

# Dr. rer. nat. Brigitte Urban

Speaker of the Research Group  
Ecosystem Functioning and Global Change

## Professional Background:

- Professor of Soil Science and Biology at University of Lüneburg  
Honorary Professor of University of Tübingen, Faculty of Geosciences
- Biologist and Quaternary Geoecologist, research in Geo- and Archeo-Botany, Environmental Geology, Soil Science and Prehistory
- International experience with the reconstruction of Quaternary environments, environmental risk assessment, land use management and integrated river catchment management

## Research Interests:

- Quaternary landscape and climate evolution
- Global environmental history, global change and anthropogenic impact on the environment
- Reconstruction and assessment of Pleistocene and Holocene climate, vegetation, soil
- Land use history and development
- Sustainable land use systems
- Assessment of soil and water quality
- Soil and water conservation and integrated river catchment management

## Publications (since 1999)

### ARTICLES IN JOURNALS AND EDITED VOLUMES

- Urban, B. (1999): Middle and Late Pleistocene biostratigraphy and paleoclimate of an open-pit coal mine Schoningen: Germany. - Chinese Science Bulletin: Vol. 44 Suppl., p. 30-37.
- Urban, B. (2001) in: Synthesebericht des Forschungsvorhabens: Leitbilder des Naturschutzes und deren Umsetzung mit der Landwirtschaft im niedersächsischen Elbetal - Ziele, Instrumente und Kosten einer umweltschonenden und nachhaltigen Landnutzung; Eds. Evers, M., J. Prüter & J. Schreiner 212 S.; Anhang; Alfred Toepfer Akademie für Naturschutz, 2001. URL: [elise.bafg.de](http://elise.bafg.de)
- Urban, B. (2002): Rekonstruktion pleistozäner und holozäner Landschafts- und Klimageschichte im nördlichen Mitteleuropa mithilfe limnisch-telmatischer und terrestrischer Sediment- und Bodenabfolgen.- In: Geo 2002 - Planet Erde: Vergangenheit, Entwicklung, Zukunft. Dt. Geol. Ges., H.21, 336-337.
- Urban, B. (2002): Manual for Analysis of Soils and Related Materials. In: Sustainable Water and Soil Management, Eds. S. Kunst et al., 321-369, Springer Verlag Heidelberg.
- Urban, B. (2002): Water and Soil Towards sustainable landuse. In: Sustainable Water and Soil Management, Eds. Kunst S. et al., 261-293, Springer Verlag Heidelberg.
- Urban, B. (2003) River Elbe Ecology - Contributions to a Large Scale Environmental Project. In: Coastal Urban Environments, Eds. R. Ramesh & S. Ramachandran, 67-88; Capital Publishing Company, New Delhi, Kolkate, Bangalore.
- Urban, B. & M. Fuchs (2005). Upper Pleistocene Vegetation history of the Basin of Phlious, NE-Peloponnese, Greece.- Review of Paleobotany and Palynology, Volume 137/1-2, 15-29, Elsevier.
- Urban, B. (2007): Stratigraphische Begriffe für das Quartär des Periglazialraums in Deutschland.- In Stratigraphie von Deutschland – Quartär. Eiszeitalter und Gegenwart, E & G Quaternary Science Journal, 56, No. 1/2, 84-95.
- Becker, K. & B. Urban (2006): Jungholozäne Umweltentwicklung und Landnutzungsgeschichte im Hardautal, Ldkr. Uelzen (südliche Lüneburger Heide).- TELMA 36,11-38, Hannover
- Sirocko, F., Clausen, M., Litt, T., M.F. Sáchez Goni, Berger, A., Boettger, T., Diehl, M., Desprat, S., Delmonte B., Degerng, D., Frechen, M., Geyh, M., Groeger, M., Kageyama, M., Kaspar, F., Kühl, N., Kubatzki, C., Lohmann, G., Loutre, M.-F., Müller, U., Rein, B., Rosendahl, W., Roucoux, K., Rousseau, D.-D., Seelos, K., Siddall, M., Scholz, D., Spötl, C., Urban, B., Vautravers, M., Velicko, A., Wenzel, S., widmann, M. und B. Wünnemann (2006):

Chronology and Climate Forcing of the Last Four Interglacials.- In: THE CLIMATE OF PAST INTERGLACIALS. Sirocko, F., Litt, T., Claussen, M., Sanchez-Goni, M.F. (eds.), 417-444, Springer Verlag.

- o Urban, B. (2006): Interglacial pollen records from Schöningen, north Germany.- In: THE CLIMATE OF PAST INTERGLACIALS. Sirocko, F., Litt, T., Claussen, M., Sanchez-Goni, M.F. (eds.), 417-444, Springer Verlag.
- o Frechen, M., Sierralta, M., Oezen, D. & B. Urban (2006): TIMS uranium series dating of interstadial and interglacial peat.- In: THE CLIMATE OF PAST INTERGLACIALS. Sirocko, F., Litt, T., Claussen, M., Sanchez-Goni, M.F. (eds.), 93-118, Springer Verlag.

#### ARTICLES IN PRESS

- o Urban, B. Pflanzenbürtige Mikrofossilien, mikroskopische Holzkohlenpartikel und bodenchemische Analysen. 18 S. In: Mammutjägerlager vor 35.000 - 27.000 Jahren in Krems-Hundssteig (Grabungen 2000 - 2002). Hsg: Christine Neugebauer-Maresch. Monographie.
- o Urban, B., Brock, J. von Haaren, J. (2006): Land use management and anthropogenic influenced distribution of pollutants in flood plains.- Landnutzung und anorganische Stoffeinträge in Überflutungsgebieten der unteren Mittelbe. -Hamburger Wasserbauschriften. TUHH, Hamburg.
- o Urban, B., J. Brock (2007): Impact of flood borne pollutants on land use in the lower Middle Elbe River flood plains (North Germany).- Proceedings of International Conference on Climate Changes and their impacts on Coastal Zones and River Deltas: Vulnerability, Mitigation and Adaption. Alexandria, Egypt 2007
- o Zöller, L., Urban, B., Hambach, U. (2007): Klima- und Umweltveränderungen während des Eiszeitalters.- In: Homo heidelbergensis Schlüsselfund der Menschheitsgeschichte. G. A. Wagner, H.Rieder, L. Zöller (eds.)
- o Urban, B., J. Brock (2007): Impact of flood borne pollutants on land use in the lower Middle Elbe River flood plains (North Germany).- Proceedings of International Conference on Climate Changes and their impacts on Coastal Zones and River Deltas: Vulnerability, Mitigation and Adaption. Alexandria, Egypt 2007
- o Purvaja, R., Rajkumar N. A., Urban, B. Ramesh, R.(2007): Polluted River Deltas as Sources of Atmospheric Trace Gases, Nutrients and Toxic Elements - River Adyar Catchment, South India -. Proceedings of International Conference on Climate Changes and their impacts on Coastal Zones and River Deltas: Vulnerability, Mitigation and Adaption. Alexandria, Egypt 2007
- o Ramesh, R., Purvaja, R. , Urban, B. (2007): Assessment of the Tsunami Affected Andaman Islands, India.-

#### RESEARCH PAPERS AT INTERNATIONAL / NATIONAL CONFERENCES / ABSTRACTS

- o Evers, M., Jörg Brock, Hanko Rubach, Brigitte Urban (2005): Integrated spatial management in floodplain landscapes. Development of a DSS to conflate different land use demands in planning processes. (iFMH). p. 1-10, CD-Rom. Conference of the International Committee for Irrigation and Drainage (ICID). Frankfurt/Oder 17.05.2005.
- o Urban, B. (2005): The last four Interglacial/Glacial cycles and human history in Northern Germany.- Abstract, 215-216, Deklim-Pages conference "The climate of the next millenia in the perspective of abrupt climate change during the Late Pleistocene". Mainz, March, 2005.
- o Manfred Frechen, M. Sierralta, D. Oezen and B. Urban (2005): Uranium Series Dating of Peat in Central and NW Europe covering MIS 11 to 5.- Abstract, Deeklim Eem. Mainz, March, 2005.
- o Urban, B. (2005): Water Quality and Ecology of the Elbe Floodplains.- Network for Research and Capacity Building on Aquatic Ecosystems of Monsoon Asia; 3rd meeting, 27-28 September 2005, Chennai, India. Proceedings to be published in EOS.
- o Urban, B. (2005): Approaches to an Integrated Catchment Management, German Experiences.- Coastal Zone Management, International Experiences - An Interactive Session, 30 September, 2005, Thiruvanthapuram, Kerala, India. Proceedings to be published in EOS.
- o Evers, M., Urban, B., Brock, J., Rubach, H. Gusky, N. (2005): Integration of a Desision Support System (DSS) in land use management of flood plains.- Abstract and Poster. - Umweltbezogene nationale und internationale Forschungsaktivitäten im Flusseinzugsgebiet der Elbe. UFZ Leipzig-Halle, Fachtagung 10.11. 2005.

- Evers, M., Urban, B., Brock, J., Rubach, H. & M. Tucci (2004): Integration of DSS (Decision Support System) into spatial planning processes including flood risk mapping and contamination risk assessment. FLOWS INTERREG IIIB Co-operation on Spatial Development 2003-2006.- Poster Presentation, 22nd International NO- DIG Conference and Exhibition, Hamburg, Germany.
- Urban, B. (2003): Overview on the long west European pollen records.- DEKLIM EEM, 2nd workshop. Climate change at the very end of a warm stage: p. 11-12; F. Sirocko & A. Mangini, Convenors.
- Urban, B. (2000): Pollen stratigraphy, soils and evidence for early human occupation in the Mid-Late Pleistocene of Central Europe. In: J. Magee & C. Graven (eds.): Abstracts of the Quaternary Studies Meeting. Regional Analysis of Australian Quaternary Studies: Strengths, Gaps and future Directions, 7-9 Feb., 2000. Department of Geology, Australian National University, Canberra.
- Urban, B. (2002): Grundwasser- und Bodenschutz im niedersächsischen Elbetal - Ein Beitrag zum Flussgebietsmanagement.- In: Wechselwirkungen zwischen Grundwasserleitern und Oberflächengewässern. Beiträge zum Tag der Hydrologie 2002. H. Wittenberg & M. Schöniger, Hrsg. , S. 194; Fachgemeinschaft Hydrologische Wissenschaften in der ATV-DVWK.- Hennef: GfA, 2002.
- Urban, B. (2002): Eemian and Early Weichselian Vegetation and Uranium/Thorium and Thermoluminescence Age Determinations from Sections in Northeast Lower-Saxony, Germany.- DEKLIM-EEM 1st Workshop - Abstracts, pp 77-78; Leipzig.
- Urban, B. (2002): Invited Contribution to workshop on: Marine Isotope Stage 11 and its terrestrial equivalents.- INQUA COMMISSION ON STRATIGRAPHY, University Leiden (The Netherlands).
- Urban, B. (2002): River Elbe Ecology - Contributions to a Large Scale Environmental Project.- Workshop on Integrated Coastal Zone Management.-Impact of Urbanization in Coastal Areas.- 10.-12.10.2002. Joint function of Max Müller Bhavan (Goethe Institute, Chennai) and Institute of Ocean Management (IOM), Anna University, Chennai, India.
- Kunz, A., Frechen M., Ramachandran R., Urban B. (2007): Dating of palaeotsunami deposits from the Andaman Islands, India, INQUA 2007, Cairns, Australia
- Urban, B., Ramachandran, P., Ramesh, R.(2007): Impacts on coastal ecology and environments of past and recent tsunamis of the Andaman Islands, INDIA India, INQUA 2007, Cairns, Australia

## PUBLICATIONS AND REPORTS OF RESEARCH PROJECTS

- Ramesh R., Ramachandran, P. & B. Urban (2005): Environmental Assessment in Tsunami [www.ecochange.de](http://www.ecochange.de)
- -affected Andaman Islands, INDIA. Report on preliminary results of the 2005 field studies.- 17 p. (WTZ, BMBF IND)
- Urban, B., Brenner-Herrenbrück, Chr. & A. Heins (2001): Untersuchungen zur nachhaltiger Bodennutzung und zum Grundwasserschutz im niedersächsischen Elbetal. - Ein Beitrag zum BMBF-Forschungsvorhaben "Leitbilder des Naturschutzes und deren Umsetzung mit der Landwirtschaft". 279 S., Anhang. - Suderburg, 2001, Forschungsbericht, unpubl.
- Urban, B (2000):. In: Zwischenbericht 01.01.-31.12.1999 zum BMBF-Projekt Elbe-ökologie - "Leitbilder des Naturschutzes und deren Umsetzung mit der Landwirtschaft", Teilprojekt Wasser und Boden, S.125-129. Schneverdingen, 17.03. 2000.
- Urban, B. (2000): Bodenkundliche Forschung - Beispiele zu nachhaltiger Landnutzung und zum Grundwasserschutz.: Standortökologische Untersuchungen zur Erfassung des Ist-Zustandes von Boden, Bodenwasser und Grundwasser in der niedersächsischen Elbtalau im Vorhaben Leitbilder des Naturschutzes und deren Umsetzung mit der Landwirtschaft.- In: Die Zukunft ist klar - Wasserschutz und ökolandbau, S.42-50, CCSuderburg Dokumentation, 2000.
- Urban, B. (2000): Water and soil towards sustainable landuse.- Project area water Reader I, 77-80. International women´s university ifu, July 15th-October 15th 2000, Hannover, Suderburg.

## ARTICLES IN PREPARATION

- Ramesh, R., Rajkumar, N., Purvaja, R., Urban, B.: Water quality and aspects of urban water resource management in Chennai City, India. - Environmental Science and Technology.
- Urban, B., Bürkert, A., Fuchs, M.: Late Pleistocene and Holocene palaeoecology of Oasis Maqta in northern Oman.

- o Urban, B. : Zur jüngeren pleistozänen und holozänen Vegetationsgeschichte im Raum Schöningen/NONiedersachsen.- Buchbeitrag zur Monographie: Schöningen I; Projekt ASHB.
- o H., Zöller, L. (Hrsg.). 100. Wiederkehr des Funddatums des Unterkiefers von Mauer. Becker, K., Urban, B. : Vegetations- und Landschaftsentwicklung im Hardautal (Landkreis Uelzen, Niedersachsen).- Telma.
- o Ramesh R., Ramachandran, P. ,Urban B. :Assessment of the Tsunami Affected Andaman Islands, India.

## Phd-Projects:

- o J.-A.Kunz: Geochronological investigations of coastal Tsunami effected Quaternary sediments in India. In cooperation with Leibniz Institute of Applied Geosciences, Hannover (Since February 2006)

## Curriculum Vitae:

- o 2005-2006: Vize president of University of Lüneburg International Affairs
- o Since 2005: Honorary Professor of University of Tübingen, Faculty of Geosciences
- o Since 2005: Chairperson of the Scientific Advisory Board of "Leibniz Institute for Applied Geosciences", (GGA) Hannover
- o 2003-2004: Dean of Faculty of Civil Engineering (Water Management & Engineering, Applied Computing)
- o 2000: Organizer, lecturer and project promoter of Project Area Water (EXPO 2000 project: International Women´s University)
- o 1996-1998 and 2001-2002: Vize president of University of Applied Sciences, NE Lower Saxony. Research, Science &Technology Transfer, International Affairs
- o Since 1985: Professor of Soil Science and Biology at the former University of Applied Sciences, NE Lower Saxony, Department of Civil Engineering (Water and Environmental Management)
- o Since 1983: Lecturer at the Faculty of Geosciences, University of Tübingen
- o 1979-1983: Scientific assistant and postdoctoral research fellow at the Institute of Soil Science, Faculty of Agronomy, University of Bonn. Research project "Vegetation and Soil Development on loess in Central Europe" (DFG). Set up of the Laboratory for Soil Biology and Palynology of the Institute.
- o 1978: Doctorate at University of Stuttgart-Hohenheim, Department of Botany, Faculty of Natural Sciences; Thesis: "Environmental history of the Lower Rhine Basin during the Early Pleistocene"
- o 1975-1978: Research fellow at the Geological Institute, University of Cologne, Quaternary and Environmental Geology
- o 1975: Diplom (MSc) degree in Biology (Botany, Biochemistry, Environmental Geology, Soil Science and Prehistory) at Albertus- Magnus-University Cologne

## Projects (since 1995):

### Since 2006

- o Integrated decision support system for risk assessment management of the water-sediment-soil system at river basin scale in fluvial ecosystems (RAMWASS) 6th Framework Programme on Research, Technological Development and Demonstration. European Commission
- o "Minderung diffuser Einträge aus Kleinkläranlagen in Boden und Grundwasser" (Verbundprojekt ab 1.12.2006, AGIP, Land Niedersachsen)
- o Qatna-Project, Syria (FSP Baden-Württemberg, University of Tübingen)

### Since 2005

- o Network for Research and Capacity Building on Aquatic Ecosystems of Monsoon Asia (BMBF; Lead: Centre of Marine Tropical Ecology, Bremen)
- o "Ecological inter-linkages between terrestrial and coastal environments in the Indian Western Pacific Region", BMBF, WTZ Project Lead: University of Lüneburg, German Institute of Ocean

Management, Anna University, Chennai/India Center for Tropical Marine Ecology, Bremen, Germany Further cooperating partners: School of Geography and Environmental Sciences, Monash University, Clayton, Victoria, Australia; University of Wageningen, Plant Sciences, Tropical Crops, Netherlands Leibniz Institute of Applied Geosciences, GGA, Hannover Institute for Geoscience at Johannes Gutenberg-University Mainz  
[view presentation in pdf-format \(500 kB\)](#)

#### Since 2004

- o INTERREG IIIb: FLOWS, Flood Plain Land Use Optimizing Workable Sustainability - Living with flood in a changing climate - European Union: Development of land use management Decision Support System (DSS), generated for a catchment area of river Elbe (International Lead of workpackage 3: DSS, GIS, spatial planning)  
[view presentation in pdf-format \(200 kB\)](#)

#### Since 2002

- o In Cooperation with department of Ecological Crop Production and Agroecosystems Research in the Tropics and Subtropics, Institute of Crop Science, University of Kassel; Institute of Oriental Studies, University of Tübingen
- o Co-Researcher in project: Water management and oasis development in the hyper-arid northern part of the Sultanate of Oman (DFG)  
[view presentation in pdf-format \(500 kB\)](#)

#### Since 2001

- o Anna University, Chennai, Institute of Ocean Management and Institute of Environmental Sciences:
- o (DAAD/DST): Pollution of River systems- River catchment management (Elbe, Germany-Adyar/Tamil Nadu/India) (2001-2003) Lecturer, researcher and project promoter

#### Since 1994

- o Monash University, Clayton, Victoria:  
Research Visitor to the Department of Geography and Environmental Sciences
- o Projects: Environmental history of South Victoria and Queensland (history of coastal environments and rainforest), Soils and land use in South Australia
- o In cooperation: Landscape development and history of land use in the Provinces Krabi/Trang. Participation in the TV documentation: "Schliemanns Erben".

#### Long term projects and cooperations:

- o Quaternary vegetation, sediments and climate history in open mine Schöningen, Lower Saxony.- Archeological excavations of Niedersächsisches Landesamt für Denkmalpflege, Hannover
- o Loess and pedostratigraphical and botanical research at the sites of Mauer, Kärlich, Wallertheim, Sprendlingen, Paks, Mende, Vêstonice, Paudorf, Stillfried, Krems-Hundssteig, Lanzarote, Maqta/Oman (different cooperating institutions)

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