

# Prof. Dr. Stefan Norra

**Karlsruhe Institute of Technology  
Honorary Professor for Geoecology  
at the Technical University Bergakademie Freiberg**

## **Contact information**

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## **PROFESSIONAL EXPERIENCE**

- Since 2015: apl. Professor for Environmental Mineralogy at the Karlsruhe Institute of Technology; Honorary Professor of Geoecology at the Technische Universität Bergakademie Freiberg
- Since 2013: Head of a Research Group for Environmental System Analyses, Karlsruhe Institute of Technology (KIT)
- 2011 – 2015: Visiting Professor of Geoecology at the Technische Universität Bergakademie Freiberg
- 2010 – 2013: Acting Head of the Institute of Geography and Geoecology
- 2009 – 2013: Acting Chair for Physical Geography and Geoecology, Institute of Geography and Geoecology, KIT
- 2008 – 2016: Speaker of the Research Topic "Urban Systems" within the KIT Center "Climate and Environment"
- 2001 – 2009: Scientist at the Institute of Mineralogy and Geochemistry, University of Karlsruhe (TH), head of the working group "Urban Geochemistry"
- 1996 – 2001: Scholarship from the federal state of Baden-Württemberg and scientific assistant at the Institute of Petrography and Geochemistry
- 02/96 - 04/96: Scientific Assistant at the Institute of Geography and Geoecology, University of Karlsruhe (TH)
- 05/95 - 12/95: Expert for the Gesellschaft für Technische Zusammenarbeit (GTZ) in Sana'a, Yemen

## **Habilitation**

- 01/16/2008: Habilitation Colloquium: "Asian agricultural systems endangered by arsenic in groundwater – reasons, impacts and mitigation measures"
- 06/2007: Submission of Professorial Dissertation

## **Doctorate**

- 04/96 - 01/01: Doctorate degree (summa cum laude) at the Institute of Petrography and Geochemistry, University of Karlsruhe:

### **Studies**

- 09/87 - 05/95: Studies in Geoecology at University of Karlsruhe
- 07/05/95: Diplom examination (passed with the highest distinction)

### **Student employments**

- 11/88 - 06/90: Institute of Geography and Geoecology, University of Karlsruhe
- 06/91 - 03/93: Engineering office "Trischler und Partner GmbH", Karlsruhe

### **Internships**

- 06/07 - 14/08/87: "AN Maschinenbau und Umweltschutzanlagen GmbH" in Bremen (Specialist company for mechanical engineering and environmental protection plants)
- 10/93 - 01/94: Gesellschaft für Technische Zusammenarbeit (GTZ) in Sana'a, Yemen in the project: "Planning Assistance for Urban Development"

### **Civil Service**

- 07/85 - 02/87: Civil service in Bremen at a workshop for the handicapped

### **Education**

- 1976 – 1985: Secondary school in Bremen
- 1972 – 1976: Elementary school in Bremen

### **Awards**

- 12/12/97: Project grant from the Sparkasse Foundation to support scientific projects in the field of environmental protection at University of Karlsruhe
- 04/12/01: 1st-place award from the Sparkasse Foundation to support scientific projects in the field of environmental protection at University of Karlsruhe

### **Parental part time working period**

- 01/04/2005 – 30/06/2005: 20% of full time employment
- 01/07/2005 - 30/09/2005: 50% of full time employment

### **Teaching**

- since 2001: Lectures, excursions, exercises, seminars in Soil Mineralogy, Environmental Geochemistry, Urban Ecology, Physical Geography, Ecosystem Research, Ecological Modeling, Aquatic Ecology, Landscape Ecology

### **Editorial Boards**

- since 2009: Member of the editorial board of Geochemistry (Chemie der Erde)
- since 1998: Subject editor for urban soils and soil mineralogy for Journal of Soils and Sediments

### **VDI activity**

- 2007 – 2012: Member of KRdL-Working Group 4/2/19 Sampling with adhesive plates

(Mitglied der KRdL - Kommission Reinhaltung der Luft - Arbeitsgruppe 4/2/19 "Probenahme mit Haftfolien")

### **German Soil Society**

- since 2016: Speaker of Commission VIII (Soils in Education and Society) of the German Soil Science Society

### **CURRENT AND MAJOR PROJECT ACTIVITIES**

1. Pathways and decomposition of Atrazin in the Environment. Prof. Limin Ma, Tongji University, Shanghai. DAAD-PPP, 2016 -2018.
2. SIGN-DYNAQUA: Development of monitoring technologies within a Sino-German research and development network to study dynamics of water quality in Lake Tai, China. Prof. Binghui Zheng, China Research Academy of Environmental Sciences, Beijing. BMBF, 2015 – 2018.
3. SPURAP – Sources and processes of urban air pollution in Varansi, India. Prof. Kirpa Ram, Banaras Hindu University. CONNECT program, Alexander von Humboldt Foundation, 2015 – 2016.
4. Beijing dust pollution: Investigation of relevant processes of aerosol pollution in Beijing – source identification, elemental composition and bio-availability with respect to different land use types. Prof. Kuang Cen, China University of Geosciences, Beijing, and Prof. Fahe Chai China Research Academy of Environmental Sciences, Beijing. DFG, NSFC, KIT, BMBF, since 2003.
5. ORMET – Optimization of remediation measures and techniques for historical burdens of gasworks. ARCADIS Germany. since 2011.
6. Geogenic arsenic in the environment. Prof. Huaming Guo, China University of Geosciences, Beijing. DFG, NSFC, BMBF. since 2008.
7. Yangtze project MINIBAT: Spatio-temporal resolved in-situ and on-line monitoring of the dynamics of water quality parameters by means of a towed under water monitoring system (MINIBAT). Prof. Binghui Zheng, China Research Academy of Environmental Sciences, Beijing. BMBF, 2011 – 2015.

### **PUBLICATION**

#### **Relevant Journals:**

Environ. Sci. and Technol., Water Res., J Hazard. Mater., Environ. Pollut., Sci. Total Environ., Atmos. Environ., Chem. Geol., Environ. Sci. Pollut. R, etc

**Selected Publications from, 140+:**

1. **Norra S, Yu Y, Dietze V, Schleicher N, Fricker M, Kaminski U, Chen Y, Stüben D, Cen K 2016:** Seasonal dynamics of coarse atmospheric particulate matter between 2.5  $\mu\text{m}$  and 80  $\mu\text{m}$  in Beijing and the impact of 2008 Olympic Games. *Atmospheric Environment* 124, 109-118.
2. **Chen Y, Schleicher N, Fricker M, Cen K, Liu X, Kaminski U, Yu Y, Wu X, Norra S 2016:** Long-term variation of black carbon and PM<sub>2.5</sub> in Beijing, China, with respect to meteorological conditions and governmental measures. *Environmental Pollution* 212, 269-278.
3. **Schleicher NJ, Schäfer J, Chen Y, Blanc G, Chen Y, Chai F, Cen K, Norra S 2016:** Atmospheric particulate mercury in the megacity Beijing: Efficiency of mitigation measures and assessment of health effects. *Atmospheric Environment* 124, 396-403.
4. **Schleicher NJ, Schäfer J, Blanc G, Chen Y, Chai F, Cen K, Norra S 2015:** Atmospheric particulate mercury in the megacity Beijing: Spatial-temporal variations and source apportionment. *Atmospheric Environment* 109, 251-261.
5. **Chen Y, Schleicher N, Chen Y, Chai F, Norra S 2014:** The influence of governmental mitigation measures on contamination characteristics of PM<sub>2.5</sub> in Beijing. *Science of the Total Environment* 490, 647-658.
6. **Holbach A, Norra S, Wang L, Yijun Y, Hu W, Zheng B, Bi Y 2014:** Three Gorges Reservoir: Density Pump Amplification of Pollutant Transport into Tributaries. *Environmental Science and Technology* 48 (14), 7798-7806.
7. **Neidhardt H, Berner ZA, Freikowski D, Biswas A, Majumder S, Winter J, Gallert C, Chatterjee D, Norra S 2014:** Organic carbon induced mobilization of iron and manganese in a West Bengal aquifer and the muted response of groundwater arsenic concentrations. *Chemical Geology* 367 (28), 54-62.
8. **Schleicher N, Norra S, Fricker M, Kaminski U, Chen Y, Chai F, Wang S, Yu Y, Cen K 2013:** Spatio-temporal variations of black carbon concentrations in the Megacity Beijing. *Environmental Pollution* 182, 392-401.
9. **Neidhardt H, Berner Z, Freikowski D, Biswas A, Winter J, Chatterjee D, Norra S 2013:** Influences of groundwater extraction on the distribution of dissolved As in shallow aquifers of West Bengal, India. *Journal of Hazardous Materials* 262, 941-950.
10. **Tang X, Berner Z, Khelashvili P, Norra S 2013:** Preparative separation of arsenate from phosphate by IRA-400 (OH) for oxygen isotopic work. *Talanta* 105, 46-51.

11. **Schleicher N, Norra S, Chen Y, Chai F, Wang S 2012:** Efficiency of mitigation measures to reduce particulate air pollution – A case study during the Olympic Summer Games 2008 in Beijing, China, *Science of the Total Environment* 427-428, 146-158.
12. **Schleicher N, Kramar U, Dietze V, Kaminski U, Norra S 2012:** Geochemical characterization of single atmospheric particles from the Eyjafjallajökull volcano eruption event collected at ground-based sampling sites in Germany. *Atmospheric Environment* 48, 113-121.
13. **Neidhardt H, Norra S, Tang X, Guo H, Stüben D 2012:** Impact of irrigation with high arsenic burdened groundwater on the soil-plant system: Results from a case study in the Inner Mongolia, China. *Environmental Pollution*, 163, 8-13.
14. **Schleicher N, Norra S, Dietze V, Yu Y, Fricker M, Kaminski U, Chen Y, Cen K 2011:** The effect of mitigation measures on size distributed mass concentrations of atmospheric particles and black carbon concentrations during the Olympic Summer Games 2008 in Beijing, *Science of the Total Environment*, 412-413, 185-193.
15. **Schleicher N, Norra S, Chai F, Chen Y, Wang S, Cen K, Yu Y, Stüben D 2011:** Temporal variability of trace metal mobility of urban particulate matter from Beijing – a contribution to health impact assessments of aerosols. *Atmospheric Environment*, 45, 7248-7265.
16. **Guo H, Zhang B, Li A, Berner Z, Tang X, Norra S, Stüben D 2011:** Hydrogeological and biogeochemical constraints of arsenic mobilization in shallow aquifers from the Hetao basin, Inner Mongolia. *Environmental Pollution*, 159, 876-883
17. **Farooq SH, Chandrasekharam D, Berner Z, Norra S, Stüben D 2010:** Influence of traditional agricultural practices on mobilization of arsenic from sediments to groundwater in Bengal delta, *Water Research* 44 (19), 5575-5588.
18. **Eiche E, Kramar U, Berg M, Berner Z, Norra S, Neumann T 2010:** Geochemical changes in individual sediment grains during sequential arsenic extractions, *Water Research*, 44 (19), 5545-5555.

#### **Monographies and Books:**

1. Rauch S, Morrison G, **Norra S**, Schleicher N (eds.) **2013:** *Urban Environment*, Springer.
2. **Norra S 2007:** *Geochemie urbaner Systeme*. Habilitationsschrift. Universität Karlsruhe (TH), Karlsruhe.

3. **Norra, S. 2001:** Umweltgeochemische Signale urbaner Systeme am Beispiel von Böden, Pflanzen und Stäuben in Karlsruhe. Karlsruher Geochemische Hefte 18. Schriftenreihe des Institutes für Mineralogie und Geochemie, Universität Karlsruhe (TH).

4. **Norra, S. 1997:** Anorganische Schadstoffbelastung in Stäuben, Straßensedimenten, Böden und Pflanzen entlang innerstädtischer Straßen am Beispiel von sechs Standorten in Karlsruhe. Karlsruher Berichte zur Geographie und Geoökologie, H. 10. Institut für Geographie und Geoökologie, Universität Karlsruhe (TH)