Curriculum Vitae
of
Kathryn M. Jacobson

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Education

B.A. - Biology. 1985. Washington University, St. Louis, Missouri.
M.S. - Biology. 1990. Virginia Polytechnic Institute & State University, Blacksburg, Virginia.
"Physiological and Morphological Variation Within and Between Populations of *Suillus granulatus*, as Determined by Mycorrhizal Synthesis Experiments".Advisor: Dr. Orson K. Miller, Jr.
Ph.D. - Biology. 1992. Virginia Polytechnic Institute & State University, Blacksburg, Virginia.
"Factors affecting VA-Mycorrhizal Community Structure in the Namib Dune Field; and the Population Biology of an Ectomycorrhizal Basidiomycete: *Suillus granulatus*." Advisor: Dr. Orson K. Miller, Jr.

Professional Experience

Full Professor – Biology Department, Grinnell College, 2016 – Present
Associate Professor – Biology Department, Grinnell College, 2003 – 2016
Department Chair - Biology Department, Grinnell College, 2007- 2011
Assistant Professor - Biology Department, Grinnell College. 1997 - 2003
Visiting Assistant Professor - Biology Department, Virginia Tech. 1996 - 1997.
Post-Doctoral Research Associate - Desert Research Foundation of Namibia. 1993 - 1996. (Basic and applied fungal ecology in arid ecosystems). Advisor: Dr. Mary K. Seely
Acting Assistant Director - Desert Research Foundation of Namibia: Gobabeb. 1993 - 1994. (Arid zone research and education)
Coordinator of Biology Laboratory Teaching Assistants - General and Principles of Biology Laboratory, Virginia Tech. 30 Teaching Assistants teaching 2000 students. 1987 - 1989
Research Associate - Dr. O.K. Miller, Jr., Flathead Lake Biological Station, University of Montana. Summer 1987. (Mycorrhizal associations of western white pine - *Pinus monticola*)
Research Assistant - Dr. W. H. Lewis, Washington University and Missouri Botanical Gardens. 1986 - 1987. (Botanical research - Peruvian and Ecuadorian flora)
Research Assistant - Dr. J. Clark-Curtis, Washington University. 1985 - 1986. (Genetic mapping of *Mycobacterium leprae* using cosmid and plasmid libraries)

Teaching Experience

TUT 100: Tutorial: Our Tiniest Allies. Grinnell College, Fall 2019, Spring 2021
BIO 395: Namib Desert Ecology and Restoration. Grinnell College, Fall 2012, Spring 2013, with course-embedded travel to Namibia over winter break. (co-taught with Peter Jacobson)
BIO 252: Organisms, Evolution and Ecology. Grinnell College, Spring 2011, 2013, 2015-20
ENV 195: Environmental Challenges and Responses. Grinnell College, Fall 2009, 2010, 2011.
TUT 100: Tutorial: Communicating about Climate Change. Grinnell College, Fall 2008.
BIO 150: Introduction to Biological Inquiry: The Effects of Global Climate Change on Organisms. Grinnell College, Spring 2004, Fall 2004, Spring 2007, 2008, 2009, Fall 2009, Spring 2010, Fall 2011, 2013, 2017
TUT 100: Tutorial: Images of Africa. Grinnell College, Fall 2002.

BIO 325: Fungal Biology: Grinnell College, Spring & Fall 1998, Fall 2002, 2004, 2006, 2010, 2012, 2014, 2016, 2017, 2019, 2020, 2021
ENV/GDS 295: Issues relating to Community-based Conservation: Grinnell College, a one year sequence including Spring 1999 Guided Reading, 10 week Field Research in Namibia, and Fall 1999 Final Seminar. (co-taught with Peter Jacobson)
BIO 236 Cell Biology Lab: Grinnell College, Spring 1999, Spring 2001
BIO 136 Ecology and Evolution: Grinnell College, Spring 1998 and 1999
BIO 135 Structure and Function of Organisms: Grinnell College, Fall 1997 and 1998
BIO 101 Introductory Biology I and II for Science Majors: Virginia Tech (1996-1997); Lecture and Lab.
Supervisor of Undergraduate and Graduate Research Projects - Desert Research Foundation of Namibia; 1993 - 1995.
Environmental Issues in Namibia: 8-week summer research project for undergraduates. Team taught with P.J. Jacobson; Desert Research Foundation of Namibia; November 1993 - January 1994.
Ecological Methods – 2-week lab and field course for third year botany and zoology students. Team taught with P.J. Jacobson and M.K. Seely; Desert Research Foundation of Namibia; April 1993.
BIO 387 Plant Systematics Laboratory - Teaching Assistant, Virginia Tech. Spring 1992
BIO 101 Principles of Biology Laboratory - Teaching Assistant, Virginia Tech. Spring and Fall 1992
BIO 485 Introductory and Advanced Mycology - Teaching Assistant, Virginia Tech. Fall 1989, 1991, Spring 1990.
BIO 125 Freshman Seminar in Biology - Teaching Assistant, Washington University. Fall 1982 - 1985.

Research Students Supervised – completing Bio 395 (mentored advanced research)
Amy Moore '99, Fall 1998 -- *Response of prairie mycorrhizal fungi to burning*
Amy Lindahl '99, Spring 1999 – *Mycorrhizal associations of bur oak in central Iowa*
Evan Michael '99, Spring 1999 -- *Thermal optima of desert fungi*
Kirsten Anderson '00. Summer 1999 -- *Attitudes of communities in Namibia towards CBNRM*
Angela Crowley-Koch '00, Summer 1999 -- *Community participation in conservancies*
Cem Efe '01, Summer 1999 -- *Sustainable management of water by rural communities*
Mattie Johnson '01, Summer 1999 --*Tourism as a sustainable land use option in w. Namibia*
Harmony King '00. Summer 1999--*Microeconomic influences on environmental decision-making by communities in n.w. Namibia*
Emily Mize '01. Summer 1999 -- *Guidelines for wildlife monitoring in w. Namibia*
Elizabeth Lester '00, Fall 1999 -- *Genetic diversity in Welwitschia mirabilis populations of northwestern Namibia*
Harmony King '00, Fall 1999 -- *Genetic diversity amongst morel populations in central Iowa*
Emily Lutgen '00 Spring 2000 -- *Mycorrhizal associations of bur oak in central Iowa*
Rebecca White '00 Spring 2000 -- *Mycorrhizal associations of bur oak in central Iowa*
Anna Donovan '01, Spring 2000 -- *Breeding systems of Aspergillus niger var. phoenicus, a fungal pathogen of Welwitschia mirabilis*
Lucy Gutierrez '01, Fall 2000 --*The nuclear status of morel fruiting bodies determined using randomly amplified polymorphic DNA markers*
Laurel Steinmetz '01, Fall 2000 -- *Molecular characterization of Populus fremontii mycorrhizae*
Brenda Walter '01, Spring 2001 – *Somatic compatibility within central Iowan morel populations*

Mark Lundgren '03, Spring 2003 – *Subsurface decomposition in the Chihuhuan Desert*
Micheala Meckel '05, Summer 2003 – *Macrofungal diversity in oak-hickory and riparian forests at CERA*
Alison Mynsberge '04, Summer 2003 – *Macrofungal diversity in elm and oak-hickory forests at CERA*
Elizabeth Pekarek '05, Spring & Summer 2004 – *Genetic variation amongst Aspergillus niger var. phoenicus populations associated with W. mirabilis*
Sarah Evans '05, Summer and Fall 2004 – *Perenniality and genetic diversity within morel populations at CERA*
Peter Cueno '06 Summer and Fall 2005 – *Comparing macrofungal diversity in oak savanna and oak hickory forests at CERA.*
David Honig '06, Summer and Fall 2005 – *Comparing Macrofungal diversity in oak-hickory and riparian forests at CERA*
Sameet Sangha '07 Spring 2007 – *Assessing heterokaryon incompatibility in Aspergillus niger*
Matthew Orazem '07 Spring 2007 – *Physiological comparisons of Namib Aspergillus niger isolates with global strains.*
Megan Germer '08 Summer and Fall 2007 – *Macrofungal diversity in oak-hickory and savanna forests at CERA*
Madison Salander '08 Summer and Fall 2007 - *Macrofungal diversity in oak-hickory and riparian forests at CERA*
Curran Johnson '09 Spring, Summer and Fall 2008 – *Prescribed rotational goat browsing to control multiflora rose in Iowa woodlands.* (Co-advised with Larissa Mottl).
Brian Perbix '09 Spring, Summer and Fall 2008 – *Prescribed rotational goat browsing to control Lespedeza cuneata in Iowa prairies.* (Co-advised with Larissa Mottl).
Christine Grummon '11 Summer and Fall 2010 – *The effects of rotational goat browsing to control multiflora rose on woody vegetation in Iowa woodlands*. (Co-advised with Larissa Mottl).
Charlie Zimmerman '11 Summer and Fall 2010 – *The effects of rotational goat browsing to control multiflora rose on the understory in Iowa woodlands.* (Co-advised with Larissa Mottl).
Annie Klodd '13 Spring 2013 – *Genotyping black Aspergillus species associated with Welwitschia mirabilis in Namibia.*
Ian Luby '13 Spring 2013 – *Phenotypic characterization of the black Aspergillus genotypes associated with Welwitschia mirabilis in the central Namib.*
Rachel Fritts '14 Fall 2013 – *Fungi associated with termite casts in the Namib Sand Sea.*
Chris Marsho '14 Fall 2013 – *A preliminary investigation of fungi responding to fog precipitation in the Namib Sand Sea.*
Anthony Wenndt '15 Fall 2014 & Spring 2015 – *Fungal endophytes of Namib perennial grass Stipagrostis sabulicola.*
Cassandra Miller '16 Spring 2016 – *Comparative analysis of desiccation stress tolerance of Iowa and Namib surface litter saprophytes.*
Thomas Marsho '17 Fall 2016 & Spring 2017 - *Fungal endophyte communities associated with Welwitschia mirabilis across Namib climatic gradients.*
Lily Payne '18 Fall 2017 – *A genotypic analysis of saprophytic fungal communities associated with surface grass litter in the Namib Desert*
Jong Beom Park '19 Fall 2016 & Spring 2017 – *Is cryptic sex a source of genetic variation in black Aspergillus species associated with Welwitschia mirabilis?*
Rachel Sutter '20 Summer 2019, Spring 2020 – *Does thermophilic performance of desert and temperate grassland fungi on standing litter differ?*
Sophia Carbajal '21 Summer 2019 - *Desiccation Tolerance Adaptations within Population and Community Fungi from the Namib Sand Sea and Iowa.*

Fit Getahun '21 Spring 2020 – *Marine and terrestrial fungal physiological traits*
Crys Moosman '21 Spring & Fall 2021 – *Are surface-litter decomposition experiments measuring what we think they are?*
Britney He '22 Fall 2021 – *Do endophyte and saprophyte fungal genotypes differ metabolically?*

Work in Progress

Rothman, S. & K. Jacobson (In Press). Fungi. In: Mendelsohn, M. (ed). **Atlas of Namibia.** Jonathan Ball Publishers.

Refereed Journal Articles

Jacobson K.M. & O.K. Miller Jr. (1992). Physiological variation between tree-associated populations of *Suillus granulatus* as determined by *in vitro* mycorrhizal synthesis experiments. **Canadian Journal of Botany** 70:26-3.

Jacobson K.M., O.K. Miller Jr. & B.J.Turner (1993). RAPD markers are superior to somatic incompatibility tests for discriminating genotypes in natural populations of the ectomycorrhizal fungus *Suillus granulatus*. **The Proceedings of the National Academy of Science, U.S.A.** 90:9159-9163.

Jacobson K.M., P.J. Jacobson & O.K. Miller Jr. (1993). The mycorrhizal status of *Welwitschia mirabilis*. **Mycorrhiza** 3:13-17.

Jacobson K.M. & O.K. Miller Jr. (1994). Post-meiotic mitosis in the basidia of *Suillus granulatus*: implications for population structure and dispersal biology. **Mycologia** 86(4):510-515.

Seely M.K. & K.M. Jacobson (1994). Desertification and Namibia: a perspective. **Journal of African Zoology** (108)1:21-36.

Seely M.K. & K.M. Jacobson (1995). Desertification in Namibia. **Environmental Review** 1(1): 94-100.

Jacobson K.M. (1996). Fungal ecology in the Etosha National Park, Namibia. **Madoqua** 20(1): 149-155.

Jacobson, K.M. (1996) Macrofungal ecology in the Namib Desert: a fruitful or futile study? **McIlvainea** 12(2):21-32

Jacobson K.M. (1997). Moisture and substrate stability determine VA-mycorrhizal fungal community distribution and structure in an arid grassland. **Journal of Arid Environments** 35:59-76.

Abrams M.M., P.J. Jacobson, K.M. Jacobson, M.K. Seely. (1997). Survey of soil chemical properties across a landscape in the Namib Desert. **Journal of Arid Environments.** 35:29-38

Jacobson, P.J. & K.M. Jacobson. (1997). Encouraging, training and supporting "Ecologists/Biologists as Problem Solvers" - some opinions from Providence. Guest Editorial. **Bulletin of the Ecological Society of America** 78(1):4-6.

Andre, H.M., M.-I. Noti, K.M. Jacobson. (1998). The soil microarthropods of the Namib Desert: a patchy mosaic. **Journal of African Zoology** 111:499-517.

Jacobson, K.M. & P.J. Jacobson. (1998). Rainfall regulates decomposition of buried cellulose in the Namib Desert. **Journal of Arid Environments** 38(4):571-83.

Jacobson, K.M., P.J. Jacobson, O.K. Miller Jr. (1999) The autecology of Battarrea stevenii (Liboshitz) Fr. in ephemeral rivers of southwestern Africa. **Mycological Research** 103: 9-17.

Jacobson, P.J., K.M. Jacobson, P.L. Angermeier and D.S. Cherry. (1999). Transport, retention, and ecological significance of woody debris within a large ephemeral river. **Journal of the North American Benthological Society** 18:429-444.

Jacobson, P.J., K.M. Jacobson, P.L. Angermeier and D.S. Cherry. (2000). Hydrologic influences on soil properties along ephemeral rivers in the Namib Desert. **Journal of Arid Environments** 45:21-34.

Jacobson, P.J., K.M. Jacobson, P.L. Angermeier and D.S. Cherry. (2000). Variation in material transport and water chemistry along a large ephemeral river in the Namib Desert. **Freshwater Biology** 44:481-492.

Jacobson, K.M & E.A. Lester ’00. (2003). A first assessment of genetic variation in *Welwitschia mirabilis* Hook. **Journal of Heredity** 94(3):212-217.

Dalgleish, H. ’00 & K.M. Jacobson. (2005) A first assessment of genetic variation among *Morchella esculenta* (morel) populations. **Journal of Heredity**. 96(3):1-8

Pekarek, E. ’05, K. Jacobson, and A. Donovan ’01. (2006) High levels of genetic variation exist in *Aspergillus niger* populations infecting *Welwitschia mirabilis* Hook. **Journal of Heredity** 97(3):270-278.

Jacobson, P.J. & K.M. Jacobson. (2012) Hydrologic controls of physical and ecological processes in Namib Desert ephemeral rivers: implications for conservation and management. **Journal of Arid Environments** (1): 1-14. (doi: 10.1016/j.jaridenv.2012.01.010).

Jacobson, K., D. Cutchins, M. Seely, J. Seiz, E. Willis, P. Jacobson. (2014). Supporting a teaching and learning community across borders: Grinnell College at Gobabeb. **Transactions of the Royal Society of South Africa** doi: 10.1080/0035919X.2014.941962.

Jacobson, N., P. Jacobson, E. van Jaarsveld, K. Jacobson (2014). Field evidence from Namibia does not support the designation of Angolan and Namibian subspecies of *Welwitschia mirabilis* Hook. **Transactions of the Royal Society of South Africa** doi: 10.1080/0035919X.2014.950187.

Jacobson, K., van Diepeningen, A., Evans, S. ‘05, Fritts, R.’14, Gemmel, P.’17, Marsho, C.’14, Seely, M., Wenndt, A.’15, Yang, X. ‘17, & P. Jacobson. (2015) Non-Rainfall moisture activates fungal decomposition of surface litter in the Namib Sand Sea. **PLoS ONE** 10 (5):e0126977. doi:10.1371/journal.pone.0126977

Evans, S.'05, Todd-Brown, K.E.O., Jacobson, K. and P. Jacobson. (2020). Non-rainfall moisture: A key driver of microbial respiration from standing litter in arid, semiarid, and mesic grasslands. **Ecosystems** 23, 1154–1169. https://doi.org/10.1007/s10021-019-00461-y

Logan, J. '13, Jacobson, K., Jacobson, P. and S. Evans '05 (2021). Fungal communities on standing litter are structured by moisture type and constrain decomposition in a hyper-arid grassland. **Frontiers in Microbiology** 12.596517. https://doi.org/10.3389/fmicb.2021.596517

Wenndt AJ '15, Evans SE '05, van Diepeningen AD, Logan JR '13, Jacobson PJ, Seely MK and Jacobson KM (2021) Why Plants Harbor Complex Endophytic Fungal Communities: Insights From Perennial Bunchgrass Stipagrostis sabulicola in the Namib Sand Sea. **Frontiers in Microbiology** 12:691584. https://www.frontiersin.org/articles/10.3389/fmicb.2021.691584

Refereed Book Chapters

Jurgens, N., A. Gunster, M.K. Seely, K.M. Jacobson. (1997). Chapter 10: Deserts. In: **Vegetation of Southern Africa** Ed. D. Richardson, Cambridge University Press, London.

Jacobson, K.M. (2004) Mycorrhizal associations in dryland riparian forests of the southwestern United States. Pp.275-280 In: C. Cripps (ed.) **Fungi in Forest Ecosystems: Diversity, Systematics, and Ecology**, New York Botanical Gardens, NY.

Stutz, J.C., V.B. Beauchamp, J. Johnson, L. J. Kennedy, B. S. Richter & K.M. Jacobson. (2009) Mycorrhizal Ecology. Pp. 73-88 In: **Ecology and Conservation of The San Pedro River**. Eds. J.C. Stromberg and B. Tellman. University of Arizona Press.

Other Books & Book Chapters

Jacobson K.M. & Haley C. (1989). **Supplement to Biology Laboratory**. Hunter Textbooks Inc., Winston-Salem, N.C.

Jacobson P.J., Jacobson K.M. & Seely M.K. (1995). **Ephemeral Rivers and their Catchments: Sustaining People and Development in Western Namibia**. Desert Research Foundation of Namibia and Department of Water Affairs, Windhoek. 160 pp.

Pallet, J. (ed.) (1995). **The Sperrgebiet: Namibia's least known wilderness.** DRFN and NAMDEB, Windhoek. Contributing author: Vegetation.

Mannheimer, C. & K.M. Jacobson. (1998) Fungal diversity in Namibia. In: Barnard, P. (ed). **Biological Diversity in Namibia: a Country Study.** Windhoek: Namibian National Biodiversity Task Force. 332 pp.

Meeting Abstracts

Jacobson K.M. & O.K. Miller Jr. (1990). Physiological variation within and between populations of *Suillus granulatus*. Mycological Society of America, Madison, WI. May, 1990.

Jacobson K.M. (1992). The nuclear status of *Suillus granulatus* spores and implications for dispersal and colonization. Mycological Society of America, Portland, OR. August 1992. **Inoculum** 1(2):37.

Jacobson K.M. (1992). The effects of biotic and abiotic factors on the distribution of VAM fungi in the Namib dunes. Mycological Society of America, Portland, OR. August 1992. **Inoculum** 1(2):37.

Jacobson, K.M. (1996). Reassessing the role of fungi in subsurface decomposition in arid environments. Ecological Society of America, Providence, Rhode Island, August 1996. **Bulletin of the Ecological Society of America** 77(3):214.

Jacobson, P.J., K.M. Jacobson & M.K. Seely. (1996). Integrating research and management of rivers through ecological education in a developing African country. Ecological Society of American, Providence, Rhode Island, August 1996. **Bulletin of the Ecological Society of America** 77(3):214.

Seely, M.K, K.M. Jacobson, P.J. Jacobson, K. Leggett, T. Nghitila, D. Eldridge, D. Freudenberger. (1999) Understanding integrated natural resource management at a catchment scale: the case of Namibia's ephemeral rivers. **People and rangelands: building the future. Proceedings of the VI International Rangeland Congress,** Townsville, Queensland, Australia, 19-23 July, 1999. Volumes 1 and 2: 714-716. International Rangeland Congress, Inc

Lester, E.A. '00 & K.M. Jacobson. (2000). Genetic diversity and population structure of*Welwitschia mirabilis*. **Proceedings - Iowa Academy of Science Meeting, Des Moines, 22 April 2000.**

H.J. King '00 & K.M. Jacobson. (2000). Genetic diversity within and between populations of morel mushrooms *(Morchella esculenta).* **Proceedings - Iowa Academy of Science Meeting, Des Moines, 22 April 2000.**

E.R. Lutgen '00, R.K. White '00 & K.M. Jacobson. (2000) Mycorrhizal associations of bur oak in prairie, savanna and forest habitats in central Iowa. **Proceedings - Iowa Academy of Science Meeting, Des Moines, 22 April 2000.**

H. King '00, K.M. Jacobson, P.J. Jacobson, K. Anderson '00, A. Crowley-Koch '00, C. Efe '01, M. Johnson '01 & E. Mize '01. (2000). Are community-based natural resource management initiatives in northwestern Namibia sustainable? **Proceedings – Society for Conservation Biology Meeting, Missoula MT 10-12 June 2000.**

P. J. Jacobson & K.M. Jacobson. (2000). Desert elephant cause significant alterations to riparian forest structure in the northern Namib Desert. **Proceedings – Society for Conservation Biology Meeting, Missoula MT 10-12 June 2000.**

L.P. Gutierrez '01 & K.M. Jacobson. (2001). Using randomly amplified polymorphic DNA (RAPD) markers to examine the lifecycle of morels. **Proceedings - Iowa Academy of Science Meeting, Des Moines, 20 April 2001.**

A.K. Donovan '01 & K.M. Jacobson. (2001). An analysis of genetic variation of three geographic populations of *Aspergillus niger var. phoenicus,* a pathogen of *Welwitschia mirabilis.* **Proceedings - Iowa Academy of Science Meeting, Des Moines, 20 April 2001.**

L. Steinmetz ’01 & K.M. Jacobson. (2001). Using molecular techniques to identify mycorrhizae in dryland riparian forests: initial studies with *Tricholoma populinum.* **Proceedings - Iowa Academy of Science Meeting, Des Moines, 20 April 2001.**

K.M. Jacobson & P.J. Jacobson. (2002). The effects of flood frequency on mycorrhizal associations of *Populus fremontii* var. *wislizenii* in dryland riparian forests. **Mycological Society of America 2002 Conference, Corvallis, Oregon, Inoculum: 10(2):19.**

M. Lundgren, P.J. Jacobson & K.M. Jacobson (2003). Precipitation is the primary control of subsurface decomposition in the northern Chihauhuan Desert. **Proceedings – Iowa Academy of Science Meeting, Des Moines, 19 April 2003.**

S. Evans & K. Jacobson (2005). Intrapopulation genetic variation of *Morchella esculenta* populations in central Iowa. **HHMI Symposium: Undergraduate Research in Biology and Chemistry in Iowa. April 30, 2005. Grinnell College.**

E. Pekarek & K. Jacobson (2005). Genetic variability and parasexuality in *Aspergillus niger* infecting three populations of *Welwitschia mirabilis* Hook. **HHMI Symposium: Undergraduate Research in Biology and Chemistry in Iowa. April 30, 2005. Grinnell College.**

D. Honig & K. Jacobson (2006) Macrofungal diversity in riparian forests differs from that in adjacent oak-hickory forest. **HHMI Symposium: Undergraduate Research in Biology and Chemistry in Iowa. April 24, 2006. Grinnell College**.

M. Salander & K. Jacobson (2008). Comparing macrofungal diversity in oak-hickory and riparian forests in the prairie biome. **HHMI Symposium: Undergraduate Research in Biology and Chemistry in Iowa. April 22, 2008. Grinnell College**.

C. Zimmerman, C. Grummon, K. Jacobson & L. (2011). The effects of rotational goat browsing to control multiflora rose on the understory in Iowa woodlands. **Midwest Ecology and Evolution Symposium, Carbondale, IL. April 2-3, 2011.**

K. Jacobson, S. Evans & P. Jacobson (2015). Below-ground and surface decomposition in the Namib Sand Sea. Presentation at the **2nd International FogLife Colloquium, Gobabeb Research & Training Centre, Namibia. June 15-19, 2015.**

P. Jacobson & K. Jacobson. (2015). Moisture in the Namib Desert: forms, sources and their measurement – a biologist’s perspective. Presentation at the **2nd International FogLife Colloquium, Gobabeb Research & Training Center, Namibia. June, 2015**.

S. Evans ’05, K Jacobson, P. Jacobson, M. Seely. (2015). Rewetting without rain: cryptic controls on dryland decomposition in a hyperarid desert. **ESA- Baltimore, MD. August 9-14, 2015.**

R. Logan ’13, S. Evan ’05, K Jacobson, P. Jacobson (2017) Decomposition of standing litter in arid grasslands: Interactions between sunlight, non-rainfall moisture, microbes, and plant traits. **AGU- New Orleans, LA. December 11-15, 2017.**

J. Logan ‘13, Jacobson, K. M., Jacobson, P. J., & Evans, S. E ‘05. (2018). The effects of non-rainfall moisture on fungal communities and standing litter decomposition in a hyper-arid desert**.** **AGU - Washington DC, December, 10-14, 2018**

Evans, SE ‘05, R Logan ‘13, K Jacobson, F Getahun ‘21, ME Dueker, K Weathers. (2020) From ocean to desert via fog: microbial movement, colonization, and activity in the Namib Desert, Namibia. Ecological Society of America Annual Meeting. Virtual. August 2-7, 2020. https://eco.confex.com/eco/2020/meetingapp.cgi/Paper/85368

Unpublished Reports

Jacobson, K.M. 1996. **An overview of research issues to guide the development of Namibia’s Desertification Research Programme.** Prepared for Namibia’s Action Plan to Combat Desertification (NAPCOD): Ministry of Environment & Tourism; Ministry of Agriculture, Water and Rural Development; Desert Research Foundation of Namibia, Windhoek. 146 pp.

Jacobson, P.J. & K.M. Jacobson. 1999. **An evaluation of Swedish International Development Cooperation (SIDA) support to the ‘Ephemeral Rivers Project’.** Desert Research Foundation of Namibia, Windhoek. 61 pp.

Popular Literature

Jacobson, K.M. (1994). Sand dunes, grasses and fungi. In: **The Illustrated Library of the Earth: Deserts** Ed. M.K. Seely, Weldon Owen Publishers, Sydney.

Jacobson, K.M. (1995) Functional fungi. **Seeds** 1(1):15.

Jacobson, K.M. (1995) Indicators of soil degradation in arid rangelands. **Namib Bulletin** (12):12-13.

Films

Chesselet, J., P.J. Jacobson & K.M. Jacobson. (1995). **Lifelines of Western Namibia - Ephemeral Rivers and Their Catchments**. DOXA Productions. Cape Town. 40 minutes.

Invited Lectures and Seminars

***Termitomyces* and their Termites.** Desert Research Foundation of Namibia, Gobabeb. May, 1991.

Can Mycorrhizal Fungi be Used to Monitor Rangeland Condition in Arid and Semi-arid Regions of Southern Africa? Botany Seminar, Biology Department, Virginia Tech., Blacksburg, Virginia. October, 1993.

The Namibian Environment: Research and Education in a New Nation. Sigma Xi Invited Lecture: Loyola - Marymount College, Los Angeles. October 1993.

The Economic and Ecological Importance of Fungi in Namibia. To: Dr. S. Nujoma, President of Namibia; Minister N. Bessinger, Ministry of Environment & Tourism; and Minister N. Mbumba, Ministry of Water, Agriculture and Rural Development. Desert Research Foundation of Namibia, Gobabeb. January 1994.

An Integrated Approach to Fungal Systematics. Department of Botany and Plant Pathology, Oregon State University. May 1994.

Biological Indicators of Land Degradation. Summer Environmental Issues Course, Desert Research Foundation of Namibia, Gobabeb. December 1994.

Fungal Ecology in Namibia's Arid Ecosystems. To Mr. I. Carlsson, Prime Minister of Sweden, and Swedish contingency. Desert Research Foundation of Namibia, Gobabeb. February 1995.
The Relevance of Environmental Research on Ephemeral River Ecosystems to Namibia's Economic and Social Development. Visit to the Namibian State House hosted by Minister N. Mbumba, Ministry of Agriculture, Water and Rural Development to present Dr. S. Nujoma, President of Namibia, with a book, map, poster and video from the Ephemeral Rivers Project. Windhoek, July 1995.
Fungi in the Namib Desert: Integral Components or Interesting Anomolies? Ecology Seminar Series, Duke University, Durham, NC. January 1997.
Structure and Function of Macrofungal Communities in Temperate Forest and Desert Ecosystems. Interview Seminar for appointment as Assistant Professor, Grinnell College, Grinnell, IA. May 1997.
Macrofungal ecology in the Namib Desert. Key-note Speaker. Missouri Mycological Society, St. Louis, MO. 6 February 2000.
Effects of environmental constraints and opportunities on development in Namibia. Environmental Sciences Seminar Series, Creighton University, Ohama, NE. 7 October, 2003.
Water, wilderness, wildlife and *Welwitschia*: linking Grinnellians with arid southern Africa. Alumni College Lecture, Grinnell College, 2 June 2004.
Environmental and historical constraints affecting Namibia's future. Southern African History (History 261), G. Drake. September 1998, September 1999, February 2001, November 2001, September 2002, September 2003, September 2005, September 2008, September 2010.

Professional Service
Presentation and discussion with Namibian Nature Conservation Officers - Fungi at the Waterberg. Waterberg Plateau Park, Namibia. February, 1991.
Classroom Presentation and Outdoor Foray: The Wild and Wonderful Fungal Kingdom. 6th Grade Blacksburg, VA Middle School. October, 1991.
Research Consultant - Drafting of National Desertification Programme, by Desert Research Foundation of Namibia for Ministry of Wildlife, Conservation and Tourism, Namibia. May - October 1993.
Environmental Consultant - Consolidated Diamond Mining Company, Oranjemund, Namibia Division: Mine Spoils Reclamation Project. May - November 1993.
Rapoteur - Desertification and Environmental Issues: Desertification Conference, Windhoek Namibia, July 1994.
Executive Briefing - Planned, prepared and hosted a 3-day tour to familiarize Minister of Agriculture, Water and Rural Development, N. Mbumba, with ecological diversity, conservation significance and current development trends concerning Namibia's western ephemeral rivers. In preparation for his authorship of the Foreword to the Ephemeral Rivers book. September 1994.
Research Consultant - Namibia's Action Plan to Combat Desertification: Identification of research issues and design of research programme. January - September 1996.
Research Advisor - Missouri Mycological Society Research Committee: Macrofungal diversity of Washington University's Tyson Research Center. March 1997 – June 2000.
Research Advisor – Gobabeb Training and Research Center. Assist with definition of Gobabeb's research agenda. Fall 1997 – present.
Committee Member: Global Development Studies Concentration, Grinnell College (Fall 1998 – present).
Co-author of proposal: to launch the Grinnell Corp Program in Namibia (Spring 1999).
Advisor: Grinnell Corp Program in Namibia (2000-2017)
Advisory Group Member: Center for Prairie Studies, Grinnell College (Fall 2002 - Spring 2005)

Advisory Group Member: Center for International Studies, Grinnell College (Fall 2000 - Spring 2001, Fall 2002 – 2004)
Co-author of proposal: to launch the Center for International Studies, Grinnell College (March 2001).
Committee Member: The Iowa Academy of Science Conservation and Preserves Committee, (May 2002 – May 2005).
Committee Member: Southern African Faculty Development Seminar (March 2002 – May 2003).
Fungal Taxonomic Assistance: Identify 200+ macrofungal specimens for the National Botanical Research Institute of Namibia (Fall 2002 – Spring 2005)
Poisonous Mushroom Identification Consultant: Iowa Statewide Poison Control Center (Fall 2002 – present).
Committee Member: Education Committee of the Mycological Society of America (2006-2010)
Committee Member: Conard Environmental Research Area (CERA), Grinnell College (1998 – present).
Biology Department Co-Chair: Grinnell College (Fall 2007- Spring 2011).
Elected Faculty Representative: Personnel Appeals Board, Grinnell College (2006-07).
Elected At-Large Faculty Representative: Executive Council, Grinnell College (07-09).
Committee member (faculty representative): College Budget Steering Committee, Grinnell College (2007-09).
Committee member (faculty representative): Academic Sub-committee of the Budget Steering Committee, Grinnell College (2007-09).
Committee member: Commencement Committee, Grinnell College (2007-09).
Committee member: Wall Award, Grinnell College (2010-2014).
Advisory Board Member: Center for International Studies, Grinnell College (Fall 2011, Fall 2013 – present).
Committee member: Sustainability Planning Committee, Grinnell College (2011-12).
Advisory Board Member: Mellon Humanities Award Committee, Grinnell College (2011 – 2013).
Research Theme Coordinator: Gobabeb Training and Research Institute, Namibia (2012 – present): Microbes theme and *Welwitschia mirabilis* theme
Research Advisor: WELCORM (*Welwitschia* Conservation, Research and Management programme) (2012 – 2016)
External Research Advisor for Master's Candidate: Titus Shuuya, Polytechnic of Namibia: Spatial correlates of *Welwitschia mirabilis* health in association with uranium mining operations. (2015 – 17)
Committee Member: Robert Logan '13, Ph.D. Advisory Committee, Department of Integrative Biology, Michigan State University. (2016 – 2021)
Advisory Board Member: Center for Prairie Studies (2021 – present)
Advisory Board Member: Center for Teaching, Learning and Assessment – Grinnell College (2021 – present)

Grants and Awards
Cunningham Thesis Fellowship, Virginia Polytechnic Institute and State University, 1989.
Foundation for Research Development, South Africa: The Mycorrhizal Status of Endemic Grasses of the Namib. June 1990.
Virginia Academy of Science: The nuclear status of *Suillus granulatus* spores, as determined by DNA-fingerprinting. May 1991.

Sigma Xi: A comparison of the effectiveness of somatic incompatibility testing and RAPD marker analysis for distinguishing genetic individuals of ectomycorrhizal fungi in natural populations. November 1991.
Mycological Society of America Travel Award: MSA and APS Joint Meeting, Portland, Oregon, August 1992.
Mycological Society of America: Graduate Student Poster Award. MSA and APS. Joint Meeting, Portland, Oregon, August 1992.
Desert Research Foundation of Namibia: Mycorrhizal Fungi as Indicator Species of Below-ground Integrity in Arid Ecosystems. January 1993.
Swedish International Development Authority (SIDA): Co-PI with P.J. Jacobson and M.K. Seely: Ephemeral Rivers Project Phase I. June 1993.
Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ): Co-PI with M.K. Seely: First Phase of Desertification Project for Namibia: National Conference to Raise Awareness and Plan Second Phase of Desertification Project. January 1994.
Swedish International Development Authority (SIDA): Co-PI with P.J. Jacobson and M.K. Seely: Ephemeral Rivers Project Phase II. April 1995.
1997 The Pathe Sarathy Prize: The Third International Environmental Film Festival. For: *Lifelines of Western Namibia - Ephemeral Rivers and Their Catchments.*
1998 Mbapira Awards: First Place. For: *Ephemeral Rivers and their Catchments: Sustaining People and Development in Western Namibia.* The Mbapira Awards honor Namibian-produced publications in a national biennial competition.
William and Flora Hewlett Foundation, Grinnell College: Community-based conservation policies: evaluating the benefits for communities and resources in arid western Namibia. February 1998.
The Swedish International Development Cooperation Agency (SIDA): Co-PI with P.J. Jacobson: evaluating the impacts of the Ephemeral Rivers Project on natural resource management in western Namibia. March 1998.
Iowa Academy of Science: Using molecular tools to examine the lifecycle and population biology of morels in central Iowa. June 1999.
Mellon Curricular Development Grant, Grinnell College: Population Genetics Module for Bio. 325 Fungal Biology. December 1999.
Mellon Curricular Development Grant, Grinnell College: Fungal Biodiversity Module for Bio. 325 Fungal Biology, December 1999.
National Science Foundation: MRI/RUI: Acquisition of a capillary electrophoresis system for DNA analysis in investigations of adaptation, speciation, species interactions and DNA repair. March 2000. (PI, with co-PI's: J. Brown, V. Eckhart, L. Gregg-Jolly)
Career Enhancement Fellowship, Woodrow Wilson National Fellowship Foundation, 2001-2002.
The John and Lucile Harris Junior Research Leave: Structuring of macro-fungal communities by hydrologic regimes in endangered dryland riparian ecosystems. Grinnell College. February 2000.
Nomination to Project Kaleidoscope: Faculty for the 21st Century. May 2002.
National Science Foundation: MRI/RUI: Acquisition of instrumentation for nutrient analysis in ecological research. August 2003. (coPI, with P. Jacobson (PI), J. Brown & V. Eckhart).
Center for International Studies: Competitive award for course-embedded travel to Namibia with Namib Ecology course. Fall and Spring 2013. (coauthored with P. Jacobson).
National Science Foundation: MRI/RUI: Acquisition of an Integrated Gas Exchange and Fluorescence Instrument for Multidisciplinary Physiological Research (coPI, with B. deRidder (PI), V. Eckhart, & P. Jacobson). May 2017

Review Activities

Grant proposals for: Environment Canada, National Geographic, National Research Foundation – South Africa, National Science Foundation – United States. Manuscripts for Biological Conservation, Ecology, Journal of Arid Environments, Journal of Heredity, Madoqua, Mycologia, Mycological Progress, Fungal Biology, New Phytologist, Nowa Hedwegia, WIRES Water, PLoS ONE, Functional Ecology, Ecosystems, FEMS Microbiology Ecology, Nature: Scientific Reports.