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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**

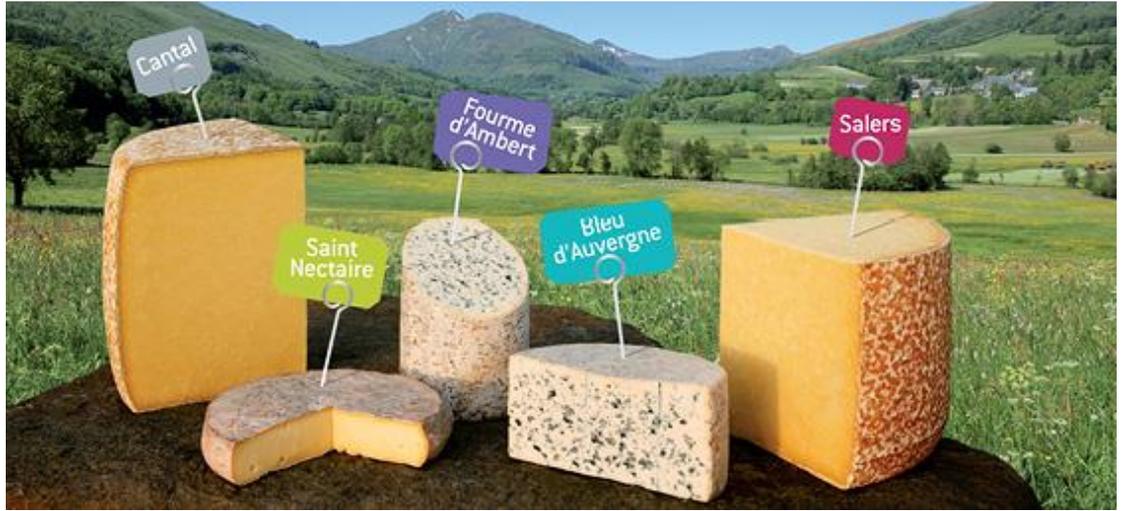
France



# 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<sup>rst</sup> 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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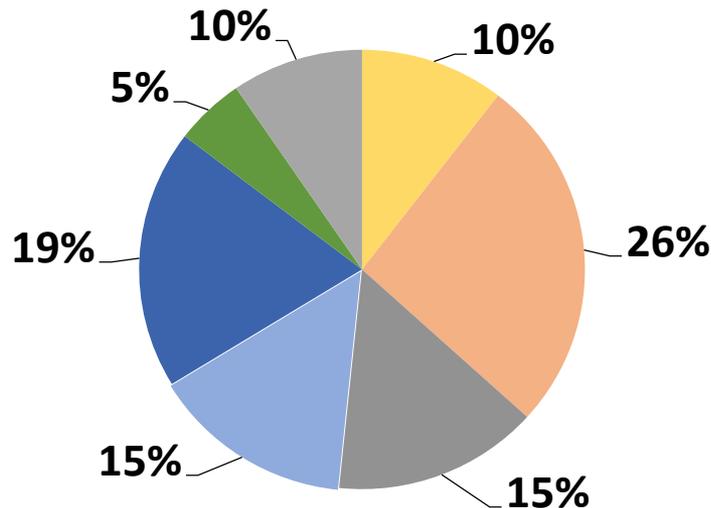
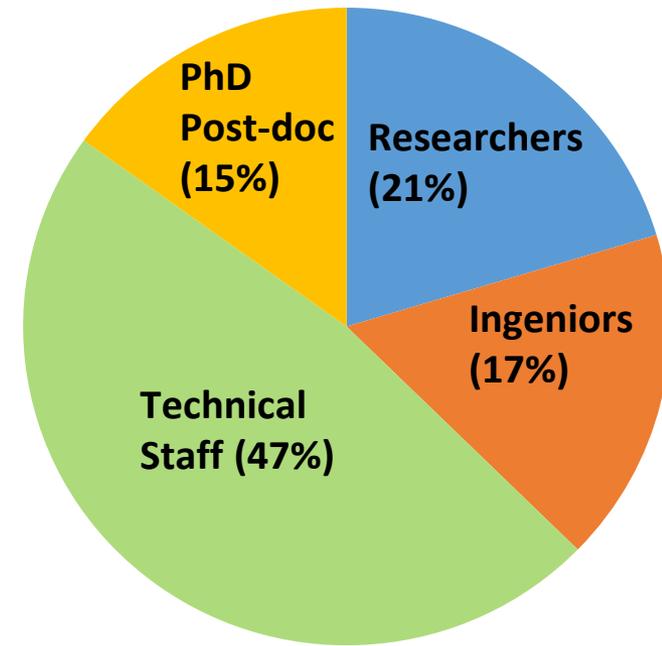
Animal PHysiology and Livestock Systems

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



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# 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](http://www.inra.fr)

[www.phase.inra.fr](http://www.phase.inra.fr)



**December 2016**

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