CURRICULUM VITAE
MELINDA DARBY DYAR

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Birth date: April 13, 1958, Indianapolis, IN. Married to Peter D. Crowley. Two children: Duncan D. Crowley (b. 7/21/95) and Malinda C. Crowley (3/3/97).

Education:

Ph.D., Geochemistry, 1985, Massachusetts Institute of Technology, Cambridge, Mass. Thesis topic: Crystal chemistry and statistical analysis of iron in mineral standards, micas, and glasses. Advisor: Roger G. Burns.

B.A., Geology and Art History, 1980, Wellesley College, Wellesley, Mass. Thesis topic: Geology of the Broadmoor Wildlife Sanctuary, South Natick, MA: Structural and petrographic analysis. Advisor: Margaret Thompson. Summer Field Camp, Indiana University, Cardwell, Montana.

Employment:

Associate Professor Department of Astronomy and Department of Earth and Environment, Mount Holyoke College and Five College Astronomy Department, 2002-present.

Five College Graduate Faculty in Astronomy, University of Massachusetts, 2002-present.

Visiting Associate Professor, Department of Astronomy and Department of Earth and Environment, Mount Holyoke College and Five College Astronomy Department, 2001-2002.

Visiting Associate Professor, Department of Astronomy, University of Massachusetts (Amherst), 2001-2002.

Affiliated Staff, Department of Geological Sciences, University of Idaho, 2000-present.

Visiting Assistant Professor, Department of Astronomy and Department of Earth and Environment, Mount Holyoke, 1998-2001.

Assistant Professor, Department of Geology and Astronomy, West Chester University, 1993-1998.

Visiting Assistant Professor, Department of Geology, Smith College, 1995-1996.

Assistant Professor, Department of Geological Sciences, University of Oregon, 1986-1993. Member, Materials Science Institute, 1987-1993.

Research Fellow, Division of Geological and Planetary Sciences, California Institute of Technology, 1985-1986 (G.R. Rossman, supervisor).

Post-Doctoral Fellow, Department of Earth, Atmospheric, and Planetary Sciences, Massachusetts Institute of Technology, 1985 (R.G. Burns, supervisor).

Research Assistant, Department of Earth, Atmospheric, and Planetary Sciences, Massachusetts Institute of Technology, 1980-1985.

Research Staff, Chevron Oil Field Research Company, La Habra, CA, summer, 1982.

Assistant Instructor, Indiana University Geologic Field Station, Cardwell, MO, summer, 1980.

Professional Societies:

Association for Women Geoscientists
Mineralogical Society of America
Geochemical Society
American Geophysical Union
Council for Undergraduate Research
Meteoritical Society

Honors:

Sigma Xi, 1980
1984 Mineralogical Society of America (M.S.A.) Grant for Research in Crystallography
1990-1991 National Lecturer, Mineralogical Society of America
Outstanding Service Award, Mineralogical Society of America, 1991
Fellow, Mineralogical Society of America, 1995
Girls' Incorporated, Holyoke, Massachusetts, Honoree, 1 April, 2004

Professional Service:

M.S.A. Research Grants Committee, 1991
M.S.A. Science Grants Committee, 1991
The Geochemical Society Program Committee, 1991-1994
National Science Foundation Instrumentation and Laboratory Instruction Panel, 1988 and 1992
National Science Foundation Undergraduate Curriculum and Course Development Panel, 1991
National Science Foundation Workshop: The Role of Faculty in the Disciplines in the Undergraduate Education of Future Teachers, invited participant, contributor to working paper, 1992
Program Committee, Geological Society of America National Meetings, 1992-1994
American Geophysical Union Workshop: Shaping the Future of Undergraduate Earth Science Education, invited participant and contributor to working paper, 1996
M.S.A. Lecture Program Committee, 1998-2000; Chair 1999-2000
M.S.A. Crystallography Research Grant Committee 1998-1999
Council for Undergraduate Research (C.U.R.), Councillor, 1999-2000
American Geological Institute (A.G.I.) Outreach Committee, 2000-2003
Associate Editor, *American Mineralogist*, 2000-present
Review Panel, NASA Cosmochemistry program, 2001-present
Review Panel, NSF/NATO Postdoctoral Fellowship Program, 2002-2003
Judges Panel, Name the Rovers contest, 2003
Review Panel, NSF, CCLI Program, 2003
International Program Committee, Goldschmidt Conference, 2005
Review Panel, NSF, CCLI Program, 2004
Instrument Selection Review Panel, Mars Science Lander 2009, NASA, 2004
Executive Committee, AWIS National Meeting, 2005

College and University Service:

Structural Geologist Search Committee, University of Oregon (UO) 1987-1988
Chair, Affirmative Action Search Committee, UO, 1988
Chair, X-ray and Thin Section Committee, Dept. of Geological Sciences, UO, 1986-1987
Faculty Advisor, Condon Undergraduate Society, UO, 1986-1988
Affirmative Action Liaison, Dept. of Geological Sciences, UO, 1986-1989
Materials Science Institute Budget Committee, UO, 1987-1992
Treasurer, Materials Science Institute, UO, 1988-1992
Director, Materials Science Institute Research for Undergraduates Program, UO, 1988 & 1989
Physics Department Condensed Matter Search Committee, UO, 1988 and 1989
Graduate Teaching Fellow Coordinator, Dept. of Geological Sciences, UO, 1988-1989
Seismology Search Committee, Dept. of Geological Sciences, UO, 1988-1989
Volcanologist Search Committee, Dept. of Geological Sciences, UO, 1989-1990, 1990-1991
Telephone Counselor, Dept. of Geological Sciences, UO, 1990-1991
Chair, Displays Committee for Cascade Hall, UO, 1990-1993
Computer Coordinator, Dept. of Geological Sciences, UO, 1989-1993
Member, President's Task Force on Campus Infrastructure and Technology, UO, 1990-1992

Member, Committee on Campus Hazardous Waste Remediation, UO, 1988-1993
Member, University Library Committee, UO, 1987-1989
Member, Faculty Advisory to the Museum of Art, UO, 1989-1993
Chair, Faculty Advisory to the Museum of Art, UO, 1990-1993
Member, Departmental Computer Lab Managers, UO, 1989-1993
Board Member, Faculty Club of the University of Oregon, 1988-1993
Secretary-Treasurer, Faculty Club of the University of Oregon, 1989-1990
Member, Docent Council, University of Oregon Museum of Art, 1988-1993
Member, Board of Governors, University of Oregon Museum of Art, 1988-1993
Member, Curriculum Committee, Dept. of Geology and Astronomy, WCU, 1993-present
Member, College of Arts and Sciences Recruitment Committee, WCU, 1994-1995Internship Coordinator, Dept. of Geology & Astronomy, WCU, 1993-present[1]
Member, Undergraduate Review Committee, Dept. of Geology & Astronomy, WCU, 1993-1998
Member, Graduate Review Committee, Dept. of Geology & Astronomy, WCU, 1994-1998
Member, Radiation Safety Committee, Mount Holyoke College, 1999-present
Member, Curriculum Committee, Five College Astronomy Department, 1999-present
Member, Fellowship Committee, Mount Holyoke College, 2002-present.
Member, Planning and Budget Committee, 2003-2004.
Chair, Fellowship Committee, Mount Holyoke College, 2003-2006.

Courses Taught or in the Planning Stages:

Mineralogy I and II (including crystallography, optics, and systematic mineralogy)
Igneous and Metamorphic Petrology
Introduction to Earth History (historical geology)
Introduction to Geology (physical geology)
Planet Earth (introductory geology/planetary science)
Geochemistry (graduate and undergraduate)
Spectroscopy (graduate and undergraduate)
Geometrics (applications of statistical methods)(graduate and undergraduate)
Planetary Science (100 and 200 level)
Planetary Science seminar on Mars (300 level)
Spectroscopy of the Planets (300 level)
Meteorites (200 level)

Books and Electronic Media:

Dyar, M.D. and Gunter, M.E. (2007) *Mineralogy and Optical Mineralogy*. Mineralogical Society of America (in press)

Dyar, M.D. (1999) *Hands-On Mineral Identification*. CD-ROM. Tasa Graphic Arts, Inc., Albuquerque, N.M.

Dyar, M.D., Busch, R.M., and Wiswall, G. (1997, 1998) *The Study of Minerals*. CD-ROM. Tasa Graphic Arts, Inc., Albuquerque, N.M.

Dyar, M.D., McCammon, C.A., and Schaefer, M.W., Eds. (1996) *Mineral Spectroscopy: A Tribute to Roger G. Burns*. Special Publication #5, The Geochemical Society, Washington, D.C., 400 pp.

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[1]Maternity leave from West Chester University was taken during the academic years 1995-1996 and 1997-1998.

Papers:

1. Dyar, M.D., and Burns, R.G., (1981) Coordination chemistry of iron in glasses contributing to remote-sensed spectra of the moon. *Proc. Lunar and Planet. Sci. Conf.*, **12B**, 695-702.
2. Burns, R.G. and Dyar, M.D. (1983) Spectral chemistry of green glass-bearing 15426 regolith. Proc. Lunar and Planet. Sci. Conf., 14, *J. Geophys. Res.*, **88**, B221-B228.
3. Dyar, M.D., and Birnie, D.P. (1984) The effects of quench media on iron partitioning and ordering in a lunar glass. Proc. 1st Intl. Conf. on Glass in Planet. and Geolog. Phenomena, *J. Non-Cryst. Sol.*, **67**, 397-412.
4. Stone, A.J., Parkin, K.M., and Dyar, M.D. (1984) STONE: a program for resolving Mössbauer spectra. DEC Users Soc. 11-720, Marlboro, Mass.
5. Dyar, M.D. (1984) Precision and interlaboratory reproducibility of measurements of the Mössbauer effect in minerals. *Amer. Mineral.*, **69**, 1127-1144.
6. Dyar, M.D. (1984) Experimental methods for quenching structures in lunar-analog silicate melts: variations as a function of quench media and composition. Proc. Lunar and Planet. Sci. Conf., 15, *J. Geophys. Res.*, **84**, supplement, C233-C239.
7. Dyar, M.D. (1985) A review of Mössbauer data on inorganic glasses: the effects of composition on iron valency and coordination. *Amer. Mineral.*, **70**, 304-316.
8. Birnie, D.P., and Dyar, M.D. (1986) Cooling rate calculations for silicate glasses. Proc. Lunar and Planet. Sci. Conf., 16, *J. Geophys. Res.*, **91(B4)**, D509-D513.
9. DeGuire, M.R., Dyar, M.D., O'Handley, R.C., and Kalongi, G. (1986) Magnetic ordering in splat-quenched ferrite-silica compositions. *J. Magn. Magn. Mater.*, **54-57**, 1337-1338.
10. Dyar, M.D., and Burns, R.G. (1986) Mössbauer spectral study of ferruginous one-layer trioctahedral micas. *Amer. Mineral.*, **71**, 951-961.
11. Dyar, M.D. (1986) Practical application of Mössbauer goodness-of-fit parameters for evaluation of real experimental results: a reply. *Amer. Mineral.*, **71**, 1266-1267.
12. DeGuire, M.R., O'Handley, R.C., Kalongi, G., and Dyar, M.D. (1986) Spinel ferrite-silica glass obtained by splat quenching. *J. Non-Cryst. Sol.*, **81**, 351-364.
13. Dyar, M.D. (1986) Comment on ferric/ferrous Mössbauer analysis of simulated nuclear waste glass with and without computer fitting. *Commun., Am. Cer. Soc.*, **69(7)**, C-160-C-162.
14. Dyar, M.D. (1987) A review of Mössbauer data on trioctahedral micas: evidence for tetrahedral Fe^{3+} and cation ordering. *Amer. Mineral.*, **72**, 102-112.
15. Dyar, M.D., Naney, M.T., and Swanson, S.E. (1987) Effects of quench methods on Fe^{3+}/Fe^{2+} ratios: a Mössbauer and wet chemical study. *Amer. Mineral.*, **72**, 792-800.
16. Fudali, R.F., Dyar, M.D., Griscom, D.L., and Schreiber, H.D. (1987) The oxidation state of iron in tektite glass. *Geochim. Cosmochim. Acta.*, **51(10)**, 2749-2756.
17. Dyar, M.D., and Naney, M.T. (1988) Effects of quench methods on Fe^{3+}/Fe^{2+} ratios: Reply. *Amer. Mineral.*, **73**, 1479.
18. Dyar, M.D. (1989) Application of Mössbauer goodness-of-fit parameters to experimental spectra: Further discussion. *Amer. Mineral.*, **74**, 688.
19. [2]McGuire, A.V., Dyar, M.D., and Ward, K.W. (1989) Neglected Fe^{3+}/Fe^{2+} ratios: a study of Fe^{3+} contents of megacrysts from alkali basalts. *Geology*, **17**, 687-689.
20. Dyar, M.D., McGuire, A.V., and Ziegler, R.D. (1989) Redox equilibria and crystal chemistry of coexisting minerals from spinel lherzolite mantle xenoliths. *Amer. Mineral.*, **74**, 969-980.
21. Dyar, M.D. (1990) Mössbauer spectra of biotite from metapelites. *Amer. Mineral.*, **75**, 656-666.
22. Guidotti, C.V., and Dyar, M.D. (1991) Ferric iron in metamorphic biotite and its petrologic and crystallochemical implications. *Amer. Mineral.*, **76**, 161-175.

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[2]Names of undergraduate coauthors are underlined.

23. Dyar, M.D., Perry, C.P., Rebbert, C.R., Dutrow, B., Holdaway, M.J., and Lang, H. (1991) Mössbauer spectroscopy of synthetic and naturally occurring staurolites. *Amer. Mineral.*, **76**, 27-41.
24. Burns, R.G., and Dyar, M.D. (1991) Crystal chemistry and Mössbauer spectra of babingtonite. *Amer. Mineral.*, **76**, 892-899.
25. Dyar, M.D., Colucci, M.T., and Guidotti, C.V. (1991) Forgotten major elements: Hydrogen and oxygen variation in biotite from metapelite. *Geology*, **19**, 1029-1032.
26. Holdaway, M.J., Mukhopadhyay, B., Dyar, M.D., Dutrow, B.L., Rumble, D. III., and Grambling, J. (1991) A new perspective on staurolite crystal chemistry: Use of stoichiometric and chemical end-members for a mole fraction model. *Amer. Mineral.*, **76**, 1910-1919.
27. McGuire, A.V., Dyar, M.D., and Nielson, J.E. (1991) Metasomatic oxidation of upper mantle peridotite. *Contrib. Min. Petrol.*, **109**, 252-264.
28. Dyar, M.D., Mackwell, S.M., and McGuire, A.V. (1992) Fe^{3+}/H^{+} and D/H in mantle kaersutites - Misleading indicators of mantle source fugacities. *Geology*, **20**, 565-568.
29. Dyar, M.D., McGuire, A.V., and Harrell, M.D. (1992) Crystal chemistry of iron in two styles of metasomatism in the upper mantle. *Geochim. Cosmochim. Acta*, **56**, 2579-2586.
30. Banfield, J.M., Dyar, M.D., and McGuire, A.V. (1992) The defect microstructure of oxidized mantle olivine from Dish Hill, California. *Amer. Mineral.*, **77**, 959-975.
31. McGuire, A.V., Francis, C.A., and Dyar, M.D. (1992) Mineral standards for electron microprobe analysis of oxygen. *Amer. Mineral.*, **77**, 1087-1091.
32. Holdaway, M.J., Gunst, R.F., Mukhopadhyay, B., and Dyar, M.D. (1993) Staurolite end member molar volumes determined from unit-cell measurements of natural specimens. *Amer. Mineral.*, **78**, 56-67.
33. O'Hanley, D.S., and Dyar, M.D. (1993) The crystal chemistry of lizardite and the formation of magnetite. *Amer. Mineral.*, **78**, 391-407.
34. Dyar, M.D. (1993) Mössbauer spectroscopy of tetrahedral Fe^{3+} in trioctahedral micas - Discussion. *Amer. Mineral.*, **78**, 665-668.
35. Dyar, M.D., Guidotti, C.V., Holdaway, M.J., and Colucci, M. (1993) Non-stoichiometric hydrogen contents in common rock-forming hydrous silicates. *Geochim. Cosmochim. Acta.*, **57**, 2913-2918.
36. Dyar, M.D., Mackwell, S.M., McGuire, A.V., Cross, L.R., and Robertson, J.D. (1993) Crystal chemistry of Fe^{3+} and H^{+} in mantle kaersutites: Implications for mantle metasomatism. *Amer. Mineral.*, **78**, 968-979.
37. Dyar, M.D. (1993) Instructional innovation. In The role of geosciences faculty in the undergraduate education of science and mathematics teachers. In *Proceedings, National Science Foundation Workshop, Role of Faculty from the Science Disciplines in the Undergraduate Education of Future Sciences and Mathematics Teachers,* 208-210.
38. Guidotti, C.V., Yates, M.G., Dyar, M.D., and Taylor, M. (1994) Petrogenetic implications of Fe^{3+} content of muscovite in pelitic schists. *Amer. Mineral.*, **79**, 793-795.
39. Earley, D., Dyar, M.D., Ilton, E.S., and Granthem, A.A. (1995) The influence of structural fluorine on biotite oxidation in copper-bearing, aqueous solutions at low temperatures and pressures. *Geochim. Cosmochim. Acta.*, **59**, 2423-2433.
40. Hower, J.C., Graham, U.M., Dyar, M. D., Taylor, M.E., and Rathbone, R.F. (1995) Approaches to the study of iron distribution among phases in high- and low-sulfur coal fly ash. In *Coal - Energy and the Environment*, S.-H. Chiang, ed., Proceedings 12th Ann. Pittsburg Coal Conference, 1138-1143.
41. Dyar, M.D., Treiman, A.H., Beauchamp, P.M., Blaney, D.L., Kim, S.S., Klingelhoefer, G., Mehall, G., Morris, R.V., Ninkov, Z., Sprague, A.L., Zolensky, M., and Pieters, C. (1995) Mineralogy. In Morris, C. and Treiman, A. H., eds., *Planetary Surface Instrumentation Workshop, Lunar and Planetary Institute, Tech. Rep.* 95-05, 65-84.

42. Dyar, M.D., Martin, S.V., Mackwell, S.J., Carpenter, S., Grant, C.A., and McGuire, A.V. (1996) Crystal chemistry of Fe^{3+}, H^{+}, and D/H in mantle-derived augite from Dish Hill: Implications for alteration during transport. In: M.D. Dyar, C.A. McCammon, and M. Schaefer, eds., *Mineral Spectroscopy: A Tribute to Roger G. Burns*, Special Publication #5, The Geochemical Society, 273-289.
43. Delaney, J.S., Bajt, S., Sutton, S.R., and Dyar, M.D. (1996) *In situ* microanalysis of $Fe^{3+}/\Sigma Fe$ ratios in amphibole by X-ray Absorption Near Edge Structure (XANES) spectroscopy. In: M.D. Dyar, C.A. McCammon, and M. Schaefer, eds., *Mineral Spectroscopy: A Tribute to Roger G. Burns*, Special Publication #5, The Geochemical Society, 170-177.
44. Robertson, J.D., and Dyar, M.D. (1996) Nuclear methods for analysis of boron in minerals. In: E.S. Grew and L.M. Anovitz, eds., *Boron: Mineralogy, Petrology, and Geochemistry in the Earth's Crust. Reviews in Mineralogy*, vol. 32, Mineralogical Society of America, 805-820.
45. Holdaway, M.J., Mukhopadhyay, B., Dyar, M.D., Guidotti, C.V., and Dutrow, B.L. (1997) Garnet-biotite geothermometry revised: New Margules parameters and a natural specimen data set from Maine. *Amer. Mineral.*, **82**, 582-595.
46. Bettison-Varga, L., Burger, R., Creasy, J., Dyar, D., Knight, P., Shapiro Ledley, T., and McManus, D. (1996) How should we integrate research and education? In: M.F.W. Ireton, C.A. Manduca, and D.A. Mogk, Eds., *Shaping the Future of Undergraduate Earth Science Education*, American Geophysical Union, 29-32.
47. Dyar, M.D. (1997) Color in minerals. In: J.B. Brady, Mogk, D.W., and Perkins, D., eds., *Teaching Mineralogy*, Mineralogical Society of America, 323-348.
48. Smyth, J.R., Dyar, M.D., May, H.M., Bricker, O.P., and Acker, J.G. (1997) Crystal structure refinement and Mössbauer spectroscopy of an ordered, triclinic clinochlore. *Clays Clay Mins.*, **45**, 544-550.
49. Delaney, J.S., Dyar, M.D., Sutton, S.R., and Bajt, S. (1998) Redox ratios with relevant resolution: Solving an old problem using the Synchrotron microXANES probe. *Geology*, **26**, 139-142.
50. Dyar, M.D., Taylor, M.E., Lutz, T.M., Francis, C.A., Robertson, J.D., Cross, L.M., Guidotti, C.V., and Wise, M. (1998) Inclusive chemical characterization of tourmaline: Mössbauer study of Fe valence and site occupancy. *Amer. Mineral.*, **83**, 848-864.
51. O'Hanley, D.S., and Dyar, M.D. (1998) The composition of chrysotile: integration of Mössbauer and electron microprobe data and the relationship between chrysotile and lizardite. *Canad. Mineral.*, **36**, 727-739.
52. Dyar, M.D., Delaney, J.S., Sutton, S.R., and Schaefer, M.W. (1998) Fe^{3+} distribution in oxidized olivine: A synchrotron micro-XANES study. *Amer. Mineral.*, **83**, 1361-1365.
53. Dyar, M.D., Guidotti, C.V., Core, D.P., Wearn, K.M., Wise, M.A., Francis, C.A., Johnson, K., and Brady, J.B. (1999) Stable isotope and crystal chemistry of tourmaline across pegmatite - country rock boundaries at Black Mountain and Mount Mica, southwestern Maine, U.S.A. *Euro. J. Mineral.*, **11**, 281-294.
54. Bloodaxe, E.S., Hughes, J.M., Dyar, M.D., Grew, E.S., and Guidotti, C.V. (1999) Linking structure and chemistry in the schorl-dravite series. *Amer. Mineral.,* **84**, 922-928.
55. Tagg, S.L., Cho, H., Dyar, M.D., and Grew, E.S. (1999) Tetrahedral boron in naturally-occurring tourmaline. *Amer. Mineral.*, **84**, 1451-1455.
56. Francis, C.A., Dyar, M.D., and Williams, M. (2000) The occurrence and crystal structure of foitite from a tungsten-bearing vein at Copper Mountain, Taos County, New Mexico. *Canad. Mineral.*, **37**(6), 1431-1438.
57. Carpenter, S., Mackwell, S.J., and Dyar, M.D. (2000) Hydrogen in diopside: Diffusion profiles. *Amer. Mineral.*, **85**, 480-487.
58. King, P.L., Hervig, R.L., Holloway, J.R., Delaney, J.S., and Dyar, M.D. (2000) Partitioning of Fe^{3+}/Fe_{total} between amphibole and basanitic melt as a function of oxygen fugacity. *Earth Planet. Sci. Lets.*, 178, 97-112.

59. Hughes, J.M., Ertl, A., Dyar, M.D., Grew, E.S., Shearer, C.K., Yates, M.G., and Guidotti, C.V. (2000) Tetrahedrally coordinated boron in a tourmaline: Boron-rich olenite from Stoffhütte, Koralpe, Austria. *Canad. Mineral.*, 38, 861-868.
60. Hughes, K.-A., Hughes, J.M., and Dyar, M.D. (2001) Chemical and structural evidence for $^{[4]}B$ <-> $^{[4]}Si$ substitution in natural tourmalines. *Eur. J. Mineral.*, 13, 743-747.
61. Dyar, M.D. Delaney, J.S., and Sutton, S.R. (2001) Fe XANES spectra of iron-rich micas. *Eur. J. Mineral.*, 13, 1079-1098.
62. Righter, K., Dyar, M.D., Delaney, J.S., Vennemann, T.W., and Hervig, R.L. (2002) Correlations of octahedral cations with OH^-, O^{2-}, Cl^-, and F^- in biotite from volcanic rocks and xenoliths. *Amer. Mineral.*, 142-153.
63. Dyar, M.D., Wiedenbeck, M., Robertson, J.D., Cross, L.R., Delaney, J.S., Ferguson, K., Francis, C.A., Grew, E.S., Guidotti, C.V., Hervig, R.L., Hughes, J.M., Husler, J., Leeman, W., McGuire, A.V., Rhede, D., Rothe, H., Paul., R.L., Richards, I., and Yates, M. (2002) Reference minerals for microanalysis of light elements. *Geostand. Newslet.*, **25**, 441-463.
64. Dyar, M.D. (2002) Optical and Mössbauer spectroscopy of iron in micas. In Mottana, A., and Sassi, F., *Advances in Micas*, Mineralogical Society of America and The Geochemical Society, *Reviews in Mineralogy and Geochemistry*, **46**, 313-349.
65. Mottana, A., Marcelli, A., Cibin, G., and Dyar, M.D. (2002) X-ray absorption spectroscopy of the micas. In Mottana, A., and Sassi, F., *Advances in Micas*, Mineralogical Society of America and The Geochemical Society, *Reviews in Mineralogy and Chemistry*, **46**, 371-412.
66. Dyar, M.D., Lowe, E.W., Guidotti, C.V., and Delaney, J.S. (2002) Fe^{3+} and Fe^{2+} partitioning among silicates in metapelites: A synchrotron micro-XANES study. *Amer. Mineral.,,* **87**, 514-522.
67. Johnson, E.R., Rossman, G.R., Dyar, M.D., and Valley, J.W. (2002) Correlation between OH concentration and oxygen isotope diffusion rate in diopsides from the Adirondack Mountains, New York. *Amer. Mineral.*, **87**, 899-908.
68. Aja, S.U., and Dyar, M.D. (2002) The stability of Fe-Mg chlorites in aqueous hydrothermal solutions: I. Results of experimental investigations between 25 and 200 °C and $P_v = P_{H20}$. *Appl. Geochem.*, **17**, 1219-1239.
69. Dyar, M.D., Gunter, M.E., Delaney, J.S., Lanzarotti, A., and Sutton, S.R. (2002) Use of the spindle stage for orientation of single crystals for microXAS: Isotropy and anisotropy in Fe-XANES spectra. *Amer. Mineral.,* **87**, 1500-1504.
70. Dyar, M.D., Gunter, M.E., Delaney, J.S., Lanzarotti, A., and Sutton, S.R. (2002) Systematics in the structure and XANES spectra of pyroxenes, amphiboles, and micas. *Canad. Mineral.*, **40**, 1375-1393.
71. Bishop, J., Murad, E., and Dyar, M.D. (2002) The influence of octahedral and tetrahedral cation substitution on the structure of smectites and serpentines as observed through infrared spectroscopy. *Clay Mins.,* **37**, 617-628.
72. Petersen, O.V., Francis, C.A., Dyar, M.D., and Rosing, M.T. (2002) Dravite from Qârusulik, Ameralik Fjord, southern West Greenland: a forgotten classic tourmaline occurrence. *extraLapis English*, 3, 42-46.
73. Gunter, M.E., Dyar, M.D., Twamley, B., Foit, F.F. Jr., and Cornelius, S.B. (2003) Composition, $Fe^{3+}/\Sigma Fe$, and crystal structure of non-asbestiform and asbestiform amphiboles from Libby, Montana, U.S.A. *Amer. Mineral.*, 88, 1944-1952.
74. Dyar, M.D. (2003) Ferric iron in SNC meteorites as determined by Mössbauer spectroscopy: Implications for martian landers and martian oxygen fugacity. *Meteor. Planet. Sci.,* 38, 1733-1752.
75. Ertl, A., Hughes, J.M., Brandstätter, F., Dyar, M.D., and Prasad, P.S.R. (2003) Disordered Mg-bearing olenite from a granitic pegmatite at Goslarn, Austria: A chemical, structural, and infrared spectroscopic study. *Canad. Mineral.*, 41, 1363-1370.
76. Dyar, M.D., and Schaefer, M.W. (2004) Mössbauer spectroscopy on the surface of Mars: constraints and expectations. *EPSL,* 218, 243-259.

77. Dyar, M.D., Gunter, M.E., Davis, J.D., and Odell, M.R.L. (2004) Integration of new methods into teaching mineralogy. *J. Geosci. Educ.,* 52, 23-31.
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