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Which contribution to the UN Sustainable Development Goals?

Stéphane Ingrand

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**International Conference on
Environment & Agriculture in the U.N. Sustainable Development Goals.**

This is the **4th** International Conference Organized by Janparishad, MANIT
SusTranCon[USA] & JMBVSS
December 17th -19th December 2016 at Bhopal M.P. India

The French National Institute on Agricultural Research:

What contribution to the UN Sustainable Development Goals?

Stéphane INGRAND

France



France

Auvergne

Clermont-Ferrand



8165

Permanent staff

250

Research units

48

Experimental units



A public-oriented research institute

President: Ph. Mauguin, since July 2016

3 areas of research:



Strategic priorities for INRA

Their evolution since 1946

- Years 1946-60: To Feed France
- Years 70 - 85: Development of Agriculture (1^{rst} exporter)
- Years 85-2000: Product Quality & Human Health
- Since 1995: Environmental & Ecosystems protection
- Since 2010: Food security



December 2016

Bhopal

International Conference on Environment & Agriculture in the U.N - Sustainable Development Goals

17th – 19th December 2016 - Bhopal

8165

Permanent
staff

1815

Researchers

>3000

Students & PhD



A public-oriented research institute

13 scientific divisions:

AlimH

BAP

Cepia

EFPA

EA

GA Animal genetics

MIA

Mica

Phase

SA Animal health

SPE

Sad

SAE2

8 « Metaprogrammes »: cross-disciplinarity to address societal issues



8 metaprogrammes



ACCAF

Adaptation of agriculture and forests to climate change



GISA

Integrated management of animal health



GloFoods

Transitions to global food security (with CIRAD)



SelGen

Genomic selection



EcoServ

Agriculture and forest ecosystem services



DIDIT

Diet impacts and determinants: interactions and transitions



MEM

Meta-omics of microbial ecosystems



SMaCH

Sustainable management of crop health



GLOFOODS

Global food security: a major challenge for agricultural research

- **A global issue** with impacts on **local stakeholders**
 - Food diet transitions (drivers and consequences)
 - Process optimisation in food processing
 - Global modelling of markets and farmer (local) decisions
 - Multicriteria assessment of cropping and animal production systems
 - Land use modelling and environmental impacts
 - Socio-economic analysis of household access to food



GLOFOODS

One current project concerns India (2015 call for proposals)



Environmental, social and economic issues raised by massive transformations in Indian milk sector

- An analysis of animal systems and milk farms with environmental assessments in various contrasted settings in India
- Ways of action to accompany the sustainable development of Indian dairy systems

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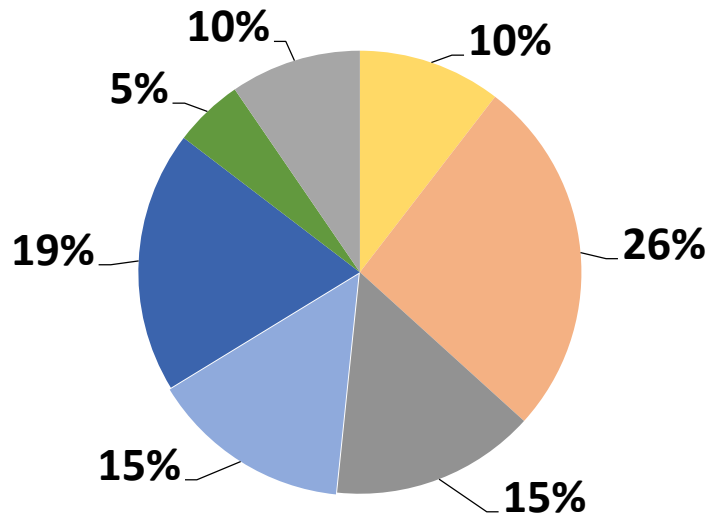
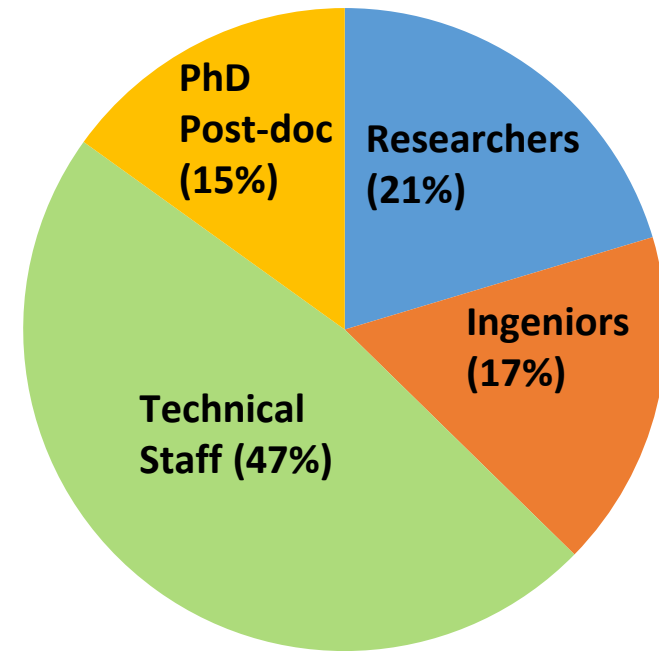
Animal PHysiology and Livestock Systems

Head: Françoise Médale
(fish nutrition)

Animal Physiology and Livestock Systems

> 1300 people
~ 200 PhD & post-docs

PhD students are welcome
in our labs!



- Neurosc. & behaviour
- Reprod & Dev.
- Livestock Syst
- Nutrition
- Endocrinology Metab
- Bioinfo Modeling
- Support



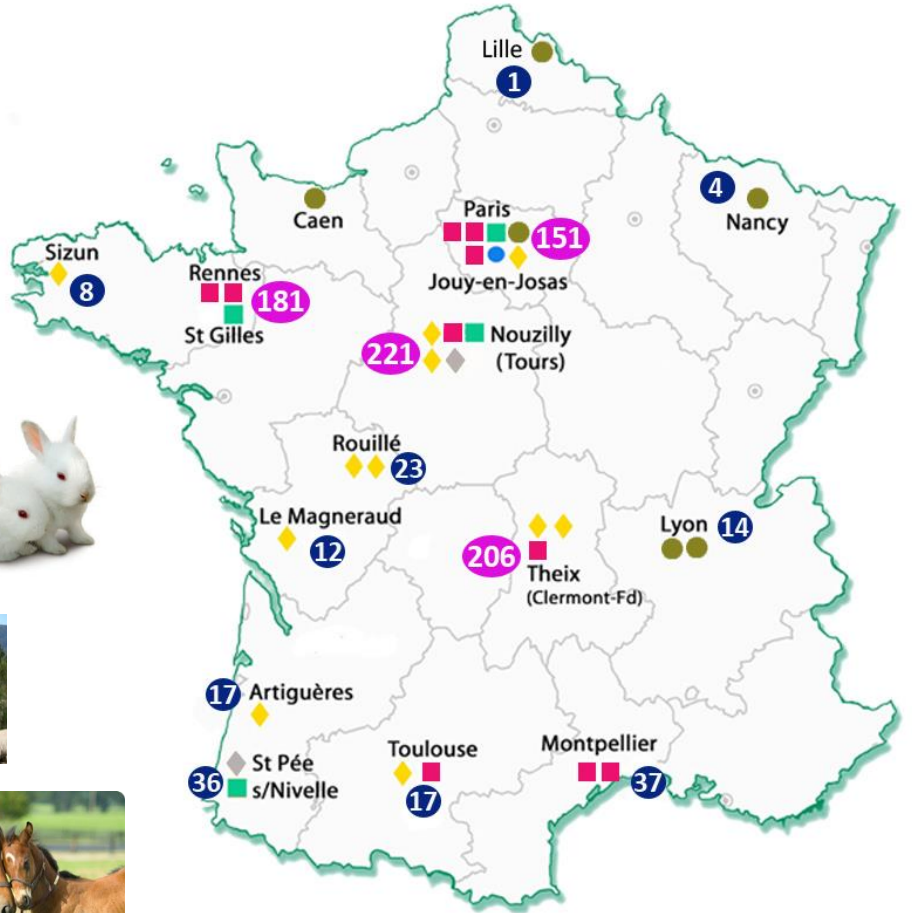
December 2016

Bhopal

Animal Physiology and Livestock Systems

34 Units

including 11 experimental facilities ♦





Animal Physiology and Livestock Systems: 4 research areas

Feed Resources

Improve overall resource efficiency for animal feed by making use of both feed and waste in a circular economy

Animal

Efficient and robust animals raised in conditions which favour their welfare and protect their health

Products

High value products from multi-performing production systems

Livestock Systems

Define the combinations in terms of resources, animals and husbandry systems and their environments, for multi-performing (economic, environmental, health and welfare) livestock systems

Guidance document: #INRA 2025

5 scientific priorities

#Global A global ambition: world food security

#3Perf Different agricultural models, based on multi-performance

#Climate Agriculture & forestry in the face of climate change

#Food Healthy & sustainable food

#BioRes Bioresources with multiple cascading uses

17 UN goals for a sustainable development



Guidance document: #INRA 2025

5 scientific priorities

#Global

world food security



2 - No hunger

10 - Reduced inequality

- global transitions (food, market, climate)
- bioresource availability managed at # scales
- integrated vision of markets & behaviors
- territorial-based approaches for performance

Guidance document: #INRA 2025

5 scientific priorities

#3Perf

Different agricultural models, based on multi-performance



- agro-ecology to ensure multi-performance
- also technological levers (ie PLF)
- multicriteria assessment
- transition pathways design

6- Clean water
12- Responsible consumption & production

10- Reduced inequity

2- No hunger

8- Decent job and economic growth

Guidance document: #INRA 2025

5 scientific priorities

#Climate

Agriculture & forestry in the face of climate change



- agriculture & forestry adaptation to CC

- decrease of GHG emissions

- biodiversity conservation & diversity valorization

- soil & water protection

11- Sustainable towns & communities

16- Peace, justice & efficient institutions

2- No hunger

13- Urgent need for climate change mitigation

Guidance document: #INRA 2025

5 scientific priorities

#Food

Healthy & sustainable food



- New food systems, including urban
- Food systems that are more healthy
- Food quality all along the supply chain

6- Clean water

12- Responsible consumption & production

11- Sustainable towns & communities

3- Good health and welfare

2- No hunger

Guidance document: #INRA 2025

5 scientific priorities

#BioRes

Bioresources with multiple cascading uses



- Development of green & white biotechnologies
- New technological processes for new resources
- Bioeconomical systems design

12- Responsible consumption & production

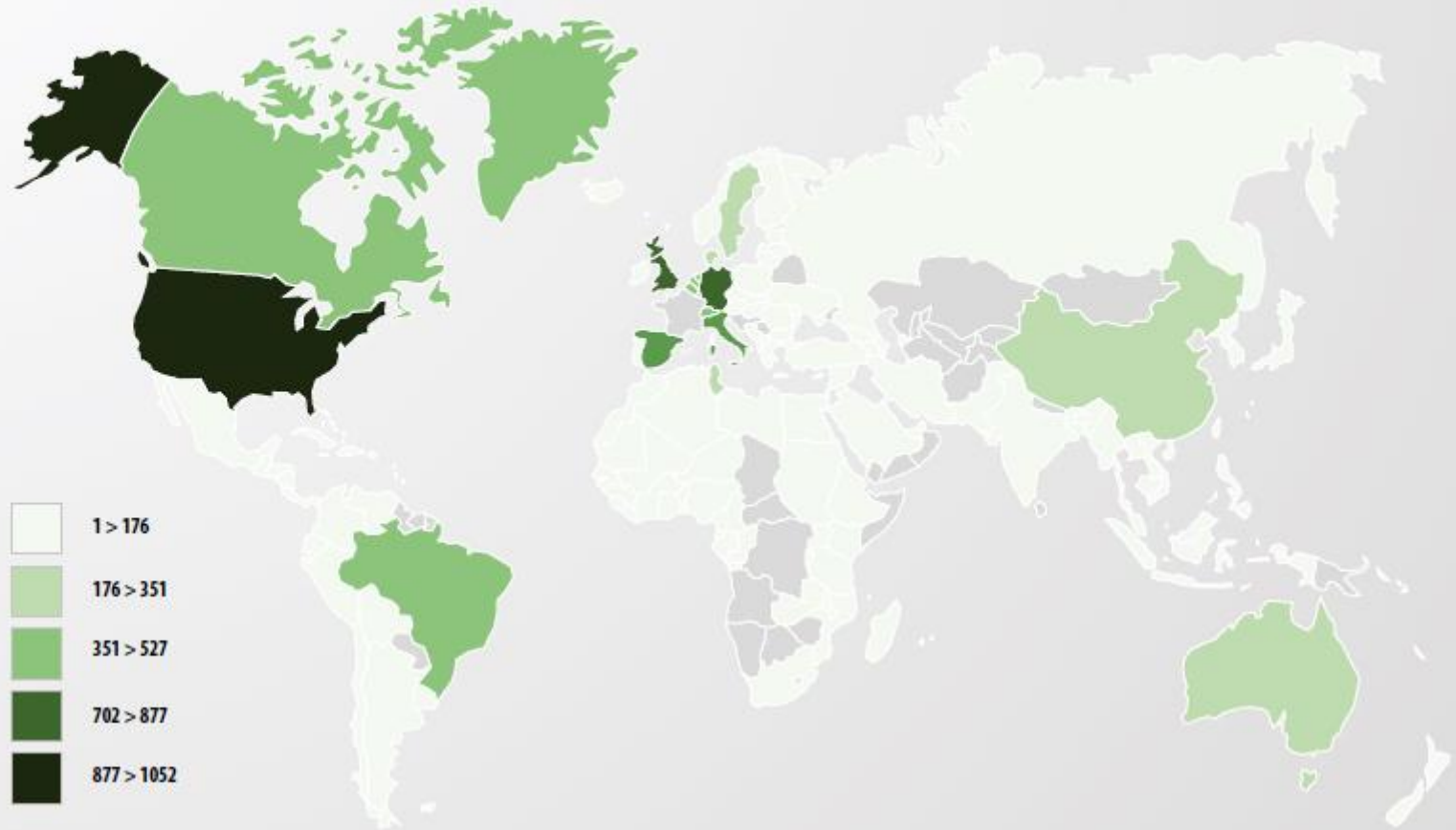
7- Clean and low-cost energy

Conclusion: and now what?...



48% of publications with foreign partners

(Source: *Web of Science* 2008-2012)



Conclusion: and now what?...

Students exchange

- In the area of animal science
- For a PhD in our labs (8-10 new PhD each year)
- English (or French!!) speaking
- (co)fundings



Joint projects

- New call for GloFoodS → before 31th January 2017
- National & international calls

Researchers visits

- Invited researchers in our/your labs

THANK YOU!

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www.inra.fr

www.phase.inra.fr



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