CURRICULUM VITAE

Personal details

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Education and Research

April 2009–Present: Associate Specialist with Prof. Dr. Cynthia Looy, Department of Integrative Biology, University of California at Berkeley.

- postdoctoral researcher in paleobotany, supervision three undergraduate students
- laboratory management/website management
- projects: functional morphology and paleophysiology of Permian conifers, intra-canopy variation in epidermal morphology in redwoods

Dec 2008 – Mar 2009: Visiting Scientist at the Department of Plant Biology, University of Illinois at Urbana-Champaign. Project: "Fluctuating asymmetry of leaves as a potential proxy for paleoelevation".

- research, supervision undergraduate student
- laboratory management

May 2008–May 2010: Research Associate at the Field Museum of Natural History, Chicago.

May 2006–May 2008: John Caldwell Meeker Postdoctoral Fellow at Field Museum of Natural History, Chicago. Project: "Reconstruction of the Cenozoic uplift history of the Sierra Nevada using stomatal frequency analysis".

- stomatal analysis of fossil and modern leaves
- running experiments in growth chambers on trees grown in controlled environments
- development of new leaf morphology-based elevation proxies

Apr 2005-Apr 2006: Postdoctoral Research Associate at the Field Museum of Natural History, Chicago. Funded by a TALENT-grant of the Netherlands Organization for Scientific Research. Project: "Using stomatal analysis of fossil leaves to reconstruct elevation in the Western US during the Tertiary".

- stomatal analysis of Miocene and modern leaves
- development of new techniques for the processing of fossil cuticle

Feb 2004-Apr 2005: Guest researcher at Department of Palaeoecology, Utrecht University

June 1998-Jan 2004: PhD position Department of Palaeoecology, Utrecht University. Project: "Application of conifer needles in the reconstruction of Holocene CO_2 levels"

- quantitative analysis of stomata on Holocene leaf remains
- analysis and interpretation of carbon isotopes (^{14}C and ^{13}C) in leaf fossils
- identification and taxonomy of conifer needles from the Western USA

Nov 1997-Aug 1998: Palynological consultant at the LPP Foundation (Utrecht, Netherlands)

- biostratigraphy based on palynological analysis of pre-Quaternary dinoflagellates and sporomorphs

1991-1997: MSc Biology, Utrecht University
Specialization: Paleo-ecology (Palynology)

Masters research projects :

1996-1997: *Palynological evaluation of the Aptian-Albian black shales in Central Italy* (Department of Botanical Palaeo-ecology, Utrecht University; nine months)
- biostratigraphical and paleoenvironmental studies based on dinoflagellate and sporomorph palynology

1995: *Phenotypic plasticity in Drosophila melanogaster* (Department of Population Genetics, Utrecht University; six months)

1995: *Planktonic foraminifera on the Rupelian-Chattian boundary* (Department of Geology, University of Urbino, Italy; three months)
- Oligocene biostratigraphy based on foraminifera

Fellowship and Awards

2006-2008: two-year John Caldwell Meeker Postdoctoral Fellowship at the Field Museum, Chicago ($64,000)

2005-2006: one-year TALENT-grant of the Netherlands Organization for Scientific Research ($30,000)

1997: Most Promising Young Scientist Award (TBC-conference, Stara Lesna; Slovakia)

Teaching experience:

Fall 2010: Co-teaching course Paleobotany at Department of Integrative Biology, University of California at Berkeley

2010: Supervision five undergraduate students at Department of Integrative Biology, University of California at Berkeley

2008-2009: Supervision undergraduate student Department of Plant Biology, University of Illinois at Urbana-Champaign

2007-2008: Member Graduate Student Thesis Committee: Rosemary Bush (Northwestern University, Evanston).

April 2008: Lecture "Stomata as CO_2 sensors" in course at Northwestern University, Evanston.

2000-2001: Supervision and practical guidance of two biology student MSc research projects in paleo-ecology.

1998-2003: During PhD: a total of three months teaching to undergraduate biology students in geology, landscape-ecology and paleobotany and palynology (laboratory assistance, leading geological field excursions and teaching seminars).

1993-1997: During MSc: several teaching-assistantships in population genetics, landscape-ecology and paleobotany and palynology (total three months.

Outreach and service:

2005-2008: Participation in Annual Member's Nights at the Field Museum, Chicago

Feb 2010: Co-teaching workshop: "Evolution and diversification of conifers" for the Jepson Herbarium Public Program

April 2010: Seminar "What fossil plants tell about the history of the Sierra Nevada" at Cal Day 2010 (University of Berkeley, California).

Oct 2010: Participation in National Fossil Day 2010 at the UCMP.

Field Work experience:

2007: Organized, led and conducted three week collection trip of modern leaves over altitudinal transects in Washington State.

2006: Co-leader five day post-conference fieldtrip "Flora of the Sierra Nevada: Past and Present". BSA 2006.

2005: Organized and conducted one week trip to collect Miocene fossil leaves in the Sierra

Nevada California.

1999: Organized, led and conducted a four week field excursion in New Zealand, in cooperation with local Universities to collect Holocene subfossil leaves from lakes and bogs.

1998: Organized, led and conducted a three week field excursion in Washington State, USA, to collect Holocene subfossil leaves from lakes and bogs.

1993-1997 Participated in field excursions to Italy and followed field-based courses in sedimentology, stratigraphy and structural geology.

Professional activities:

1999- 2002: member of the Earth Sciences PhD Student Platform (Utrecht, University)

1997- 2002: Editor (in chief) of "Stuifm@il" (journal of the Palaeobotanical and Palynological Society Utrecht)

Reviews for:

Annals of Botany
University of Chicago Press
Journal of Vegetation Science
International Journal of Coal Geology
Plant Species Biology
NSF

Memberships:

Palaeobotanical and Palynological Society Utrecht
Palynologische Kring
Botanical Society of America
Geological Society of America

Publications:

Kouwenberg LLR & Punyasena S. Fluctuating asymmetry of leaves of five species over elevation transects in Washington: a potential prxy for paleoelevation ? *In preparation, International Journal of Plant Sciences.*

Ickert-Bond SM, **Kouwenberg LLR**, Meyers Z & McElwain JC. Comparative cuticle micromorphology and anatomy of New World *Ephedra* (Ephedraceae) and their adaptive significance in desert habitats. *In preparation, American Journal of Botany.*

Lynch DJ, McInerney FA, Gonzalez-Meler M & **Kouwenberg LLR.** Plasticity in bundle sheath extensions in canopy and under-story species. *To be submitted, Journal of Experimental Botany*.

Kouwenberg LLR, Broughton JD, Tiffney BH & McElwain JC. Ancient elevation of Northern Sierra Nevada Mountains detected from stomatal analyses of 16 – 23 million year old fossil leaves. *In revision, Proceedings of the National Academy of Sciences.*

Kouwenberg LLR, Kürschner WM & McElwain JC. 2007. Stomatal frequency change over altitudinal gradients: prospects for paleoaltimetry. *Reviews in Mineralogy and Geochemistry* 66, 215-241.

Kouwenberg LLR, Hines RR & McElwain JC. 2007. A new transfer technique to extract and process thin and fragmented fossil cuticle using polyester overlays**.** *Review of Palaeobotany and Palynology*

145, 243-248.

Kouwenberg LLR, Wagner F, Kürschner WM & Visscher H. 2005. Atmospheric CO_2 fluctuations during the last Millennium reconstructed by stomatal frequency analysis of *Tsuga heterophylla* needles. *Geology* 33, 33-36.

Kouwenberg LLR, Kürschner WM & Visscher H. 2004. Changes in stomatal frequency and size during elongation of *Tsuga heterophylla* needles. *Annals of Botany* 94, 561-569.

Wagner F, **Kouwenberg LLR**, van Hoof TB & Visscher H. 2004. Reproducibility of Holocene atmospheric CO_2 records based on stomatal frequency. *Quaternary Science Reviews* 23, 1947-1954.

Kouwenberg LLR. 2004. Application of conifer needles in the reconstruction of Holocene CO_2 levels. PhD Thesis. *LPP Contributions series* 16. LPP Foundation, Utrecht.

Kouwenberg LLR, McElwain JC, Kürschner WM, Wagner F, Beerling DJ, Mayle FE & Visscher H. 2003. Stomatal frequency adjustment of four conifer species to historical changes in atmospheric CO_2. *American Journal of Botany* 90, 610-619.