

## LOUISE M. EGERTON-WARBURTON

## Curriculum Vitae

Chicago Botanic Garden  
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Glencoe IL 60022

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**EDUCATION:**

Fulbright Postdoctoral Fellow Soil and fungal ecology	University of California, Riverside	1994- 1997
Ph.D., Environmental Biology Dissertation: Soil-plant relationships of <i>Eucalyptus</i> species in acidic coal mining soils. Adviser: Byron B. Lamont	Curtin University of Technology, Australia	1994
B.S., Biology (Highest Honors) Minor: Statistics	Curtin University of Technology, Australia	1989
B.S., Nursing Clinical specialty: Operating Theater	Western Australian School of Nursing	1984
<b>APPOINTMENTS:</b>		
Director, Research Experiences for Undergraduates (REU) site in Plant Conservation and Biology	Chicago Botanic Garden	2004- 2010
Adjunct Assistant Professor of Biology	Northwestern University	2003- present
Conservation Scientist, Soil and Microbial Ecology, <i>and</i> Manager, Soil Sciences Program	Chicago Botanic Garden	2001- present
Assistant Researcher, Soil Microbial Ecology	University of California, Riverside	1999-2001
Post-doctoral Research Fellow, Cell & Molecular Biology, Nanotechnology	University of Melbourne, Australia	1998-1999
<b>TEACHING APPOINTMENTS:</b>		
Instructor, <sup>§</sup> Field and Lab Methods in Conservation Biology (PBC499)	Northwestern University	2009- present
Instructor, <sup>§</sup> Soils and Environment (PBC448), Fall quarter	Northwestern University	2008
Guest lecturer, Introductory Mycology Winter quarter	University of Wisconsin, Madison	2008
Guest lecturer, <sup>§</sup> Ecosystem Ecology (PBC442) Offered Fall quarter	Northwestern University	2007

Instructor, §Soil Ecology (PBC440), Fall quarter	Northwestern University	2006-present
Instructor, *Field Botany and Ecology	Chicago Botanic Garden-Loyola University certificate program	2004
Guest Lecturer, §Natural Resources 410	University of Illinois, Urbana-Champaign	2004
Guest Lecturer, *Biology 290: Research in Biology	Oakton Community College	2002-2003
Instructor, §Horticultural Botany	Curtin University of Technology, Australia	1993
Teaching Assistant, *Ecology, *Plant Biology, §Plant Physiology, *Biometry, *Animal Biology, §Horticultural Botany	Curtin University of Technology, Australia	1988-1994
Teaching Assistant, *Botany	Edith Cowan University, Australia	1992-1993

\*Lower division course; § upper division or graduate course.

#### **ADDITIONAL PROFESSIONAL EXPERIENCE:**

Registered Nurse	Kellerberrin Memorial Hospital, Australia	1987
Registered Nurse	Kalgoorlie Regional Hospital, Australia	1985-1987
Nursing practicum	Royal Perth Hospital, Australia	1981-1984

#### **AWARDS, HONORS AND FELLOWSHIPS:**

BBSRC Post-doctoral Fellowship	Cambridge University, England (declined)	1995-1998
Fulbright Fulbright Post-doctoral Fellowship	Australian- American Education Foundation	1994-1997
The David Goodchild Prize for Biological Microscopy	Australian Society for Electron Microscopy For outstanding contributions to biological electron microscopy by a young investigator.	1994
The Australian Mining Industry Council Medal for Environmental Research	Australian Mining Industry Council For outstanding contributions to restoration practices by a young investigator.	1992
Commonwealth Forestry Graduate Research Fellowship	Australian government, national competitive grant program	1990- 1993
Australian Research Council Graduate Scholarship	Australian government, national competitive grant program (declined)	1990- 1993
Graduated first in class in the Environmental Biology (Honors) program		1989

Australian Minerals Consolidated Prize	Academic merit prize- best senior student	1989
Alcoa of Australia Prize	Academic merit prize- best junior student	1988
Worsely Alumina Prize	Academic merit prize- best sophomore student	1987

#### **COMPETITIVE GRANTS AWARDED AND PENDING:**

NSF, Large Equipment, 'CryoCluster' grant for low temperature electron microscopy equipment (co-PI, \$1,000,000)		Pending
Northwestern University ISEN program, Fungal macromolecules in carbon sequestration and facilitating electron transfer (co-PI, \$45,000)		2010-2011
NSF, Research Experiences for Undergraduates (REU) Site, Plant Biology and Conservation: Genes to Ecosystems (PI, \$272,000)		2007-2010
Chicago Wilderness Small Grants Program, The role of mycorrhizal fungi in the invasion of exotic plant species in prairies (PI, \$15,000)		2006-2007
NSF, Integrative Graduate Education and Research Traineeship (IGERT), Ecology at the Urban Interface 2006-2011 with the University of Illinois (Core faculty, ~\$3,000,000)		2006-2011
NASA commercialization grant, Polarization sensing of fertilization effects, with Containerless Research, Inc., Evanston, IL (Co-PI, \$100,000)		2005
National Council on Science for Sustainable Forestry, Biodiversity implications of post-fire recovery strategies in the California chaparral (PI, \$50,000)		2004-2005
NSF, Research Experiences for Undergraduates (REU) Site, Plant Conservation and Biology (Co-PI, \$234,008)		2004-2006
USDA Forest Services, National Urban Council Forestry Advisory Committee Anthropogenic nitrogen deposition and mycorrhizae in urban and rural forests (PI, \$102,520)		2003-2005
NSF, SBIR Phase I, Polarization sensing of stress levels in vegetation, with Containerless Research, Evanston, IL (Co-PI, \$100,000).		2003
NSF, SGER, Immediate post-fire response of soil biological and pedogenic properties at the San Dimas lysimeters biosequence, with Robert C. Graham (University of California) and Paul F. Hendrix (University of Georgia; co-PI, \$52,000)		2003
University of California Shipley-Skinner Endowment, 'Co-adaptation between plants and their mycorrhizae, (Co-PI, \$26,500)		2001
Australian Research Council, 'Mycorrhizae and the restoration of terrestrial orchids', (PI, \$185,000)		2000-2003
NSF, 'Common mycorrhizal networks: active or passive channels? Collaborator with The University of California, Davis, and Southern Oregon University (~\$3,400,000)		1998-2004

#### **JOURNAL PUBLICATIONS:**

Querejeta, **Egerton-Warburton**, L.M., and Allen, M.F. (2009). Differential access to groundwater modulates the mycorrhizal responsiveness of oaks to inter-annual rainfall variability in a California woodland. *Ecology* **90**: 649-662.

**Egerton-Warburton, L.M., Querejeta, J.I., and Allen, M.F. (2008).** Efflux of hydraulically lifted water by mycorrhizal hyphae during imposed drought. *Plant Signaling and Behavior* **3**: 68-71. Invited paper.

**Egerton-Warburton, L.M., Johnson, N.C., and Allen, E.B. (2007).** Mycorrhizal community dynamics following nitrogen fertilization: a cross-site test in five grasslands. *Ecological Monographs* **77**: 527-544.

**Egerton-Warburton, L.M., Querejeta, J.I., and Allen, M.F. (2007).** Common mycorrhizal networks provide a potential pathway for the transfer of hydraulically lifted water between plants. *Journal of Experimental Botany* **58**: 1473-1483.

Plamboek, A.H., Dawson, T.E., **Egerton-Warburton, L.M.**, North, M., Bruns, T.D., and Querejeta, J.I. (2007). Water transfer via ectomycorrhizal fungal hyphae to conifer seedlings. *Mycorrhiza* **17**: 439-447.

Querejeta, J.I., **Egerton-Warburton, L.M.**, and Allen, M.F. (2007). Soil hyphal dynamics in a California coast live oak woodland during extreme summer drought. *Soil Biology and Biochemistry* **39**: 409-417.

Treseder, K.K., **Egerton-Warburton, L.M.**, Allen, M.F., Cheng, Y., and Oechel, W.C. (2003). Alteration of soil carbon pools and communities of mycorrhizal fungi in a chaparral community exposed to elevated CO<sub>2</sub>. *Ecosystems* **6**: 786-796.

Allen, E.B., Allen, M.F., **Egerton-Warburton, L.M.**, Corkidi, L., & Gomez-Pompa, A. (2003). Impacts of early- and late-seral mycorrhizae during restoration in seasonal tropical forest, Mexico. *Ecological Applications* **13**: 1701-1717.

Allen, M.F., Swenson, W., Querejeta, J.I., **Egerton-Warburton, L.M.**, & Treseder, K.K. (2003). Ecology of mycorrhizae: a conceptual framework for complex interactions among plants and fungi. *Annual Review of Phytopathology* **41**: 271-303. Invited review.

Johnson, N.C., Rowland, D.L., Corkidi, L., **Egerton-Warburton, L.M.**, & Allen, E.B. (2003). Nitrogen enrichment alters mycorrhizal allocation at five mesic to semiarid grasslands. *Ecology* **84**: 1895-1900.

**Egerton-Warburton, L.M.**, Graham, R.C., and Hubbert, K.R. (2003). Spatial variability in mycorrhizal hyphae and nutrient and water availability in a soil weathered bedrock profile. *Plant and Soil* **249**: 331-342.

Querejeta, J.I., **Egerton-Warburton, L.M.**, and Allen, M.F. (2003). Direct nocturnal water transfer from oaks to their mycorrhizal symbionts during severe soil drying. *Oecologia* **134**: 55-64. [Featured in *Science*, 24 October, 2002]

**Egerton-Warburton, L.M.**, Graham, R.C., Allen, E.B, and Allen, M.F. (2001). Reconstruction of the historical changes in mycorrhizal fungal communities under anthropogenic nitrogen deposition. *Proceedings of the Royal Society of London, Series B* **268**: 2479-2484.

**Egerton-Warburton, L.M.**, and Allen, M.F. (2001). Endo- and ectomycorrhizae in *Quercus agrifolia* Nee. (Fagaceae): patterns of root colonization and effects on seedling growth. *Mycorrhiza* **11**: 283-290.

- Egerton-Warburton, L.M., and Ghisalberti, E.L.** (2001). Isolation and structural identification of a germination inhibitor in fire-recruiters from the California chaparral. *Journal of Chemical Ecology* **27**: 371-382.
- Egerton-Warburton, L.M., and Allen, E.B.** (2000). Shifts in the diversity of arbuscular mycorrhizal fungi along an anthropogenic nitrogen deposition gradient. *Ecological Applications* **10**: 484- 496.
- Tieu, A., and **Egerton-Warburton, L.M.** (2000). Contrasting seed morphology dynamics in relation to the alleviation of dormancy with soil storage. *Canadian Journal of Botany* **78**: 1187-1198.
- Allen, M.F., **Egerton-Warburton, L.M., Allen, E.B. and Karen, Ô.** (1999). Mycorrhizae in *Adenostoma fasciculatum* Hook. & Arn.: a combination of unusual ecto- and endo- forms. *Mycorrhiza* **8**: 225- 228.
- Egerton-Warburton, L.M.** (1998). A smoke-induced alteration of the sub-testa cuticle in seeds of the post-fire recruiter, *Emmenanthe penduliflora* Benth. (Hydrophyllaceae). *Journal of Experimental Botany* **49**: 1317-1327.
- Egerton-Warburton, L.M., Balsamo, R.A., and Close, T.J.** (1997). Temporal accumulation and ultrastructural localization of dehydrins in *Zea mays* L. *Physiologia Plantarum* **101**: 545-555.
- Egerton-Warburton, L.M., Ghisalberti, E.L., and Burton, N.C.** (1998). Intergeneric hybridism in *Chamelaucium* and *Verticordia* (Myrtaceae) based on analysis of essential oils and morphology. *Australian Journal of Botany* **46**: 201-208.
- Egerton-Warburton, L.M., Ghisalberti, E.L., and Considine, J.A.** (1998). Intraspecific variability of the volatile leaf oils in *Chamelaucium uncinatum* Schauer (Myrtaceae). *Biochemical Systematics and Ecology* **26**: 873- 888.
- Egerton-Warburton, L.M., West, M.M., and Lott, J.N.A.** (1997). Conservative allocation of globoid-held mineral nutrients in seeds of *Banksia grandis* Willd. (Proteaceae). *Canadian Journal of Botany* **75**: 1951-1956.
- Egerton-Warburton, L.M.** (1995). An absence of ecotype evolution in three *Eucalyptus* species colonizing coal mine soils with low pH and high aluminium content. *Water, Air and Soil Pollution* **83**: 335-349.
- Egerton-Warburton, L.M., and Griffin, B.J.** (1995). Differential tolerance of *Pisolithus tinctorius* isolates to aluminum in vitro. *Canadian Journal of Botany* **73**: 1229-1233.
- Egerton-Warburton, L.M., Griffin, B.J., and Kuo, J.** (1995). Reserves of aluminium and mineral nutrients in seeds of *Eucalyptus calophylla* (Myrtaceae) with reference to the globoid inclusions. *Seed Science Research* **5**: 53-57.
- Egerton-Warburton, L.M., and Griffin, B.J.** (1994). Levels of mineral nutrients in fresh- and frozen bulk hydrated biological specimens: a comparison of EDS data collected in the Environmental SEM and a conventional cryo-SEM. *Micron* **25**: 607-612. Invited Paper
- Egerton-Warburton, L.M., Griffin, B.J., and Kuo, J.** (1993). Microanalytical studies of metal

localization in biological tissues by Environmental SEM. *Microscopy Research and Technique* **25**: 406-411. Invited Paper

**Egerton-Warburton**, L.M., Kuo, J., Griffin, B.J., and Lamont, B.B. (1993). The effect of aluminium on the distribution of calcium, magnesium and phosphorus in mycorrhizal and non-mycorrhizal seedlings of *Eucalyptus rudis*: a cryo-microanalytical study. *Plant and Soil* **156**: 481-484.

**Egerton-Warburton**, L.M., Griffin, B.J., and Lamont, B.B. (1992). Localization of aluminum and manganese in reproductive tissues of eucalypts by Environmental SEM indicates a basis for pre-emergent selection. *Journal of Computer-Assisted Microscopy* **4**: 205-211. Invited Paper.

*In review or revision*

Allen, E.B., **Egerton-Warburton**, L.M., and Lilleskov, E. Critical loads for impacts of nitrogen deposition on arbuscular mycorrhizal fungi.

*In Preparation*

Graham, R.C, **Egerton-Warburton**, L.M., and 10 others. Wildfire effects on soils of a 55-year-old chaparral and pine biosequence at San Dimas Experimental Forest, California, USA. For submission to *Geoderma*.

Sollenberger, D., \*Kadlec, C., and **Egerton-Warburton**, L.M. Manipulating soil resource availability in a tallgrass restoration improves plant functional diversity. For submission to *Ecological Applications*. \* Undergraduate student co-author

Egerton-Warburton, L.M., Lussenhop, J., Sehitya, H., BassiriRad, H. Differential uptake of organic and mineral nitrogen sources in ectomycorrhizal *Quercus*. For submission to *New Phytologist*.

**BOOK CHAPTERS:**

Allen, E.B., Querejeta, J.I., Vargas, R., Snyder, S.R., **Egerton-Warburton**, L.M., Gomez-Pompa, A., and Allen, M.F. (2008). Restoration and mycorrhiza in seasonal tropical forest: fungal species composition, carbon accumulation, and water relations. In: *Tropical Restoration for the New Millennium*. UNAM Press, Mexico City. Invited.

Allen, M.F, Chrisafulli, C., Morris, S.J., **Egerton-Warburton**, L.M., MacMahon, J., and Trappe, J.M. (2005). Mycorrhizae and Mt. St. Helens- the story of a symbiosis. In: *Ecological responses to the 1980 Eruption of Mt St. Helens*. Eds. V. Dale, F. Swanson, C. Chrisafulli. Springer, New York. Pp. 221-232. Invited.

Jumpponen, A., and **Egerton-Warburton**, L.M. (2005). Mycorrhizal fungi in successional environments- a community assembly model incorporating host plant, environmental and biotic filters. In: *The Fungal Community: its organization and role in the ecosystem*. Eds. J. Dighton, P. Oudemans, and J. White. Invited.

**Egerton-Warburton**, L.M., Querejeta, J.I., Finkelman, S.L., and Allen, M.F. (2005). Soil Biology: Mycorrhizal Fungi. In: *Encyclopedia of Soils in the Environment* (Ed. D. Hillel, K. Scow and others). Invited.

Allen, E.B., Sirulnik, A.G., **Egerton-Warburton**, L.M, Kee, S.N., Bytnerowicz, A., Padgett, P.E., Temple P.J., Fenn, M., Poth, M.A., and Meixner, T. (2005). Air pollution and vegetation change in southern California coastal sage scrub: a comparison with chaparral and coniferous forest. In:

*Planning for Biodiversity: Bringing Research and Management Together.* Eds. B. E. Kus and J.L. Byers. USDA Forest Service General Technical Report PSW-GTR-195. December, 2005. pp. 79-96.

**Egerton-Warburton, L.M., Allen, E.B., and Allen, M.F. (2002).** Diversity and conservation of mycorrhizal fungal communities under elevated atmospheric CO<sub>2</sub> and anthropogenic nitrogen deposition. In: *Microorganisms in Plant Conservation and Diversity.* (Eds K. Sivasithamparam, K.W. Dixon and R. Barrett.). pp. 19-43. Kluwer Academic Press, Dordrecht. Invited.

**Egerton-Warburton, L.M., and Griffin, B.J. (1999).** Nutrients: a sparse resource. Toxicities (serpentine soils and mine tailings). In: *Plants in Action: Adaptation in Nature, Performance in Cultivation.* (Eds Atwell, B.J., Kriedemann, P.E., & Turnbull, C.G.N.). Macmillan Education Australia, South Yarra, Victoria.

### **Representative Conference Presentations (career total 48):**

Pahamov, E.\*, Marshall, M.\*, Frederick, M.\*, and **Egerton-Warburton, L.M. (2010).** Soil legacies differentially influence native grass establishment in a prairie restoration. Ecological Society of America Annual Meeting, Pittsburgh, PA. \*Undergraduate student

Dilmukhametova, E.\*, and **Egerton-Warburton, L.M. (2010).** Contribution of arbuscular mycorrhizal fungi to soil carbon pools in restored urban grassland. Ecological Society of America Annual Meeting, Pittsburgh, PA. \*Undergraduate student

DeLong, J., Swarts, N., Dixon, K.W., Zerega, N., and **Egerton-Warburton, L.M. (2009).** The influence of endophytic partners on patterns of weediness in a native Australian orchid, *Microtis media*. Ecological Society of America Annual Meeting, Albuquerque, NM.

Jilling, A.\*, Umek, L., and **Egerton-Warburton, L.M. (2009).** Divergent soil microbial community recovery in response to contrasting restoration techniques targeted against an invasive species. Ecological Society of America Annual Meeting, Albuquerque, NM. \*Undergraduate student

Querejeta, J.I., **Egerton-Warburton, L.M., and Allen, M.F. (2008).** Hydraulic redistribution of soil water by roots and fungal symbionts. Ecological Society of America, Annual Meeting. Invited Symposium presentation.

BassiriRad, H., **Egerton-Warburton, L.M., Sehtiya, H., and Lussenhop, J. (2007).** Patterns of acquisition of organic and inorganic nitrogen in ectomycorrhizal *Quercus* seedlings. Ecological Society of America, Annual Meeting, San Jose, CA.

Graham, R.C., **Egerton-Warburton, L.M., Hendrix, P.F., Shouse, P.J., Johnson-Maynard, J.L., Quideau, S.A., Sternberg, P.D., Jobes, J.A., and Breiner, J.M. (2006).** Post-fire pedogenic response: Wildfire effects on the soil environment in a 60-year-old biosequence. World Congress in Soil Science, Philadelphia, PA.

Bing, C.\*, Sollenberger, D., and **Egerton-Warburton, L.M. (2006).** Soil feedbacks during prairie ecosystem restoration. Ecological Society of America, Annual Meeting. \*Undergraduate student

Kadlec, C.\*, Sollenberger, D., and **Egerton-Warburton, L.M. (2005).** Carbon addition and its effects on soil nitrogen and prairie development. Soil Ecology Society of America Meeting, Chicago, IL, May 2005. \*Undergraduate student

**Egerton-Warburton, L.M.,** Podbielski, J., Ingalls, M., Graham, R.C., Sternberg, P., and Hendrix, P. (2005). Mycorrhizal community dynamics following a stand replacing wildfire in the California chaparral. Soil Ecology Society of America Meeting, Chicago, IL, May 2005.

Querejeta, J.I., **Egerton-Warburton, L.M.,** and Allen, M.F. (2003). Hydraulic lift: transfer of water and fluorescent tracers between plants connected by common mycorrhizal network. International Conference on Mycorrhizae (ICOM 4), Montreal Canada. Invited paper, and lecture.

**Egerton-Warburton, L.M.,** Querejeta, J.I., and Allen, M.F. (2002). Hydraulic lift and mycorrhizae sustain mineral nutrient acquisition in dry soils. Botany 2002, Annual Meeting of the Botany Society of America, Madison, WI. Invited paper.

Allen, E.B., **Egerton-Warburton, L.M.,** Sigüenza, C., Sirulnik, A.G. and Padgett, P.E. (2001). Effects of N deposition on plants and soil microorganisms on an urban to rural gradient in southern California. Nitrogen 2001 Conference, Baltimore MD, October 2001. Invited paper.

#### **GRADUATE STUDENTS ADVISED AND DESTINATIONS:**

Lauren Umek	M.S., May 2007 Northwestern University	Ph.D. program, Plant Biology, Northwestern University, incoming Fall 2010
Kara Borden	M.S., June 2007	Instructor, Peggy Notaebert Nature Museum, Chicago
Joseph Gawronski- Salerno	M.S., June 2008 Northwestern University	Ph.D. program, Environmental Science, SUNY ESF, Syracuse
Rachel Gross	M.S., August 2008 Northwestern University	Environmental Consultancy, Wisconsin
Zaid McKee-Krisberg	M.S., July 2009	Ph.D. program, Biology, Temple University, PA
Jonathon De Long	M.S., October 2009 Northwestern University	Applying to Ph.D. program, Botany, The University of Western Australia
Duane Ambroz	M.S., June 2010 Northwestern University	Data manager
Robert Hevey	M.S. Northwestern University	In progress
Nikhail Desai	M.S. Northwestern University	Incoming, Fall 2010

#### **UNDERGRADUATE INTERNS ADVISED AND DESTINATIONS:**

‡ Ector Martell- Pina	REU Intern 2010	Junior, University of Texas, El Paso, B.S. program
‡ Viviana Penuela	REU Intern 2010	Senior, University of Florida, B.S. program
Hannah Spungen	REU Intern 2010	Senior, Rochester University, B.S. program

*Merry Marshall	REU Intern 2009	B.S. (Biology) 2010; Conservation and Land Management Internship Program
Andrea Jilling	REU intern 2008	B.S. program (Botany), expected Dec 2010
Adam Kahn	REU intern 2008	B.S. (Biology, Rabbinical studies), expected 2010, applied to Albert Einstein College of Medicine
Robert Welter	REU intern 2008	B.S. program (Biology) 2009; Smithsonian Tropical Research Institute
Jonathon De Long	REU intern 2006	M.S. Plant Conservation and Biology, Northwestern University
Christopher Bing	REU Intern 2005	M.S. Science/Math Education, University of California, Berkeley
Cynthia Kadlec	REU intern 2004	Forest Preserve District of Cook County
§Andrew Piotrowski,	Research intern 2003-2004	Ph.D. Biochemistry, University of Illinois, Chicago, 2009

#### HIGH SCHOOL INTERNS ADVISED AND DESTINATIONS:

‡Michele Rodriguez *Brandon Radford	Summer 2010	High school Juniors
‡Marisol Del Gado §Jesse Guererra	Summer 2009	<i>Jesse Guererra</i> , B.S. program, University of Wisconsin, Whitewater <i>Marisol Del Gado</i> , College First (CBG) program assistant
*Emma Garl Smith	Summer intern, 2005- 2007	B.A., Middlebury College, 2010
*Odmaa Grommenos ‡§Maria Claudia Galvéz *§Patrick Smith	Summer 2008	<i>Maria Claudia Galvéz</i> , B.S. program, Environmental Science, University of Illinois <i>Patrick Smith</i> , B.S. program, Biology
*§Noelle Williams	Summer 2007	B.S. program, University of Illinois-Urbana Champaign
§Shirley Dehn	Summer 2005	2006: Northwestern University Summer Science Acceleration Program 2007: B.S. (Biochemistry) program, Knox College on Full scholarship
*Stormie O'Neill *Sheira Dawkins ‡Norah Vasquez	Summer 2004	All applied to B.S. programs; no further records.
*African-American	‡Hispanic	§First in family to pursue college degree

**SERVICE TO THE SCIENTIFIC COMMUNITY:***Mentoring:*

Research Experiences for Undergraduates Program Director and mentor 2003- 2010  
Mentor to 11 undergraduate in contemporary soil ecology research. The results of these studies have been presented at national meetings, e.g., Ecological Society of America, Soil Ecology Society.

Mentor to 13 high school students through the Chicago Botanic Garden's College First program. The program is designed to recruit inner city high school students with an interest in science, and provide them with 10 weeks of research experience, extra classes, and life skills to help them achieve a college placement. 2003- present

Role model for 'Future Unlimited: Careers in Science and Mathematics for Women', a workshop and forum for young women in high school intending to pursue a career in science, Oakton Community College. 2003- 2004, and 2007

Mentor of high school student, Ms. Sydney Kim, John North High School, Riverside, for the California Science Olympiad. Ms. Kim qualified for the California State Finals. 2000

*Committee service:*

Plant Biology and Conservation Graduate Studies Committee, Northwestern University 2008- 2009

Chair, Soil Science searches, Chicago Botanic Garden 2004-present  
Western Australian Society for Electron Microscopy, elected to committee 1993-1995

*Reviewer of Grants:*

National Science Foundation 1998- present

US Department of Agriculture 1997- 1998

*Panel service:*

National Science Foundation Fall Panel member, EPE 2007

National Science Foundation Fall Panel member, Ecosystems 2008

National Science Foundation Spring Panel member, Ecosystems 2009

*Judge for:*

Chicago Area Undergraduate Research Symposium 2007- present

Ecological Society of America Buell-Braun Award 2000- present

*Manuscript Reviewer for the following journals:*

*American Midlands Naturalist*

*Journal of Ecology*

*Annals of Botany\**

*Microbial Ecology\**

*Annales Botanici Fennici*

*Mycorrhiza\**

*Aquatic Botany*

*New Phytologist\**

*Arctic, Antarctic & Alpine Research*

*New Zealand Journal of Crop and Agricultural Sciences*

*Applied Soil Ecology\**

*NorthWest American Naturalist*

*Australian Journal of Botany\**

*NorthWest Science*

<i>Biotropica</i>	<i>Oecologia</i>
<i>Canadian Journal of Botany*</i>	<i>Plant &amp; Soil*</i>
<i>Ecography</i>	<i>Protoplasma</i>
<i>Ecological Applications*</i>	<i>Restoration Ecology*</i>
<i>Ecology*</i>	<i>Soil Biology &amp; Biochemistry</i>
<i>Journal of Applied Ecology</i>	<i>Urban Ecosystem</i>
<i>Journal of Arid Environments</i>	<i>Water, Air &amp; Soil Pollution</i>
<i>Journal of Chemical Ecology</i>	<i>Vadose Zone Journal</i>
<i>Microscopy &amp; Microanalysis</i>	
<i>Mycological Research*</i>	

\* Denotes reviews undertaken on multiple occasions per year or successive years

**PROFESSIONAL AFFILIATIONS:**

The Mycological Society of America

The Microscopy Society of America

The Ecological Society of America

The Soil Science Society of America

The Australian Society for Electron Microscopy

The Fulbright Association Alumni- Australian and American Chapters