

## Biographical Sketch

### John M. Hughes

#### (a) Professional Preparation

Franklin & Marshall College	Geology	A.B. 1975
Dartmouth College	Earth Sciences	A.M. 1978, Ph.D. 1981
Carnegie Institution of Washington	Geophysical Laboratory	Predoctoral Fellow, 1980

#### (b) Appointments

- 2006 – Present: Professor, Dept. of Geology, University of Vermont  
2006 – 2009: Provost and Senior Vice President, University of Vermont  
2003 – 2006: Associate Provost, Research & Scholarship, and Graduate Dean, Miami University  
2000 – 2002: Associate Dean, College of Arts and Science, Miami University  
1999 – 2000: Interim Associate Dean, College of Arts and Science, Miami University  
1992 – 1999: Chair, Dept. of Geology, Miami University  
1987 – 1992: Associate Chair, Dept. of Geology, Miami University  
1981 – 2006: Assistant Professor to Professor, Miami University.  
1980 – 1981: Predoctoral Fellow, Carnegie Institution of Washington

**Summary:** Professor Hughes was privileged to have a 25-year career as a Professor and Administrator at Miami University, where for 20 years he also directed a single-crystal diffractometer laboratory. In 2006 he moved to the UVM, where he has concluded a three-year term as Provost and Senior Vice President and will be returning to the faculty after a one-year sabbatical. During his administrative career he has remained active in funded research, teaching, student advising and as an officer of the Mineralogical Society of America.

#### (c) Publications (\*denotes student coauthor)

(i) Five publications relevant to this project

1. Kohn, M., J.F. Rakovan and J.M. Hughes, Eds. (2002) *Phosphates: Geochemical, Geobiological and Materials Importance*. Reviews in Mineralogy Series, Volume 48. Mineralogical Society of America, Washington, DC, 742 + xvi pp.
2. Hughes, J.M., Jolliff, B.L., and Gunter, M.E. (2006) The atomic arrangement of merrillite from the Fra Mauro Formation, Apollo 14 lunar mission: The first structure of merrillite from the Moon. *American Mineralogist*, 91, 1547-1595.
3. Hughes, J.M., Jolliff, B.L., and Rakovan, J. (2008) The crystal chemistry of whitlockite and merrillite and the dehydrogenation of whitlockite to merrillite. *American Mineralogist*, 93, 1300-1305.
4. Hughes, J.M., Wise, W.S., Gunter, M.E., Morton, J.P., and Rakovan, J. (2008) Lasalite,  $\text{Na}_2\text{Mg}_2(\text{V}_{10}\text{O}_{28}) \cdot 20\text{H}_2\text{O}$ , a new decavanadate mineral from the Vanadium Queen Mine, la sal District, Utah: mineral description, atomic arrangement, and relationship to the pascoite group of minerals. *Canadian Mineralogist*, 46, 1623-1630.
5. Luo\*, Y., Hughes, J.M., Rakovan, J., and Pan, Y. (2009) Site preference of U and Th in Cl, F, Sr apatites. *American Mineralogist*, 94, 345-351.

#### (ii) Five other significant publications

1. Ertl, A., Dyar, M.D., Hughes, J.M., Brandstatter, F., Gunter, M.E., and Prem, M. (2008) Pertlikite, a new tetragonal Mg-rich member of the voltaite group from Madeni Zakh, Iran. *Canadian Mineralogist*, 46, 661-669.
2. Ertl, A., Rossman, G.R., Hughes, J.M., Brandstätter, F. (2008)  $\text{V}^{3+}$ -bearing, Mg-rich strongly disordered olenite from a graphite deposit near Amstall, Lower Austria: A structural, chemical and spectroscopic investigation. *Neues Jahrbuch Mineralogie*, 184, no. 3, 243-253.

3. Ertl, A., Hughes, J.M., Prowatke, S., Ludwig, T., Brandstatter, F., Korner, W., and Dyar, M.D. (2007) Tetrahedrally-coordinated boron in Li-bearing olenite from “mushroom” tourmaline from Momeik, Myanmar: Structure and Chemistry. *Canadian Mineralogist*, 45, 891-899.
4. Jolliff, B.L., Hughes, J.M., Freeman, J.J., and Zeigler, R.A. (2006) Crystal chemistry of lunar merrillite and comparison to other meteoritic and planetary suites of whitlockite and merrillite. *American Mineralogist*, 91, 1583-1595.
5. Ertl, A., Hughes, J.M., Prowatke, S., Ludwig, T., Prasad, P.S.R., Brandstatter, F., Korner, W., Schuster, R., Pertlik, F., and Marschall, H. (2006) Tetrahedrally-coordinated boron in tourmalines from the liddicoatite-elbaite series from Madagascar: Structure, chemistry, and infrared spectroscopic studies. *American Mineralogist*, 91, 1847-1856.

**(d) Synergistic Activities (representative examples)**

*(i) Course Curriculum Development*

- Published (John Wiley and Sons) a nationally-distributed laboratory manual and instructor supplement.
- Held NSF grant for restructuring Physical Geology laboratories.

*(ii) Broadening participation in STEM fields*

- Program Leader, Minorities in Math, Science, and Engineering Program, 1997 – 2001.
- Diversity Seminar (IDS 151) Facilitator, 2000, 2001.
- Ph.D. mentor for disabled, wheelchair-bound student.
- REU Supplement to support research of Jennifer M. Bell.
- Miami University representative for the Ohio Louis Stokes Alliance for Minority Participation.

*(iii) Student Research Opportunities*

- Published 55 papers and six abstracts with graduate student coauthors, seven papers and two abstracts with undergraduate coauthors.
- Organizing Committee for the Miami University Student Research Conferences.

*(iv) Outreach*

- Numerous scientific outreach efforts in roles as Provost and Senior Vice President, Associate Provost and Graduate Dean, Associate Dean, and Geology Department Chair.

*(v) Service*

- Reviewed grant proposals for NSF.
- Treasurer, Mineralogical Society of America, 2004-2008.
- Executive Committee, Mineralogical Society of America, 2004-2008.
- Associate Editor for *American Mineralogist*, *Canadian Mineralogist* (2 terms).
- Executive Committee, *Elements*, *An International Magazine of Mineralogy, Geochemistry, and Petrology*, 2004 to 2008.
- Review manuscripts for numerous scientific journals.

**(e) Collaborators & Other Affiliations**

a. Collaborators in the last 48 months

**Grants:** Christopher Cahill, John Rakovan; **Publications:** Bernhardt, H.-J., Brandstätter, F., Cempírek, J., Dyar, M.D., Ellison, C., Ertl, A., Francis, C.A., Freeman, J.J., Fritz, E.A., Fuchs, Y., Giester, G., Gunter, M.E., Harms, B.S., Henry, D., Jolliff, B.L., Kolitsch, U., Körner, W., Lengauer, C., London, D., Ludwig, T., Luo, Y., Lupulescu, M.V., Novák, M., Mali, H., Marschall, H., Morgan, VI, G.B., Morton, J.P., Ntaflos, T., O’Leary, J.A., Schuster, R., Pan, Y., Pertlik, F., Pieczka, A., Postl, W., Prasad, P.S.R., Prem, M., Prowatke, S., Rakovan, J., Robinson, G.W., Rossman, G. R., Schindler, M., Tillmann, S., Tillmanns, T., Todd, H.D., Wang, Y., Wise, W.S., Zeigler, R.A.

b. Graduate Advisors: **Dartmouth College:** Richard Stoiber (deceased), Richard Birnie; **Geophysical Laboratory:** Larry Finger, Robert Hazen.