

CURRICULUM VITAE

Nicola Lorenz, PhD

PROFESSIONAL EXPERIENCE

Since 08/2014

Researcher at Ohio State University

- Project and Lab Manager
- Soil Microbial Ecology
- Research of Glyphosate effects on soil microbial communities, Soil Quality/Soil Health

01/2013 – 07/2014

Senior Research Fellow at the Institute for Advanced Sustainability Studies (IASS) Potsdam

- Project Leader "Role and Potential of Unconventional Natural Gas"
- Steering Committee Member of the Potsdam Summer School 2014, entitled "The Arctic in the Anthropocene"
- Member of the Earth, Energy and Environment Cluster at IASS under the direction of Nobel Laureate Prof. Dr. Dr. Carlo Rubbia (Nobel Prize for Physics in 1984)

09/2012 – 12/2012

Assistant at Opportunity International, Potsdam Office

- Interpreter (German-English, English-German), Prezis, Web Design

07/2012 - 09/2012

Consultant for the IASS Potsdam

- Reviewing and editing of a book "Ecosystem Services and Carbon Sequestration in the Biosphere"

11/2011 - 12/2011

Consultant for the IASS Potsdam

- Acquiring global data on agricultural land (ha) per capita and rural poverty in Africa, Asia and South-America
- Summarizing two case studies for a press conference

05/2006 - 03/2011

Post-Doc and Lab Manager at The Ohio State University, Ohio/USA, Soil Microbial Ecology Lab

- ¹³C Glyphosate Effects on Roundup Ready (RR) Corn and RR Soybean Rhizosphere Microorganisms
- Interactions between Soil Microbial Biomass, Mineralogy and Organic Matter, and Potassium Dynamics in Corn in Rotation with Glyphosate Tolerant Soybeans
- Effects of soil freezing, drying, and cooling on soil microbial properties

05/2005 - 04/2006

Research Associate at The Ohio State University, Ohio/USA, Soil Microbial Ecology Lab

- Effects of Soil Storage on Microbial Properties
- Effects Biosolid and Vermicompost Applications on Soil Microbial Communities

03/2004 - 08/2004

Post-Doc, Institute of Environmental Science and Research Ltd., Section Microbiology, Porirua, New Zealand

- Response of Microorganisms to Biosolid and Heavy Metal Applications

06/2001 - 06/2003

Research Scientist, University of Hohenheim, Germany, Institute of Soil Science and Land Evaluation, Section Soil Biology

- Interactions of Heavy Metals with Microorganisms in Soil Microhabitats (DFG-Project)

03/2000 - 05/2001

Assistant Lecturer at University of Hohenheim, Germany, Institute of Soil Science and Land Evaluation, Section Soil Biology

- Teaching Graduates and Undergraduates
- Preparation of a Research Proposal on Heavy Metals for the German Research Foundation (DFG) with Prof. Dr. Ellen Kandeler

08/1995 - 01/1999

Research Scientist and PhD-Student, University of Trier, Germany, Faculty of Earth Science, Department of Soil Science, Section Microbiology

- Soil Development and Soil Properties of Soils in the Middle German and Lusatian Lignite Mining Districts with Focus on Soil Biological Properties (BMBF-Project)

01/1991 - 09/1994

**Laboratory Assistant, University of Trier, Germany, Faculty of Earth Science,
Department of Soil Science, Section Microbiology**

- Microbiological Properties of Soils Managed by Conventional, Integrated and Biological farming practices
- Microbiology, Soil Earthworms

AFFILIATIONS

Member of the German Soil Science Society since 1995, Section Soil Biology

Member of the American Soil Science Society since 2006, Section Microbiology

REVIEWER FOR SCIENTIFIC JOURNALS

APPLIED SOIL ECOLOGY, EUROPEAN JOURNAL OF AGRONOMY, EUROPEAN JOURNAL OF SOIL BIOLOGY,
PESTICIDE BIOCHEMISTRY AND PHYSIOLOGY, SOIL BIOLOGY AND BIOCHEMISTRY

PEER-REVIEWED PUBLICATIONS

Helgason BL, Gregorich EG, Janzen HH, Ellert BH, Lorenz N, Dick RP (2014): Long-term microbial retention of residue C is site-specific and depends on residue placement. *Soil Biology and Biochemistry* 68, 231-240.

Lane M, Lorenz N, Saxena J, Ramsier C, Dick RP (2012): The effect of glyphosate on soil microbial activity, microbial community structure, and soil potassium. *Pedobiologia* 55, 335-342.

Lane M, Lorenz N, Saxena J, Ramsier C, Dick RP (2012): Microbial activity, community structure and potassium dynamics in the rhizosphere soil of soybean plants treated with glyphosate. *Pedobiologia* 55, 153-159.

Lane M, Lorenz N, Saxena J, Ramsier C, Dick RP (2012): The effect of glyphosate on soil microbial activity, microbial community structure, and soil potassium. *Pedobiologia*, 55, 153-159.

Chaudhary DR, Saxena J., Lorenz N, Dick RP (2012): Distribution of recently fixed photosynthate in a switchgrass plant-soil system. *Plant, Soil and Environment* 58, 249-255.

Vallejo VE, Roldán F, Arbeli Z, Terán W, Lorenz N, Dick RP (2012): Effect of land management and *Prosopis juliflora* (Sw.) DC trees on soil microbial community and enzymatic activities in intensive silvopastoral systems of Colombia. *Agriculture, Ecosystems and Environment* 150, 139-148.

Lorenz N and Dick RP (2011): Soil Sampling and Pretreatment before Enzyme Analysis. Chapter in the Soil Science Society of America Book Series 'Methods of Soil Enzymology' (Hrsg. Dick, RP), pp 85-102.

- Lorenz N, Verdell K, Ramsier C, Dick RP (2010): Development and application of a rapid assay to estimate soil microbial biomass potassium in agricultural soils. *Soil Science Society of America Journal* 74, 512-516.
- Faé GS, Sulc RM, Barker DJ, Dick RP, Eastridge ML, Lorenz N (2009): Integrating Winter Annual Forages into a No-Till Corn Silage System. *Agronomy Journal* 101, 1286-1296.
- Lee YB, Lorenz N, Kincaid Dick L, Dick RP (2007): Cold storage and pretreatment incubation effects on soil microbial properties. *Soil Science Society of America Journal* 71, 1299-1305.
- O'Callaghan M, Lorenz N, Gerard EM (2006): Characterization of phylloplane and rhizosphere microbial populations using PCR and Denaturing Gradient Gel Electrophoresis (DGGE). In: Cooper, JE and Rao, JR, *Molecular Approaches to Soil, Rhizosphere and Plant Microorganism Analysis*. CABI publishing, p 99-115. ISBN 1 845 9306 2 2.
- Lorenz N, Hintemann T, Kramarewa T, Marschner P, Katayama A, Yasuta T and Kandeler E (2006): Response of microbial activity and community composition in soils to long-term arsenic and cadmium exposure. *Soil Biology and Biochemistry* 38, 1430-1437.
- Marx MC, Kandeler E, Wood M, Wermbter N, Jarvis SC (2005): Exploring the enzymatic landscape: distribution and kinetics of hydrolytic enzymes in soil particle size fractions. *Soil Biology and Biochemistry* 37, 35-48.
- Ebersberger D, Wermbter N, Niklaus PA, Kandeler E (2004): Effects of long term CO₂ enrichment on microbial community structure in calcareous grassland. *Plant and Soil* 264, 313-323.
- Reiter B, Wermbter N, Gyamfi S, Schwab H, Sessitsch A (2003): Endophytic Pseudomonads spp. populations of pathogen-infected potato plants analysed by 16S rDNA- and 16S rRNA-based denaturing gradient gel electrophoresis. *Plant and Soil* 257, 397-405.
- Poll C, Thiede A, Wermbter N, Sessitsch A, Kandeler E (2003): Micro-scale distribution of microorganisms and microbial enzyme activities in a soil with long-term organic amendment. *European Journal of Soil Science* 54, 715-724.

EDUCATION

08/1995 - 12/1999

Ph.D in Geosciences, University of Trier

- Magna cum laude (A)
- Thesis: Biological properties of recultivated soils in the Middle German and Lusatian lignite mining districts considering parent material, land use, tillage practices and soil age (Publication ISBN 3 9807099 2 2).

LANGUAGES

- German, native
- English, advanced
- French, basic
- Spanish, basic