

## Resources in the agro-pastoral transition zone of Inner Mongolia: Challenges and opportunities for 'marginal lands'

### PROGRAM

<b>Monday, 15<sup>th</sup> July 2013 (travel day and Symposium opening session)</b>
<p>Flights/connection flights from Germany via Beijing to Hailar (Inner Mongolia), bus-transfer to Erguna Hotel, registration and hand over of workshop information (12:00 – 13:30)</p> <p>12:30 – 13:30 <i>Lunch</i></p> <p>until 16:30 Time for a rest. Tea, coffee and drinks will be served in a stone-jurt</p> <p>16:30 – 18:00 <b>Official welcome and Symposium opening</b></p> <p>Welcome notes and general introduction, aims and topics of the workshop</p> <p><i>(Xingguo Han, Marcus Giese and Carsten Hoffmann, representatives of the local government, public authority for agriculture and the Sino-German Centre in Beijing)</i></p> <p>18:30 <b>Welcome Dinner at the Erguna Hotel</b></p>
<b>Tuesday, 16th July 2013</b>
<p>7:00-8:15 <i>Breakfast</i></p> <p>8:30-12:30 <b>Excursion 1</b> (Departure 8:30)</p> <ul style="list-style-type: none"> <li>- <i>Erguna hill, overview landscape</i></li> <li>- <i>Visit of a potential experimental site, grassland near Heishantou</i></li> <li>- <i>Grassland Research Station in Heishantou (under construction)</i></li> <li>- <i>Visit of a small dairy farms (Heishantou)</i></li> </ul> <p>12:30-14:30 <i>Lunch break in the hotel</i></p>
<p><b>Session 1: Grassland ecosystems: dynamics and functions I</b> (Chair: Marcus Giese, 14:30-16:00)</p> <p>14:30-14:45 <b>Bai, Yongfei:</b> Progress in biodiversity and ecosystem functioning studies</p> <p>14:45-15:00 <b>Hoffmann, Carsten:</b> Geo- and bio-ecological dynamics of a typical grassland in Inner Mongolia– major outcomes and open research questions of the Sino-German project MAGIM</p> <p>15:00-15:15 <b>Wang, Qibing:</b> Linkages between the diversity of plant functional group and biogeochemical cycles in a typical grassland in Inner Mongolia</p> <p>15:15-15:30 <b>Wan, Hongwei:</b> Mechanism of species co-existence in typical steppe of Inner Mongolia</p> <p>15:30-15:45 <b>Zhao, Mengli:</b> Plant litter affect net primary production of a typical steppe in Inner Mongolia</p> <p>15:45-16:00 <b>Plenum:</b> Session discussion</p> <p>16:00-16:30 <i>Tea/coffee break</i></p>
<p><b>Session 2: Grassland ecosystems: dynamics and functions II</b> (Chair: Yongfei Bai, 16:30-18:00)</p> <p>16:30-16:45 <b>Yu, Qiang:</b> N deposition effects on ecosystem structure and function are regulated by climate extremes</p>

16:45-17:00 **Cheng, Weixin:** Nitrogen cycling in steppe grasslands informed by <sup>15</sup>N abundance  
 17:00-17:15 **He, Hongshi:** The effects of Landscape Processes under Changing Climate  
 17:15-17:30 **Yang, Jian:** Spatio-temporal patterns of post-disturbance tree cover dynamics in a semiarid landscape  
 17:30-17:45 **Koerner, Sarah:** Plant community response to loss of large herbivores differs between North American and South African savanna grasslands  
 17:45-18:15 **Plenum:** Session discussions and synthesis of the day  
 18:30 *Dinner*

### Wednesday, 17<sup>th</sup> July 2013

7:00-8:15 *Breakfast*

**Session 3: Soil, Water and Atmosphere I** (Chair: Klaus Butterbach-Bahl, 8:30-10:15)

8:30-8:45 **Zhang, Bin:** Soil development process driven by organic carbon input - a long-term experiment result

8:45-9:00 **Steffens, Markus:** Biogeochemistry of grazed semiarid steppe ecosystems: Insights from the soil perspective

9:00-9:15 **Zhao, Ying** Soil Moisture Patterns and Fluxes Responding to Grazing Intensity in Semiarid Inner Mongolia Grassland

9:15-9:30 **Auerswald, Karl:** Water fluxes in the atmosphere-soil-plant-grazer system

9:30-9:45 **Menzel, Lucas:** Processes of global change and their impact on water resources at the steppe-taiga interface in Northern Mongolia

9:45-10:00 **Chen, Shiping:** Coupling of carbon and water fluxes in Inner Mongolia Steppes

10:00-10:15 **Plenum:** Session discussion

10:15-10:45 *Tea/Coffee break*

**Session 4: Soil, Water and Atmosphere II** (Chair: Shiping Chen, 10:30-12:15)

10:45-11:00 **Butterbach-Bahl, Klaus:** Vulnerability of grassland soil GHG fluxes to climate and landuse changes

11:00-11:15 **Zheng, Xunhua:** Assessment of the biogeochemical effects of landuse changes in a grassland-cropland transition area

11:15-11:30 **Liu, Chunyan:** Effects of grassland degradation and reclamation on CH<sub>4</sub>, CO<sub>2</sub> and N<sub>2</sub>O fluxes in alpine meadows of the Qinghai-Tibetan Plateau.

11:30-11:45 **Zhang, Zhuodong:** Wind erosion research at landscape scale in temperate grasslands based on computational fluid dynamics

11:45-12:00 **Funk, Roger:** Radio nuclide <sup>137</sup>Cs as a tracer to quantify wind erosion and dust deposition in semi-arid grasslands

12:00-12:15 **Plenum:** Session discussion

12:15-14:00 *Lunch break*

**Session 5: *Environmental monitoring and modeling*** (Chair: Karl Auerwald, 14:00-15:30)

14:00-14:15 **Zhang, Keli:** Wind erosion quantification in North China using RWEQ and soil erosion problems in Hebei Bashang grassland

14:15-14:30 **Wollschläger, Ute:** Multi-scale monitoring of soil moisture content

14:30-14:45 **Streck, Thilo:** Eddy flux measurement and modeling of energy, water and carbon fluxes over arable land in Southwest Germany

14:45-15:00 **Metzger, Stefan:** Spatially explicit regionalization of heat and water vapor exchange over Inner Mongolia steppe with airborne eddy-covariance

15:00-15:15 **Geissler, Katia:** Model-based analysis of the environmental impacts in grazing management systems

15:15-15:30 **Plenum:** Session discussion

15:30-16:00 *Tea/coffee break*

**Session 6: *Livestock systems*** (Chair: Guodong Han, 16:00-17:45)

16:00-16:15 **Wang, Kun:** Research on livestock production of agro-pastoral ecotone in Northern China

16:15-16:30 **Dickhöfer, Uta:** Livestock growth rates as affected by different management strategies in typical steppe of Inner Mongolia

16:30-16:45 **Wang, Chengjie:** Forage Energy and Grassland-Livestock Balance

16:45-17:00 **Wu, Bingfang:** A remotely sensed index for monitoring grazing: application from field experiment to satellite remotely sensed data

17:00-17:15 **Wang, Deli:** Linkage between insects and plants in response to grazing and global climate

17:15-17:45 **Plenum:** Session discussion and synthesis of the day

18:30 Dinner (Hot Pot)

**Thursday 18<sup>th</sup> July 2013**

7:00-8:15 *Breakfast*

**Session 7: *Dryland management and policies I*** (Chair: Han Xingguo, 8:30-10:00)

8:30-8:45 **Giese, Marcus:** Nitrogen – a key element for grassland management?

8:45-9:00 **Han, Guodong:** Adaptive Management of Grassland System for environment and livelihood benefits

9:00-9:15 **Hülsebusch, Christian:** Climate change adaptation and mitigation in extensive livestock systems

9:15-9:30 **Li, Fengming:** Integrated management of dryland agroecosystems on Loess plateau

9:30-9:45 **Gao, Yingzhi:** Advantage and disadvantage of intercropping system in agro-pastoral area

9:45-10:00 **Plenum:** Session discussion

10:00-10:30 *Tea/Coffee break*

**Session 8: Dryland management and policies II** (Chair: Christian Hülsebusch, 10:30-11:45)

10:30-10:45 **Isselstein, Johannes:** Grassland and range management, grazing systems, agronomy of diverse grasslands

10:45-11:00 **Li, Xianglin:** Knowledge gaps and researchable issues on arid and semi-arid pastoral systems in China

11:00-11:15 **Yan, Humin:** Past and future: land use change in farming – pastoral transition zone of China from satellite and household willingness survey

11:15-11:30 **Zhen, Lin:** Impact assessment of grassland conservation policies on herders' livelihood in Inner Mongolia

11:30-12:00 **Plenum:** Session discussion and synthesis of the morning talks

12:00-13:30 *Lunch break*

13:30-18:30 **Excursion 2** (Departure 13:30)

- Nestlé company (regional milk production and distribution)
- Crop irrigation systems
- agricultural cooperative including discussion with local farmers/administration
- forest steppe

Return to Erguna Hotel around 18:30

19:00 *Barbecue at the Erguna Hotel*

### Friday 19<sup>th</sup> July 2013 (Synthesis and outlook)

8:30-12:30 **Plenum discussion and group work:** General discussions on the state of the art and challenges for grassland research. Definition of research gaps and future research directions and follow-up activities. *Moderation: Carsten Hoffmann, Marcus Giese, Yongfei Bai, Xingguo Han, Klaus Butterbach-Bahl, ...*

Establishment of smaller moderated thematic discussion groups: threats and challenges for steppe ecotones in the agro-pastoral transition zones

10:00-10:30 *Tea/coffee break*



Short presentation results and outcomes of the discussion groups

Discussion of methodological approaches and innovative research concepts, pre-conditions and possible experimental sites and available data

Collecting ideas of land management strategies for “sustainable land-use intensification”

Land-use change scenarios for the agro-pastoral transition zone of North China and outlook: “Where to go? Options for new research directions in the frame of Sino-German co-operations.” Funding of projects (NSFC, DFG, EU...)

Follow-up activities: Co-ordination and responsibility/

**12:00-12:15 Summary and official Symposium closing**

*12:30-14:00 Lunch*

Afternoon: Time for Individual discussions between Chinese and German participants

**15:00 and 18:00 transfer to Hailar Airport for early leaving participants**

**We wish all participants a save trip home...**