



ERA-NET
SUSAN
EUROPEAN RESEARCH AREA ON
SUSTAINABLE ANIMAL PRODUCTION



WELCOME to

**Leibniz Institute for Agricultural Engineering
and Bioeconomy (ATB), Potsdam, Germany**

for the Common Workshop on
“Smart Mitigation of GHG in Livestock Production”

November 29 - November 30, 2016




Welcome remarks: ATB...

1. In a nutshell
2. Mission and approach
3. Stakeholder in the ERA – acting beyond research
4. ERA-Net instrument - experiences and benefits
5. Research for GHG mitigation in livestock systems



ATB.... in a nutshell

- Nationally and internationally acting research center at the interface of biological and technical systems,
- Non-university institution, member of  Leibniz-Association. (Leibniz: "Theoria cum praxi"),
- Total budget 17.1 Mio € (2015): Core funding by Federal Government & State (50 % each), 35% third-party funds,
- Staff > 230; 50 PhD students,
- High end scientific infrastructure (pilot plants, experimental plots, labs).

Mission and Approach

- Our research is aimed at **sustainable intensification.**
- We analyze, model and evaluate **bio-economic production systems.**
- We develop and integrate new technologies and management strategies for a knowledge-based, site-specific production of biomass, and its use for food, as raw materials and fuels - from basic research to application. Thus we are contributing to food security, animal welfare, the holistic use of biomass, and to protect the climate and environment.



ATB role as stakeholder

Policy
advice

Thematic
Leadership

Research

Legislative

Innovation

Knowledge
transfer

Role as stakeholder

Example „Nitrogen Cycle“

ATB activities in international committees

- Task Force on Reactive Nitrogen (TFRN); Expert Panel on Mitigation of Agricultural Nitrogen (CHAIR) → **Measures for ammonia mitigation & Code of Good agricultural practice**
- Task Force on Emission Inventories and Projections (CHAIR):
→ NH₃ inventory reporting to the NEC directive 
- IPCC WG3 „Mitigation of Climate Change“ → **Assessment Report & GHG reporting guidelines**
- European IPPC Bureau → Best Available Techniques (pigs & poultry)
- European Commission → Guidance on integrated N Management

ERA-Net experiences

ERA-Net Projects *finalized – in progress – upcoming*

ICT-Agri: 3D Mosaic (2011-2013)



USER PA (2013-2015) PA for Precision horticulture

FACCE Era-Net Climate Smart Agriculture:



OptiBarn (2015-2018) Optimized animal-specific barn climatization

SusAn (Full proposal):

- Sustainable antibiotic use EU poultry prod. Susan_ePoult)



FACCE ERA-Gas (Full proposal preparation):

- Manure management for methane mitigation (M4M)

- GHG/NH3 emissions f. naturally ventilated barns (EmiNat)

- Database and Inventory Refinement for GHG (DataMan)



ERA-Net benefits

ERA-Nets

- create considerable added value through linking unique (nationally funded) research infrastructures.
- enable us to perform excellent research on european & international level.

Benefits through

- short time to grant, flexibility, funding rate, cross cutting issues, wide scope of topics,

Projects allow

- intensive young scientists involvement, successful technology transfer, follow up consortia (H2020, EIP).

Thematic Challenge “GHG in Livestock”

- “Smart Mitigation of GHG in Livestock” is tackled within the ATB program “Innovative Livestock Systems”.

We work with a large boundary layer wind tunnel (part of **afternoon institute tour**).

- Research follows a **three pillar concept**:
 - Long-term **measurements** under **practical** conditions
 - Physical **modeling**
 - Numerical **simulation**



ATB research

Smart Mitigation of GHG in Livestock

Within „**Innovative Livestock Systems**“ we analyze and model interactions between the individual animal, the livestock system and the environment.

Research foci

- In complex livestock systems the control of barn climate for **emission mitigation** and for optimal **animal welfare** and performance are closely linked.
- Research for the mitigation of **GHG** from animal housings is associated with studies of **other relevant emissions** (particles, pathogens).



Summary

- Complex and important role of European research institutes like ATB as stakeholder in the European Research Area.
- ATB is a scientific key player in the topic “Mitigation of GHG in Livestock Production”.
- ERA Nets are an efficient and essential instrument to fund (application inspired) transnational RESEARCH to tackle global sustainability challenges .

Thank you

...and have an inspiring workshop!

