



Simpósio Brasil-Alemanha  
Deutsch-Brasilianisches Symposium

Desenvolvimento **Sustentável**  
Nachhaltige Entwicklung



UNIVERSITÄT  
HEIDELBERG  
ZUKUNFT  
SEIT 1386

## 7<sup>th</sup> German-Brazilian Symposium for Sustainable Development

04. - 10. October 2015

Interaction between Earth resources and processes and human societies

Heidelberg University, Germany



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Institute of Earth Sciences



<http://www.geow.uni-heidelberg.de/congress/SBA-DBS/>



## General aim

The general aim of the symposium is to present and discuss the differences in sustainable development of two human societies related to their cultural identities within the frame of Earth resources and processes. The symposium is organized in 13 sessions and will use oral presentations, poster presentations, and guided field tours to convey the general aim. The guided field tours will provide human and natural examples of sustainable development in Germany. The term “sustainable development” is used in the sense of the early definition (March 20, 1987) by the Brundtland Commission of the United Nations: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. In general, sustainability is seen in the interaction of Environment, Social Actions, and Economics (Fig. 1).



Fig. 1: Sustainability in the interaction of environment, social actions and economics ([www. http://macaulay.cuny.edu/eportfolios/akurry/2011/12/21/sustainable-development/](http://macaulay.cuny.edu/eportfolios/akurry/2011/12/21/sustainable-development/)).

Environment (Earth resources and processes) is connected with human societies (Social and Economic) by the terms “bearable” and “viable”. These terms describe a possible way in which human societies can sustainably develop by living within the system Earth and using the resources of planet Earth. The focus of the symposium is to understand the Earth resources and processes, the cultural identities, and the unique conditions in Economy, Law, Politics, and Social actions between Europe and Latin America (Fig. 2).

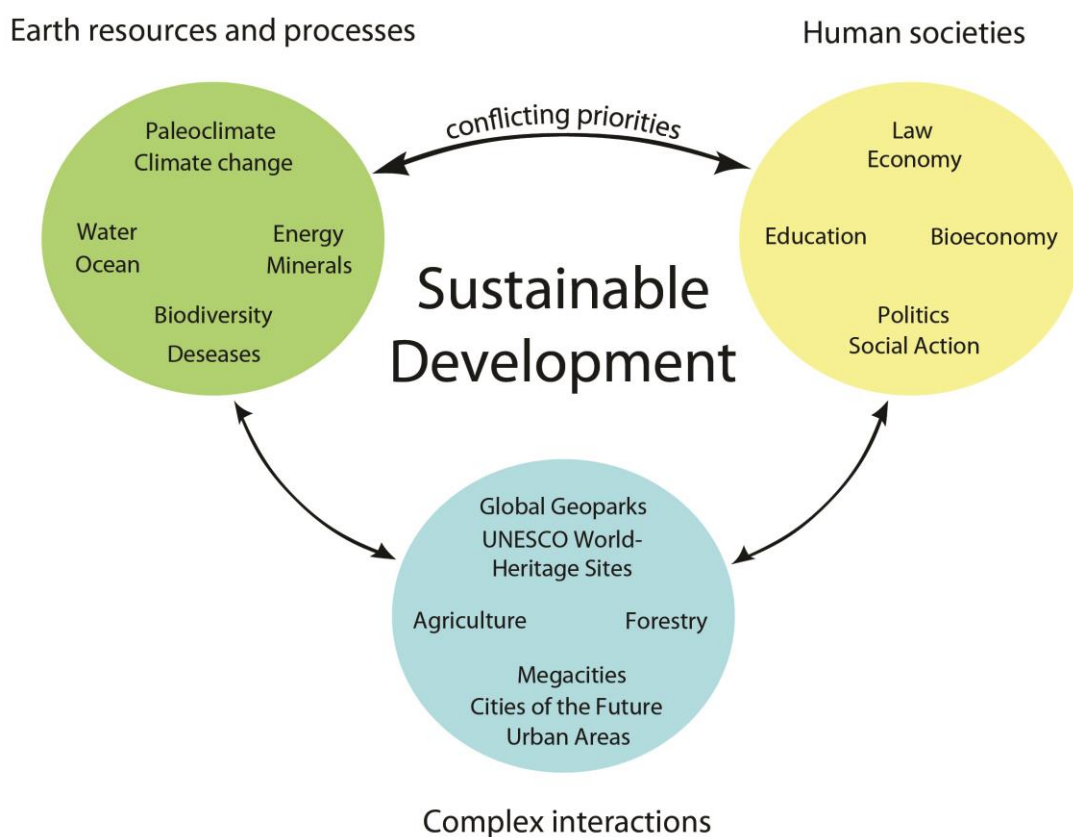


Fig. 2: Interaction between Earth resources and processes and Human societies.

The chance of the symposium is to discuss sustainable development of human societies considering the differences of the cultures. Therefore, the symposium will focus on the cultural identities, the Earth resources and processes (Palaeoclimate/Climate change, Biodiversity, Bioeconomy, Energy, Minerals, Water, Oceans), and present the sustainable development in human society (Economics, Law, Politics, Social actions, Fig. 2). Agriculture, Forestry, Cities of the Future, Megacities, and Urban areas, Global Geoparks and UNESCO World Heritage Sites are examples for fields of complex interactions between human society and natural resources. In addition, all themes related to Earth resources and processes would be discussed in the view of conflicting priorities of human needs. The topics of the symposium are given by the central themes of the Heidelberg Centre for the Environment (HCE), which supports the organisation of the symposium and the dissemination of its outcome. One outcome of the symposium could be a development scheme for sustainable actions within and between the different cultures. Furthermore, the symposium is strongly supported by the Baden-Württembergisches Brasilien-Zentrum der Universität Tübingen, Baden-Württemberg International (bw-i) in Stuttgart and the "Deutsch-Brasilianische Gesellschaft e.V."

## Program description

The 7<sup>th</sup> German-Brazilian Symposium is scheduled from Sunday, 04.10.2015 until Saturday 10.10.2015. The symposium is structured into four days of parallel sessions, talks, discussions, and poster sessions, and one day of guided field trips. Each day starts at 8:30 AM and will be finished at 6 PM. Two coffee breaks and one lunch break structure the day and give room for further discussions and networking.

*Sunday, 04.10.2015; 5 PM; Old Aula, Heidelberg University*

The symposium will start with overall greetings and a panel discussion (Table 1). Prior all participants and lecturers receive their symposium program, nametags, and further information at the welcome desk in the building of "Neue Universität" (ground floor).

- **Opening Remarks:** Information will be provided by separate programme.
- **Panel Discussion:** Sustainable Development in Education – Education in Sustainable Development
- Chair: N.N.

**Invited speakers for the panel discussion** (as scheduled): Professor Doctor H. J. C. Voorwald (Secretário de Estado da Educação) Education Minister of the State São Paulo, Minister T. Bauer (Wissenschaft, Forschung und Kunst) of the State Baden-Württemberg, Rector Prof. Dr. B. Eitel, University Heidelberg, Dr. C. Dahl Director of the Baden-Württemberg Stiftung, Prof. Dr. A. Siegmund, Pädagogische Hochschule Heidelberg.

The panel discussion will focus on the different ways of future sustainable development of Education. Following formal Greetings, invited talks will guide into the theme and describe the action of Baden-Württemberg and the State São Paulo. Furthermore, different speakers will provide the view of the Heidelberg University, the Baden-Württemberg Stiftung and other organizations.

*Monday, 05. 10. 2015 – Thursday, 08. 10. 2015; 8.30 AM – 6 PM, New University*

### **Session 01: Sustainable development in education – Education in sustainable development**

- Convener: Prof. Dr. A. Siegmund, Dr. N. Vollweiler (Heidelberger Centre for the Environment, Heidelberg University, Germany) + Prof. Dr. S. Nobre (UNESP, Brazil)
- Keynote Speaker:
  - Prof. Dr. Sérgio Nobre (UNESP, Brazil): On the Sustainability of a University Campus: a case of the UNESP Rio Claro's Campus in Brazil.

The negative consequences of non-sustainable development around the world become more and more clear: Climate change, pollution, loss of biodiversity, poverty, economic disparities are only a few examples of future challenges. To counteract this trend in the future, the current UN Decade "Education for Sustainable Development (ESD)" will be transferred in a world program for sustainability and ESD by the end of 2014. The aim is to further stimulate the overall societal discourse, to stabilize the existing activities in the area of ESD and to transfer project-orientated approaches in permanent structures and institutional settings.

Key areas of action should in particular include the

- Creation of an environment for tight integration of ESD into national and international education and development policy
- Promotion of holistic institutional ESD approaches in educational institutions
- Training of teachers, coaches, instructors, educators and other "change agents" in ESD skills
- Support of young people as important agents of change
- Intensification of ESD activities in local educational settings.

On this background, both best-practice examples of the implementation of ESD as well as conceptual approaches will be presented and discussed in the session "Sustainable Development in Education and Society". We invite stakeholders from government ministries and agencies, NGOs, universities and the academic and non-formal education to submit proposals for presentations and posters.

### **Session 02: Palaeoclimate, Climate change**

- Convener: Dr. B. Mächtle (Institute of Geography, Heidelberg University, Germany), Prof. Dr. André Jasper (UNIVATES, Brazil)
- Keynote Speaker:
  - Prof. Dr. André Jasper (UNIVATES, Brazil): The Gondwanan Late Palaeozoic icehouse/greenhouse cycle: a palaeobotanical approach to understand actual and future climate change.
  - Prof. Dr. Tong Jiang (China Meteorological Administration, National Climate Centre, China): Recent Climate in China
  - Prof. Dr. Marcelo Leppe (Insituto Antártico Chileno, Chile): Climate Change

The talks will provide insight into the process of climate evolution from the past to the present and describe causes for the recent climate change. In addition, all talks should provide hints on the possibilities to sustainably deal with the climate change. Key examples from the past to the present will be shown.

### **Session 03: Water, Ocean**

- Convener:
- Water: Prof. Dr. J. W. Metzger, Prof. Dr. U. Menzel, Dr. D. Neuffer (Institute for Sanitary Engineering, Water Quality and Solid Waste Management, University of Stuttgart, Germany); Prof. Dr. M. Casagrande Lass Erbe (UFPR, Brazil)
- Keynote Speaker:
  - Prof. Dr. Margarete Casagrande Lass Erbe (UFPR, Brazil): Medical waste: why is it so dangerous?
  - Dr. Qingjun Guo (Chinese Academy of Sciences, Institute of Geographic Sciences and Resources Research, China): Water pollution

Freshwater is a resource supplied by natural environment and is used intensively by human activities. Aquatic ecosystems accommodate a large biodiversity and are important to build up biomass as a base for alimentation of other species and finally for humankind. According to the UN-General Assembly for Human Rights people are entitled to water and sanitation. Based on the considerations mentioned above, a reliable water treatment and distribution as well as a secure wastewater draw-off and treatment before discharging it to the water body are inevitable. The talks/posters describe water resources, their use by human activities and provide information of sustainable use in the future. Furthermore, this session accepts also papers on all aspects related to sustainability of water supply and handling wastewater.

- Ocean: Prof. Dr. P. Hackspacher (UNESP, Brazil), Prof. Dr. R. Ventura Santos (UNB, Brazil)
- Keynote Speaker:
  - Prof. Dr. Frederico Brandini (USP, Brazil): The potential of Southern Brazilian continental shelf for offshore cultivation of molluscs.
  - Prof. Dr. Roberto Ventura Santos (UNB, Brazil): Ocean and water pollution in Brazil

Oceans are resources, supplied by the natural environment and are used intensively by the human society. The rising awareness in Brazil of more than 8.000 km of coast combined with the latest findings of giant Oil and Gas deposits seeks for a sustainable development. Germany on the other hand is using the Ocean resources and has developed research programs, such as Future Oceans, that are concerned with the sustainable use of Oceans. The talks should describe the Ocean resources, their use in human societies, and provide information on the sustainable use in the future.

### **Session 04: Energy, Minerals, Ore deposits, Mining**

- Convener:
- Energy: N.N.; Prof. Dr. K. Madruga (Federal University of Santa Catarina, Brazil)
- Minerals – Ore Deposits – Mining: Prof. Dr. M. Hiete (Centre for Environmental Research, University Kassel); Prof. Dr. B. G. Peregovich (UFOPA – IEG, Brazil)
- Keynote Speaker: Energy:
  - Prof. Dr. K. Madruga (Federal University of Santa Catarina, Brazil): Energy management in Brazilian industry and sustainability.
  - Dr. Carsten Tschamber (Solar Cluster Baden-Württemberg e. V.) Photovoltaics in Brazil - Feasibility of Vertically Integrated Module Production
- Keynote Speaker: Minerals – Ore Deposits – Mining:
  - Dr. Gerson Manoel Muniz de Matos (DIEMGE, CPRM, Brazil): Areas of Significant Mineral Interests in Brazil and its sustainable exploitation
  - Prof. Dr. Bernhard G. Peregovich (UFOPA – IEG, Brazil): Gold and Diamond mining in the Amazon Rain Forest – Ecologic, Economic, Social, and Environmental Challenges

Energy and Minerals are resources supplied by the natural environment and are used intensively by the human society. The need for elements and metals and the shortness of some of important elements (e.g. Rare Earth Elements) shed a light of the sustainable development of natural mineral resources. In addition, all societies provide financial support for research in the field of sustainable generation and use of energy. This research is driven by the future shortness in Oil deposits; the CO<sub>2</sub> generation by using conventional energy sources, and the rising awareness in the human societies that radioactive decay takes a very long time to produce safe nuclear waste. The talks should describe these resources, their use in human societies and provide information on the sustainable use in the future. If possible all talks should include a short historical overview.

### **Session 05: Biodiversity**

- Convener: Prof. Dr. M. Koch; Prof. Dr. V. L.I. Fonseca (USP, Brazil)
- Keynote Speaker:
  - Prof. Dr. Vera Lucia Imperatriz Fonseca (USP, Brazil)
  - Prof. Dr. Antonios Mazaris (Aristotle University of Thessaloniki, School of Biology, Greece): Biodiversity
  - Andreas Meyer (Kärcher, Head of Sustainability Manager): Biodiversity and industrial action. Winnenden site landscaped close to nature

The change in biodiversity is an evolutionary process of life on planet Earth. Key examples from the past to the present will be shown. It is also expected that the causes for changes will be provided.

### **Session 06: Bioeconomy**

- Convener: Prof. Dr. T. Hirth, (Fraunhofer Institute, Stuttgart, Germany); Prof. Dr. Ing. R. Schaldach (Center for Environmental Research, University Kassel, Germany); Prof. Dr. C. Aragão (UFRJ)
- Keynote Speaker: Prof. Dr. Carlos Aragão (Universidade Federal Rio de Janeiro):

The following description of Bioeconomy is provided by the European Commission in the field of Research and Innovation at Horizon 2020 (<http://ec.europa.eu/research/bioeconomy/>):

“Bioeconomy encompasses the sustainable production of renewable resources from land, fisheries and aquaculture environments and their conversion into food, feed, fibre, bio-based products and bio-energy as well as the related public goods. The Bioeconomy includes primary production, such as agriculture, forestry, fisheries and aquaculture, and industries using/processing biological resources, such as the food and pulp and paper industries and parts of the chemical, biotechnological and energy industries.”

The session seeks for presentations that combine sustainable production of renewable resources and their industrial using/processing.

### **Session 07: Law**

- Convener: Prof. Dr. W. Kahl (Institut für deutsches und europäisches Verwaltungsrecht Universität, Forschungsstelle für Nachhaltigkeitsrecht, Heidelberg University, Germany); Prof. Dr. J. R. Morato Leite (UFSC, IDPV, Brasil)
- Keynote Speaker:
  - Prof. Dr. José Rubens Morato Leite (UFSC, IDPV, Brazil): Green Law in Brazil
  - Prof. Dr. Ute Mager (Institut für deutsches und europäisches Verwaltungsrecht, University Heidelberg, Germany): Sustainability in Water Law



Money and law are most effective means to reach political goals. The question is how these means are used and if they can be used in a better way to forward sustainable development. To answer this question a comparison between the approaches of different legal systems shall take place. Special attention may be given to the use and usefulness of financial instruments like subsidies (for example to promote wind and solar energy as in Germany) or market mechanism (for example emission trading system, water market). The theme invites for contributions on all parts of environmental law encompassing climate, air, water, soil, nature, and landscape protection. The focus is on the impact of stirring instruments.

### **Session 08: Economy**

- Convener: NN
- Keynote Speaker:
  - Marcio Weichert (DWIH, Sao Paulo, Brazil): Fruitful sustainable exchange between Science and Economy, a key issue of the German House (DWIH)
  - Prof. Dr. Sita Vanka (School of Management, University of Hyderabad, India): Sustaining Business among Women in Developing Societies - The Indian Experience
  - Prof. Dr. Anthony SF Chiu (De La Salle University, Industrial System Engineering, Philippines): Eco-industrial development in Asian industrial estates

The session seeks for contributions that cover the sustainability in economy in the sense of the description of the business directory ([www.businessdictionary.com/definition/economic-sustainability.html](http://www.businessdictionary.com/definition/economic-sustainability.html)):

“The use of various strategies for employing existing resources optimally so that a responsible and beneficial balance can be achieved over the longer term. Within a business context, economic sustainability involves using the assorted assets of the company efficiently to allow it to continue functioning profitability over time”. Sustainable Economy is often called New Economy. Another description is provided by the web page [www.sustainable.org](http://www.sustainable.org): “The goal of community sustainability is to establish local economies that are economically viable, environmentally sound and socially responsible. Achieving this goal requires participation from all sectors of the community, both to determine community needs and to identify and implement innovative and appropriate solutions. This section presents information from a variety of sources on approaches and techniques used successfully in different communities to develop key aspects of their local economies on a sustainable basis”.

### **Session 09: Politics, Social action**

- Convener: Prof. Dr. J. Tosun (Institute of Political Science, Heidelberg University, Germany); Prof. Dr. M. Vieira Lisboa (PUCSP, Brazil)
- Keynote Speaker:
  - Prof. Marijane Vieira Lisboa (PUCSP, Brazil): Economics, Law, Politics, and social action in sustainability are closely linked together and might not to be described and discussed separately.
  - Prof. Jiang Feng Li (China University of Geosciences, Institute of Public Administration, Wuhan, China): Urbanization and the Risk of Flooding

How do political actors address the issue of sustainable development? What is the role of supranational and international actors in sustainability politics? These are two exemplary questions, which will be addressed in this session.



## **Session 10: Agriculture, Forestry**

- Convener: Prof. Dr. A. Petkau (Institut für Angewandte Forschung, Forstökonomie und Forstbetriebsmanagement, Hochschule Rottenburg, Germany); M. Vohrer (The Gold Standard Foundation, Freiburg, Germany); Prof. Dr. Afonso Figueiredo Filho (UNICENTRO, Brazil); Ing. M. del Carmen Álvarez Enciso (Paraguay)
- Keynote Speaker:
  - Afonso Figueiredo Filho and Carlos Naujack (UNICENTRO, Brazil): Forest utilization by private forest owners in Paraná
  - Anderson Serra (UFP, Brazil): Small-scale farming in the Amazon: a dead-end road or the way ahead for sustainable development.

Bridging examples from the fields of agriculture and forestry provide information on issues already established and studied by research projects of sustainable interaction between natural resources and processes and demands of human societies. The talks shall provide information on analytical tools that help to retrieve necessary information for decision makers that have to implant managing systems, define economic behaviours and formulate and change necessary judicial systems to initiate and provide the legal base for sustainable development.

## **Session 11: Global Geoparks and World Heritage Sites**

- Convener: Dr. M.-L. Fey (UNESCO Welterbe Messel gGmbH, Germany); Dr. J. Weber (Geo-Naturpark Bergstraße-Odenwald, Germany),
- Keynote Speaker:
  - Prof. Dr. Patrick McKeever, (Chief of Earth Science and Ecology, UNESCO, France): Global Geoparks - Looking towards the Future.

During the last decade, the Global Geoparks Network, which consists currently of 111 territories in 32 countries worldwide, has developed a wide range of tools towards sustainable regional development, geo-education, regional and international networking, science transfer, and conservation strategies. Their holistic approach, which includes the connection of Earth history, nature, man and culture, enables innovative development of territories and supports their regional identity, including their past, present and future. In this context, UNESCO World Heritage Sites (UNESCO WHS) and Global Geoparks are potential cooperation partners with respect to sustainable development, public awareness and protection of our natural and cultural heritage. UNESCO-WHS Messel Pit and Global Geopark Bergstrasse-Odenwald (Germany) have developed a close cooperation strategy, including common projects, public relations, education programs and products, which is considered as best practice model for WHS-Geopark cooperation at UNESCO. We expect contributions from Global Geoparks as well as from UNESCO WHS cooperating with sustainable Institutions like Geoparks.

## **Session 12: Cities of the future - megacities – urban areas**

- Convener:
- Cities of the Future – Megacities: Prof. Dr. M. Coy (Innsbruck, Austria); NN (Brazil)
- Urban Areas: Prof. Dr. Ing. B. Eisenberg (Institut für Landschaftsplanung und Ökologie, Stuttgart, Germany), Prof. Dr. P. R. Mesquita Pelegrino (Faculdade de Arquitetura e Urbanismo, Universidade de Sao Paulo, Brazil)

- Keynote Speaker: Prof. Dr. P. R. Mesquita Pelegrino (Faculdade de Arquitetura e Urbanismo, USP, Brazil):

Examples from the fields of Cities of the future, Megacities, and Urban Cities shall provide information on issues already established and studied by research projects of sustainable interaction between natural resources and processes and demands of human societies. In addition, we seek for presentations related to the sustainable future of Cities, Megacities, and Urban areas. The talks shall provide information on analytical tools that help to retrieve necessary information for decision makers that have to implant managing systems, define economic behaviours and formulate and change necessary judicial systems to initiate and provide the legal base for sustainable development.

### **Session 13: Infectious diseases in urban environments**

- Convener: Dr. T. Jänisch (Department of Infectious Diseases, Section Clinical Tropical Medicine, Heidelberg University Hospital, Germany), Dr. E. Marques (FIOCRUZ Pernambuco, Brazil)
- Keynote Speaker:
  - Dr. Ernesto T. Marques (FIOCRUZ-Pernambuco, Recife, Brazil)

Dengue is causing a pandemic of unprecedented extent. With an estimated 2.5–4 billion people at risk in 126 countries (>40% of the global population), dengue is the most important mosquito-borne disease worldwide and is present on all continents. Large-scale unplanned urbanization in the southern hemisphere has created favourable breeding conditions for the *Aedes* mosquito vectors of dengue. Increased mobility of people and goods lead to frequent introductions of potentially viraemic travellers in uninfected regions and have helped to disperse the mosquito vector to previously uninfected locations.

Two large dengue projects, funded by the European Union, were coordinated in direct sequence by Thomas Jänisch at Heidelberg University Hospital. The partners of the current IDAMS consortium (International Research Consortium on Dengue Risk Assessment, Management, and Surveillance) include WHO, Oxford University, Liverpool School of Tropical Medicine, the Red Cross Climate Centre, and twelve partners in disease-endemic countries in Latin America, Africa, and Asia. In Brazil, the partners are FIOCRUZ (Pernambuco & Rio de Janeiro) and the State University of Ceará (Fortaleza). The research efforts within the consortium include clinical observational studies, virology and immunology, surveillance, and the prediction of outbreaks. Brazil is currently reporting more dengue cases to the WHO than any other country –in 2012 close to 500.000 cases.

The session will concentrate on the determinants of dengue in urban environments in Brazil as a case study for interdisciplinary research.

### **Session 14: Sustainability of German-Brazilian projects/cooperation/joint ventures**

- Convener: Dr. M. Schulze (DAAD, Director of the regional Office in Rio de Janeiro, Brazil),
- Keynote Speaker:
  - Dr. Martina Schulze (DAAD, Director of the regional Office in Rio de Janeiro, Brazil)

Brazilian-German projects, cooperation, and joint ventures are various and cover nearly all fields of human action. Especially in economy, medicine, and research cooperation and joint ventures last for longer times. Within this session we seek for contributions from all fields of this symposium that describe the causes, pit falls, and consequences of sustainability. In addition, we like to ask potential speakers to describe the necessities for future sustainable development in German-Brazilian projects,

cooperation, and joint ventures.

## Special Events

### *Monday, 05. 10. 2015: Open Meetings*

This evening is kept for personal “Get-Together” in the town of Heidelberg. If larger groups wish to be together in a restaurant the conference secretary can organize tables in various restaurants. This has to be done early in advance, as Heidelberg is a very touristic town.

### *Tuesday, 06. 10. 2015: Public Lecture; Old Aula 7 PM*

**Introduction:** Vice-Rector for Research and Structure Prof. Dr. Stephen K. Hashmi (Heidelberg University)

**Invited Speaker:** Prof. Dr. habil. Jürgen Kesselmeier (Max Planck Institute for Chemistry, Mainz, Germany): ATTO, a Giant tower for Climate Research in the AMAZON: The adventure of planning, construction and use.

ATTO stands for Amazonian Tall Tower Observatory. The German-Brazilian joint project was launched in 2009 and is coordinated by the Max Planck Institute for Chemistry. The tower aims at delivering ground-breaking findings, which will be the basis for improved climate models. With a height of 300 meters the tower will extend the ground-level boundary layer, and will provide information taken from approximately 100 square kilometres from the world’s largest forest area. The Amazon region is of global significance: it produces half of the world’s oxygen, impacts the water cycle through evaporation and stabilizes the climate.

ATTO is the counterpart of the 2006 completed ZOTTO tower that stands in Siberia and the Max Planck Institute of Chemistry is also involved. ATTO will integrate into an existing structure of smaller Brazilian measuring towers. The cost for the construction of ATTO including the first five years of running costs is estimated to be 8.4 million € which will be financed by Germany and Brazil in equal parts.

<http://www.mpic.de/en/research/collaborative-projects/atto.html>

### *Wednesday, 07. 10. 2015: Evening boat trip; 7 PM*

Departure: Old Bridge of Heidelberg (Karl-Theodor-Brücke)

This evening is reserved for the very impressive boat trip from Heidelberg to Neckargemünd and return using the sustainable solar-powered boat “Neckarsonne”. While without noise the boat is driving upstream the river Neckar an introduction will be given into the geological and human history of Heidelberg and surrounding areas. The boat is known as one of the largest solar-powered Catamarans in the world. 200 persons can be transported by the boat. While the boat “Neckarsonne” is carrying us upstream all can enjoy a Flying buffet and drinks.



Sustainable boat "Neckarsonne" with the departure ([www.heidelberg-marketing.de](http://www.heidelberg-marketing.de))

*Thursday, 08. 10. 2015: Final Event; New Aula 6 PM*

**Closing remarks:**

- Fair well addresses (Rector Prof. Dr. B. Eitel, Heidelberg University, invited persons, Prof. Dr. S. Laufer, Brasilien-Zentrum, Tübingen University, representative of Baden-Württemberg International, Stuttgart)
- Conclusion and outlook: (Prof. Dr. U. A. Glasmacher, Heidelberg University)

**Final Event: Sustainability in Art and Culture**

Chair: J. Kärcher, President of the German-Brazilian Society e.V., District Baden-Württemberg

- Welcome and introduction into the programme by J. Kärcher
- Dr. Martina Merklinger: Art and Culture in the German-Brazilian context
- Musically accompanied by ENCANTO - Brazilian choir, Stuttgart, directed by Cristina Marques
- Literary accompanied by texts from historical travel reports
- Short introduction to the three Exhibitions

**Three Exhibitions:** 05. 10. 2015 – 08. 10. 2015; 8.30 AM – 6 PM, New University

Three exhibitions provide the cultural aspect of the symposium. These exhibitions will be presented in rooms of the New University and external locations. The exhibitions will be open during the whole Symposium.

- MINHASP – My São Paulo – a photo exhibition on the symposium theme “Cities of the Future - Megacities – Urban Areas”, with photos of Britta Radike and Iatã Cannabrava, edited by Ronald Grätz, Institut für Auslandsbeziehungen (IfA)
- A contemporary of Darwin – Fritz Müller reports from Brazil's tropical forest - an exhibition about the German naturalist in Brazil, who carried out his research on behalf of the Brazilian National Museum of Rio de Janeiro (1876-1884) in supporting the evolutionary theory of Darwin.
- Brazilian artists in Germany: Art exhibition (in external locations)

Friday, 09. 10. 2015: Guided Field Trips

### Human and natural examples of sustainable development

Sustainable political development of Germany and sustainable production of wine in the Eastern Pfalz, or sustainable development of a national forest and sustainability within the production of beer, or sustainable use of renewable energy in Heidelberg, sustainability in cultural heritage (*Homo heidelbergensis*) and sustainable production of beer.

#### A. Sustainability in politics and wine production, The Eastern Pfalz

Guide: Prof. Dr. U. A. Glasmacher (Heidelberg University, Institute of Earth Sciences, HCE)

The guided tour in the Eastern Pfalz provides a human and natural example of the political and social evolution of Germany and will discuss sustainable agriculture in a viticulture area. The viticulture part addresses the concepts of management, education, tourism, and integrated pest management during the production of. In the afternoon, sustainable production and creation of wine can be tasted and discussed with the manager of a vineyard.



<http://www.weingut-karlheinz-roth.de>

#### B. Sustainable development of a national forest and of beer production, the Black Forest

Guide: Dr. B. Mächtle (Heidelberg University, Institute of Geography, HCE)

The guided tour to the new National Park in the Black Forest provides an insight into the impact of global warming on local forest ecosystems and addresses the concepts of management, education, tourism, and integrated pest management as well as the aspects of civic participation and governance. Finally, we will discuss the impressions after a behind-the-scenes tour in a local brewery. A talk about the preparation and geography of beer is announced.



<http://www.nordschwarzwald-nationalpark.de>



**C. Sustainable development of renewable energy, cultural heritage, and beer production, Heidelberg – Mauer – Zuzenhausen**

Guides: D. Oestreich, M.Sc., C. Stippich, M.Sc. (Heidelberg University, Institute of Earth Sciences)

The field trip is three fold. In the beginning the visit of the sustainable use of energy by the Town of Heidelberg will guide into the future of cities. At the village Mauer, close to Heidelberg, living and acting of an old human society at about 600.000 years before present, will be explained. The guided tour will visit the cultural heritage site, the museum, and the exhibition of *Homo heidelbergensis*. The final part is to feel the sustainable production of beer at the Dachsenfranzbrauerei, Zuzenhausen.



<http://heidelberg-bahnstadt.de>



<http://www.homoheidelbergensis.de>

#### D. Sustainable Development, Geo-Education and Science transfer – regional and international: UNESCO-World Heritage Messel Pit and Global Geopark Bergstrasse-Odenwald

Guides: Dr. Marie-Luise Frey (UNESCO-World Heritage Site Messel Pit); Dr. Jutta Weber (Global Geopark Bergstrasse-Odenwald)

The Field trip starts with the visit to the UNESCO-World Heritage Site Messel Pit (Visitor Centre and Messel Pit), where the non-profit Ltd. Company Welterbe Grube Messel presents the concept and her contribution to the formation of a Science Society on the basis of transmitting earth sciences to the general public. Highlighted will be especially the collaboration with the Global Geopark Bergstrasse-Odenwald and the approach of a sustainable marketing of this World Heritage Site together with the tourism destination and the Geopark. After our lunch in the bistro of the visitor centre Messel Pit the field trip will follow up to other sites in the Global Geopark Bergstrasse-Odenwald such as:

- Sea of rocks (Lautertal) with visitor centre and walk: Sustainable collaboration, Geo-Education, regional Info-Networking, „Geotop“ of the Year and National Geotop
- Vine and rock-discovery trail Heppenheim: Sustainable collaboration with „Bergsträsser“ vine growers, development of the trail, common products, collaboration partners, small vine tasting in the vineyard.
- Heidelberg: Geopark-on-site – a programme for a sustainable networking and transmittance of regional knowledge in the Geopark: Geopark-on-site in Heidelberg is integral part of the platform „Natürlich Heidelberg“, which has been awarded as UN-Decade project for sustainable Environmental Education. The exemplary guided tour comprises: Haarlass (Geotop 2011), NSG Russenstein, Mausbachwiese)

The guided tour will end at the „Stift Neuburg“ with a dinner in the Abbey Pub (sustainable produced regional products, hone made beer of the own brewery).



UNESCO World heritage site Messel (Archive Messel)



*Propalaeotherium parvulum* (E. Haupt)





Education Messel (Archive Messel)

UNESCO Geopark Odenwald (J. Weber)

Table 1: Program of the symposium.

		Sunday 04.10.2015	Monday 05.10.2015	Tuesday 06.10.2015	Wednesday 07.10.2015	Thursday 08.10.2015	Friday 09.10.2015	Saturday 10.10.2015
		Session Lecture hall 01	Session Lecture hall 04	Session Lecture hall 05	Session Lecture hall 01	Session Lecture hall 04	Session Lecture hall 05	Examples of sustainability
08:30 AM - 10:30 AM								A B C D
	Coffee break							
10:45 AM - 00:45 PM								
	Lunch							
02:00 PM - 04:00 PM	Arrival/ Welcome desk							
	Coffee break							
04:15 PM - 06:00 PM	5 PM – 7 PM Panel discussion Old Aula							
Evening		Open Meetings	Public lecture	Trip with the sustainable boat "Neckarsonne"		- Closing Remarks - Sustainability in Art and Culture		

## Registration

Two possibilities exist to register for the symposium.

### Personal Details

Registration number (for office use only): \_\_\_\_\_  
Mr. Mrs./Ms. Academic title: \_\_\_\_\_  
First name: \_\_\_\_\_  
Last name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Institution/Company: \_\_\_\_\_  
Department: \_\_\_\_\_  
Profession: \_\_\_\_\_  
Phone number: \_\_\_\_\_  
Fax number: \_\_\_\_\_  
E-Mail: \_\_\_\_\_

### Conference Fee

#### Early Registration (until 30.04.2015)

175.00 EUR  
100.00 EUR

#### Late Registration (after 30. 04. 2015)

225.00 EUR Regular participants  
125.00 EUR Students

Registration includes conference abstracts, coffee and snacks, lunch, badges, trip with sustainable solar-powered boat, and information material of the Heidelberg University and the town of Heidelberg

### Presentation

Keynote speaker:	Participation in session:
Number of abstracts:	Participation in session:
Number of oral presentation:	Participation in session:
Number of poster presentation:	Participation in session:
Number of additional poster presentation:	additional costs: _____

### Human and natural examples of sustainable development in Germany (Registration required)

50.00 EUR	A: Sustainability in politics and wine production, the Eastern Pfalz
50.00 EUR	B: Sustainable development of a national forest and of beer production, the Black Forest
50.00 EUR	C: Sustainable development of renewable, cultural heritage, and beer production, Heidelberg – Mauer - Zuzenhausen
50.00 EUR	D: Geopark Odenwald and UNESCO world cultural heritage site Messel: Examples of successful sustainable development

Total amount to be paid: \_\_\_\_\_ EUR

**Sponsors**

