mays*. American Journal of
 Botany 74: 1006-1012.

 91. Moore, Randy, W. Mark Fondren, E. Colin Koon, and C-L. Wang. 1986. The influence of
 microgravity on the formation of amyloplasts in columella cells of *Zea mays* L. Plant
 Physiology 82: 867-868.

 92. Moore, Randy and D.S. Vodopich. 1987. The influence of pH on the color of anthocyanins

 and betalains. American Biology Teacher 49: 111-112.

 93. Vodopich, Darrell S. and Randy Moore. 1986. **Instructor's Manual for Laboratory
 Exercises in Biology.** Mosby Publishing Co., St. Louis, Missouri. 106 pp.
 94. Fondren, W. Mark and Randy Moore. 1987. Collection of gravitropic effectors from
 mucilage of electrotropically-stimulated roots of *Zea mays*. Annals of Botany 59:

 657-659.

 95. Hasenstein, K.H., M.L. Evans, C.L. Steinemetz, R. Moore, W.M. Fondren, and E.C. Coon.
 1988. Comparative effectiveness of metal ions in inducing curvature of primary roots of

 *Zea mays*. Plant Physiology 86: 885-889.

 96. Moore, Randy, W. Mark Fondren, I.L. Cameron, and N.K.R. Smith. 1989. Movement of

 endogenous calcium in graviresponding roots of *Zea mays*. Annals of Botany 64: 122-126.

 97. Moore, Randy and W. Mark Fondren. 1988. A gradient of endogenous calcium forms in

 mucilage of graviresponding roots of *Zea mays*. Annals of Botany 61: 113-116.

 98. Moore, Randy, I.L. Cameron, K.E. Hunter, D. Olmos, and N.K.R. Smith. 1987. The

 locations and amounts of endogenous ions and elements in the cap and elongating

 zone of horizontally-oriented roots of *Zea mays* L.: An electron-probe EDS study.

 Ann. Bot. 59: 667-677.

 99. Vodopich, D.S. and Randy Moore. 1988. Demonstrating the effects of stress on cellular

 membranes. Amer. Biol. Teacher 51: 40-42.

 100. Wivagg, D.S. and Randy Moore. 1987. Current trends in biology education. Curriculum Report

 17: 1-6.

 101. Moore, Randy. 1988. How plants grow in outer space. Biology Digest (Invited Paper) 14: 11-16.

 102. Moore, Randy. 1991. The effects of gravity on the ecology and dynamics of root growth. pp.

 252-259. In J. Box and L. Hammond (Eds.), **Rhizosphere Dynamics - AAAS Selected**

 **Symposium 13**, Westview Press, Westview, CO

 103. Moore, Randy. 1991. The Dynamics of Root Growth and Gravitropism. In M. Iqbal (Ed.), **The**

 **Dynamics of Plant Growth**. Academic Press, San Diego, CA (In Press).

 104. Moore, Randy. 1989. Structure of columella cells and tissues in a wild-type and a starchless

 mutant of *Arabidopsis thaliana* L. Ann. Bot. 64: 271-278.

 105. Moore, Randy. 1989. Graft compatibilities *in vitro*. In Y.P.S. Bajaj (Ed.),

 *Biotechnology in Agriculture and Forestry, Vol. 17*. Academic Press, San Diego, CA.

 pp. 71-84.

 106. Matos, Jennifer and Randy Moore. 1988. The coral reefs of Cozumel. Yacht Vacations 1: 34-37.

 107. Moore, Randy and C.E. McClelen. 1989. Pathways by which gravitropic effectors move from

 the root cap to the root in primary roots of *Zea mays*. Annals of Botany 64: 415-423.

 108. Moore, Randy. 1989. Inching toward the metric system. The American Biology Teacher 51:

 213-218.

 109. Moore, Randy, Michael L. Evans, and W. Mark Fondren. 1989. Inducing graviresponsiveness by

 primary roots of *Zea mays* cv. Ageotropic. Plant Physiology 92: 310-315.

 110. Moore, Randy. 1989. How effectively does a clinostat mimic the ultrastructural effects of

 microgravity in plant cells? Annals of Botany 65: 213-216.

 111. Yang, R., M.L. Evans, and R. Moore. 1990. Microsurgical removal of epidermal and cortical cells:

 evidence that gravitropic signals move through the outer cell layers in primary roots of Zea

 mays. Planta 180: 530-536.

 112. Miller, I. and R. Moore. 1990. Defective secretion of mucilage is the cellular basis for agravitropism in primary roots of *Zea mays* cv. Ageotropic. Annals of Botany 66: 169-178.

 113. Marcum, H. and R. Moore. 1990. Influence of electrical fields and asymmetric application of

 mucilage on curvature of primary roots of *Zea mays*. Amer. J. Bot. 77: 446-452.

 114. Moore, Randy and D. Vodopich. 1991. **Deserts**. Enslow Publishing Company.

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 Plus numerous chapters in introductory biology textbooks (e.g., the botany unit in *Plant*

*Biology* and *Life* by Ricki Lewis) and many editorials, interviews, and essays in journals, magazines, television shows, and news digests. I have also published several book reviews in the past five years (e.g., in Evolution: Education and Outreach in 2009, CBE-Life Sciences Education in 2010, Edge Science in 2011, and American Biology Teacher in 2011). I have been cited repeatedly in national media (e.g., New York Times and Al-Jazeera in 2011) and regional media (Minnesota Post in 2011).

**Presentations, Posters, and Exhibits**

I regularly present papers at national meetings sponsored by groups such as the National Association of Biology Teachers, National Science Teachers Association, and others.

I’ve presented seminars about teaching and/or research at Texas A&M University, Louisiana State University, Washington State University, University of Illinois, The University of Texas at Austin, University of California at Riverside, University of New Mexico, Stephen F. Austin State University, The University of Texas at Arlington, Trinity University, Angelo State University, West Virginia (Kearneysville) Fruit Research Center, University, University of Wisconsin at Madison, The Ohio State University, Georgia Tech, Fairchild Tropical Garden, University of Georgia, Texas Tech University, University of Florida, University of California at Los Angeles (UCLA), University of Wisconsin at Milwaukee, Kennedy Space Center (Space Life Science Training Program), Johnson Space Center, Wright State University, University of Dayton, University of Cincinnati, Pontificia Universidad Católica de Chile, University of Alabama, Marshall Space Center, University of Vermont, Cleveland State University, Central States University, California State University, Chico, University of Michigan, Kansas State University, Antioch University, University of Arizona, University of Houston, University of Akron, Youngstown State University, Western Carolina University, Cleveland Regional Biology Teachers Association, Utah Biology Teachers Association, Florida Science Teachers Association, Connecticut Association of Biology Teachers, Virginia Science Teachers Association, University of California at Davis, Colorado State University, University of Minnesota, Conference for the Advancement of Science Teaching (CAST), National Association of Scholars, Humanists of Minnesota, Scopes Trial Symposium and Festival, Louisiana State University, Biological Sciences Curriculum Study, Colorado College, Hampden-Sydney College, Minnesota Science Teachers Association, College of St. Catherine, Empire State Association of Two-Year College Biology Teachers, and others. Most recently, I was the keynote speaker at the Midwest Ecology and Evolution Conference: Celebrating Darwin’s Legacy (University of Nebraska, March 27-29, 2009), Augustana Symposium about Evolution (April 20-21, 2012). As I’ve gotten older, I’ve declined most invitations for such talks.

**TEACHING AND CURRICULUM DEVELOPMENT**

 I’ve taught the following courses: Science Methods, Teaching Biology, Plant Anatomy, Plant Physiology, Cytology, Introductory Botany, Introductory Biology (majors and nonmajors), Electron Microscopy, Scientific and Technical Writing, Safe Use of Nucleotides, Writing to Learn Biology, The Evolution-Creationism Controversy, Several workshops and weekly seminars, including those on TA Training, Biological Photography, Image Analysis and Light Microscopy.

 At the University of Minnesota I have taught three different introductory biology courses, several freshman seminars, and an honors course. I also developed and teach a course about the evolution-creationism controversy and our Biology of the Galápagos course.

**ADVISING AND MENTORING**

**Undergraduate Student Activities**

I have mentored many students since coming to the University of Minnesota (e.g., as part of the President’s Distinguished Mentor Program for several years); many of those mentorships have produced publications (e.g., Phil Jensen, Alexandra Schauer), and other manuscripts are submitted and/or in preparation (e.g., Andrew Hughes, Jacquelyn Cameron).

**SERVICE AND PUBLIC OUTREACH**

 A. Assistant Editor, *Journal of the Texas Society of Electron Microscopy*, 1982-1983
 B. Advisory Panel, *American Biology Teacher*, 1982-1983
 C. Education Committee, Botanical Society of America, 1982-present
 D. Nominating Committee, Texas Society of Electron Microscopy, 1982
 E. Secretary-Treasurer, Baylor University Chapter of Si*gma Xi, 1982-83
 F. Numerous reviews of manuscripts and grants (e.g., Science, American Journal of Botany,
 Annals of Botany, National Science Foundation, Southwestern Naturalist,* etc.), 1980-present
 G. Fellow, Summer Teaching Institute, Baylor University, 1981
 H. Chairperson of numerous paper sessions at professional meetings, 1980-present
 I. Convener, Symposium on Vegetative Compatibility Responses in Plants, Pennsylvania State University, 1982
 J. Chairperson-elect, Developmental and Structural Section, Botanical Society of America, 1985-86
 K. Treasurer, Physiological Section, Botanical Society of America, 1985-88
 L. Editor, *Guide to Graduate Study in Botany 1983*, Botanical Society of America, Miscellaneous Series Publication No. 163.

 M. Treasurer, Texas Society for Electron Microscopy, 1983-1985
 N. Vice President, Baylor University Chapter of Sigma Xi, 1983-84
 O. Convener (with James Mauseth and Wayne Fagerberg), Symposium on the Application of

 Stereological Analyses to Cellular Ultrastructure, August, 1984, Ft. Collins, Colorado.
 P. Advisory Board, *Annual Editions - Focus Biology*. Dushkin Publishing Group, Guilford, Connecticut, 1983-present
 Q. Editor-in-Chief, *Journal of the Texas Society for Electron Microscopy*, 1983-1986
 R. Member of Selection Committee for the Jeanette Siron Pelton Award, presented annually by the
 Botanical Society of America, 1983-1988 (chairperson 1986 to 1988)
 S. President, Baylor University Chapter of Sigma Xi, 1984-1985
 T. Vice-chairperson, Section of Biological Sciences, Texas Academy of Science, 1984-85
 U. Editor-in-Chief, *The American Biology Teacher*, 1983-2004

 V. Selected by NASA to direct a research project to be carried aboard flight 61-C of the Space

 Shuttle **Columbia**, 1986
 W. President-Elect, Texas Society for Electron Microscopy, 1985-86

 X. Chairperson, Biological Sciences Section, Texas Academy of Science, 1985-86
 Y. Associate Editor, *Texas Journal of Science*, 1985-88

 Z. Visiting Professor, Pontificia Universidad Católica de Chile, Santiago, Chile, 1985

 AA. Fellow, Workshop on Biological HVEM, University of Colorado, 1985
 BB. Nominee for Fulbright Award, 1985, 1986

 CC. Chairperson, Selection Committee for the Katherine Esau Award, 1986-87
 DD. Chairperson, Developmental and Structural Section, Botanical Society of America, 1986-7

 EE. Assistant Co-District Director, Science Teachers Association of Texas, CAST, NSTA Area

 Conference, 1987

 FF. Evaluator, National Science Teachers Association, 1987

 GG. Selection Committee for Presidential Awards in Science and Mathematics Teaching, Texas

 Education Agency, 1985

 HH. Editor, *The Biology Newsletter*, 1987-1992

 II. Member, Research Subcommittee, National Research Laboratory Commission, 1987

 JJ. Fellow, Safe Use of Radionuclides Shortcourse, Oak Ridge, TN, 1989

 KK. Reader, Advance Placement, Educational Testing Service, 1988

 LL. Evaluator, Department of Biology, University of Northern Kentucky, 1989, 1992

 MM. Secretary-Treasurer, Structural and Developmental Section, Botanical Society of America,

 1989-1992

 NN. Consulting Editor, *McGraw Hill Encyclopedia of Science and Technology*, 1991-present

 OO. Special Education Advisory Board, National Science Teachers Association, 1990-93

 PP. Inter-organizational Liaison Committee, National Association of Biology Teachers, 1990-92

 QQ. Selection Committee, The Campbell Prize, 1991

 RR. Grant Review Panelist, National Science Foundation, 1990-92, 1996

 SS. Member, Multimedia Program for Animal Dissection in General Biology Labs, 1991

 TT. Member, Advisory Committee, Secondary Science Teachers Education Program

 UU. Reader, Educational Testing Service, 1991, 1992

 VV. Panelist, Teacher Enhancement Program, National Science Foundation, 1991, 1992

 WW. Outside Evaluator, Biology Department, Northern Kentucky University, 1988, 1992

 XX. National Advisory Panel, *BioCom* (supported by NSF), 1992-95

 YY. Advisory Board, Society for College Science Teachers, 1993-94

 ZZ. NSTA Committee on Publications, 1994-97

 AAA. Chair, Editorial Board, *BioScience* , 1995-1999

 BBB. Council for Undergraduate Research Liaison, 1994-1999

 CCC. Manuscript Review Panel, *Journal of College Science Teaching*, 1996-present

 DDD. Liaison Officer, Northeast Ohio Universities College of Medicine (NEOUCOM), 1994-1997

 EEE. Editorial Board, *Issues in Writing*, 1996-present

 FFF. Editorial Board, *Journal of Biological Education*, 1998-present

 GGG. Responsible Conduct in Research, Parts I and II, University of Minnesota, 2000

HHH. Editorial Board, National Association for Developmental Education (NADE) monographs, 2001-2006

 III. Board of Directors, Minnesota Science Teachers Association, 2002-2006

 JJJ. Editorial Board, The Science Education Review, 2002-present

 KKK. Chair, Evironmental Science Division, ActionBioscience, 2001-2002

 LLL. Chair, Evolution Division, ActionBioscience, 2001-2002

 MMM. Evaluator, ACT Assessment

 NNN. Chief Science Reviewer, Ohio Department of Education, 2002

 OOO. Reviewer of science-education programs, The Ohio State University, Columbia College, and others

PPP. Editorial Board, National Association for Developmental Education

QQQ. Councilor-at-Large, Society for College Science Teachers, 2004-2006

RRR. Secretary-Treasurer, Society for College Science Teachers, 2006-208

SSS. Board of Directors, Minnesota Citizens for Science Education, 2006-present

 I’ve served on every committee/governance group imaginable, including the University Promotion & Tenure Committees, Policy & Planning Committees, Scholastic Standing Committees, Research Committee, Library Committee, University Senate, Honors Committee, Reorganization Committee, Self-Study Committee, Scholarship Committee, Mentor Committee, Faculty Development Committee, Radiation Safety Committee, Academic Policies Committee, Search Committees, Review Committees, Infectious Waste Committee, Steering Committee, Parking Committee, Graduate Committee, Seminar Committee, Environmental Review Committee, Incentives Committee, General Education Committee, Parking Committee, Writing Across the Curriculum Committee, Newsletter Committee, Curriculum Committee, Science Fair Committee, search committees (most recently as chair) and far too many others. I have also served as a faculty advisor/sponsor of a variety of campus organizations (e.g., Tau Kappa Epsilon, NEXUS) and community groups (e.g., Family Abuse Center). Most recently here at the University of Minnesota, I’ve served on the Student Academic Integrity Committee (SAIC; 2007-2011) and The Senate Research Committee (2010-2013).

I’ve recently reviewed several colleagues’ promotion dossiers at a variety of universities, including the University of Georgia, Syracuse University, and others.

I attend about two workshops and/or short-courses per year. Past topics have included sexual harassment, performance evaluation, faculty roles and rewards, academic leadership, responsibility centered budgeting, training graduate students, writing across the curriculum, diversity, the core curriculum, hiring minorities, grant writing, total quality management, enhancing undergraduate research, using technology to enhance teaching and learning, assessment, reconciling gender issues in higher education, strategic planning, multiculturalism, use of teaching portfolios to enhancing teaching, and others.