

# Programme | Program

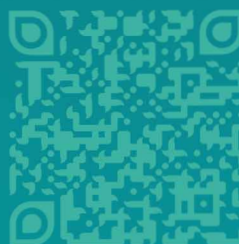
# LES 30 ANS DU LEPSE

Laboratoire d'Écophysiologie  
des Plantes sous Stress Environnementaux

<https://www.inrae.fr/evenements/30-ans-du-lepse>

21 & 22  
NOVEMBRE  
2023

2 place  
Pierre Viala  
MONTPELLIER



# Célébration des 30 ans du LEPSE

21 Novembre 2023 8h30 - 12h20

Amphithéâtre Philippe Lamour, Institut Agro Montpellier

2 place Pierre Viala - MONTPELLIER

## 08h30 ACCUEIL

### 09h00 Mot de bienvenue

Pierre MARTRE, Directeur du LEPSE

### 09h10 Le LEPSE sur le centre INRAE Occitanie-Montpellier

Sylvain LABBÉ, Président du Centre INRAE Occitanie-Montpellier

### 09h20 Le LEPSE dans l'Institut Agro Montpellier

Carole SINFORT, Directrice de l'Institut Agro Montpellier

### 09h30 Aux origines du LEPSE

Jacques WERY, Directeur de la Politique Scientifique et Partenariale de l'Institut Agro Montpellier

### 09h40 Le projet scientifique initial, de la "commande" aux intuitions collectives

François TARDIEU, Ex Directeur du LEPSE

### 09h50 L'Institut de Biologie Intégrative des Plantes : une nouvelle discipline à bord d'un nouveau bâtiment ?

Thierry SIMMONEAU, Ex Directeur du LEPSE

### 10h00 Phénotypage : quand l'écophysiologie change de nom avant de se marier avec la génétique

Bertrand MULLER, Ex Directeur du LEPSE

### 10h10 Film : Les installations expérimentales et les métiers du LEPSE

Myriam DAUZAT, Directrice Adjointe du LEPSE

## 10h20 PAUSE CAFÉ

### 10h50 Le LEPSE à l'INRAE

Christian HUYGHE, Directeur Scientifique Agriculture, INRAE

### 11h00 Trajectoire du LEPSE dans le département Environnement & Agronomie

Laurent BRUCKLER, Ex Chef de Département Environnement & Agronomie,  
Ex Président du Centre INRA de Montpellier

### 11h10 Le LEPSE et la structuration nationale et européenne du phénotypage

Stéphane AYMERICH & Gilles AUMONT, Délégués aux infrastructures de recherche d'INRAE

### 11h20 Le LEPSE vu par le département Biologie et Amélioration des Plantes

Peter ROGOWSKY, Chef de Département Adjoint Biologie et Amélioration des Plantes

### 11h30 Le LEPSE vu par le département AgroEcoSystem

Sylvain PELLERIN, Chef de Département Adjoint AgroEcoSystem

### 11h40 Impacts des recherches conduites au LEPSE

Eric JALLAS, Président itk

### 11h50 Le LEPSE face aux enjeux de diversification et d'adaptation au changement climatique

Pierre MARTRE, Directeur du LEPSE

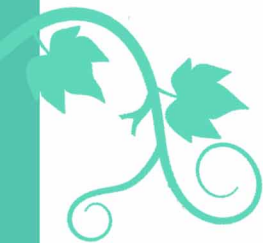
### 12h00 Conduite de la culture : l'oubliée des analyses génétiques

Aude COUPEL-LEDRU, Chargée de Recherche INRAE, LEPSE

### 12h10 Sur les épaules du LEPSE : recherche de convergence pour l'adaptation des cultures

Randall WISER, Directeur de Recherche INRAE, LEPSE

## 12h20 FIN



# From Plant ecophysiology to crop yield A tribute to the career of François Tardieu

November 21, 2023 14h15 - 18h10

Amphithéâtre Philippe Lamour, Institut Agro Montpellier

2 place Pierre Viala - MONTPELLIER

## 14h15 - ARRIVAL AND REGISTRATION

### 14h30 Welcome address

Bertrand MULLER & Pierre MARTRE, LEPSE, INRAE, Montpellier, France

### 14h35 The need for an agricultural revolution and a role for plant science

Bill DAVIES, Lancaster University, The UK

### 14h52 From one to infinity. François and population size expansion in genetic studies of environmental adaptation

Alain CHARCOSSET, GQE, INRAE, Le Moulon, France

### 15h09 Crop ecophysiology and modelling - François and the nexus

Graeme HAMMER, University of Queensland, Brisbane, Australia

### 15h26 François: A good friend doing "hard science"

Jean-Marcel RIBAUT, Integrated Breeding Platform, Mexico

### 15h43 Harnessing the power of science to overcome the challenges of the Anthropocene: LEPSE and the legacy of François Tardieu

Wendy SILK, University of California Davis, USA

## 16h00 COFFEE BREAK

### 16h30 François in Belgium

Xavier DRAYE, Earth and Life Institute, Agronomy, Université catholique de Louvain, Louvain-la-Neuve, Belgium

### 16h47 What is a good model?

Fred VAN EEUWIJK, Biometris, Mathematical and Statistical Methods, Wageningen University and Research,  
Wageningen, The Netherlands

### 17h04 (Title to be confirmed)

Alain MURIGNEUX, Limagrain Europe, Chappes, France

### 17h21 A 15-year cruise with François on the ocean of plant responses to temperature, churned by spatial and temporal scales

Boris PARENT, LEPSE, INRAE, Montpellier, France

### 17h38 Can we really contribute to improve yield in dry areas

François TARDIEU, LEPSE, INRAE, Montpellier, France

## 18h10 ADJOURNED

# Plant ecophysiology in the face of innovations and climate change

November 22, 2023 08h00 - 18h00

Amphithéâtre Philippe Lamour, Institut Agro Montpellier

2 place Pierre Viala - MONTPELLIER

## 08h00 - ARRIVAL AND REGISTRATION

### 08h30 Welcome address

Pierre MARTRE, LEPSE, INRAE, Montpellier, France

### Session I: How can big data improve our understanding of plant ecophysiology?

Chairs: Anne PELLEGRINO / Boris PARENT

### 08h40 Keynote: Artificial Intelligence recipes for improving our understanding of crop growth and yield forecasting

Ioanis ATHANASIADIS, Wageningen Data Competence Center and Geo-Information  
Science & Remote Sensing Lab, Wageningen University and Research,  
Wageningen, The Netherlands

### 09h05 (Title to be confirmed)

(Speaker to be confirmed)

### 09h20 Plant modeling: learning plants or teaching machines

Christian FOURNIER, LEPSE, INRAE, Montpellier, France

### 09h35 Make the link between metabolism and plant performance through modelling

Yves GIBON, BFP, INRAE, Bordeaux, France

### 09h50 Panel Discussion

## 10h20 - COFFEE BREAK

### Session II: Ecophysiology and modelling, driving advances in plant phenomics

Chairs: Christine GRANIER / Bertrand MULLER

### 10h50 Extracting relevant traits from phenotyping platforms: Beyond high-throughput

Lorenç CABRERA-BOSQUET, LEPSE, INRAE, Montpellier, France

### 11h15 Using model outputs to prototype new phenomic methods and machine learning techniques

Scott CHAPMAN, University of Queensland, Brisbane, Australia

### 11h30 Assessing crop plants stress response by non-invasive phenotyping

Kerstin NEWMANN, IPK, Gatersleben, Germany

### 11h45 Phenotyping across borders – national to international, below to above ground, controlled to natural environment

Astrid JUNKER, Syngenta, Halle, Germany

### 12h00 Panel Discussion

## 12h30 - LUNCH

### Session III: Renewing ecophysiological approaches to meet the challenges of climate change

Chairs: Jessica BERTHELOOT / Benoit PALLAS

#### 14h00 Extreme climatic events and plant production: new challenges for plant ecophysiologicalists?

Thierry SIMONNEAU, LEPSE, INRAE, Montpellier, France

#### 14h25 Does a first thermal stress impact plant response during a second stress? A case study in Sorghum

Christine GRANIER, AGAP Institut, INRAE, Montpellier, France

#### 14h40 A plant micro-hydrological journey to phenotypes : There and back again

Valentin COUVREUR, Earth and Life Institute, Agronomy, Université catholique de Louvain, Louvain-la-Neuve, Belgium

#### 14h55 Challenges in assessing climatic risk to crops

Heidi WEBBER, ZALF, Müncheberg, Germany

#### 15h10 Panel Discussion

#### 15h40 COFFEE BREAK

### Session IV: Contributions of ecophysiology and modeling to GxE analysis: from platforms to fields

Chairs: Aude COUPEL-LEDRU / Randall WISSER

#### 16h10 Understanding canopy dynamics in the context of phenotyping for improved physiological traits

Erik MURCHIE, Division of Plant and Crop Sciences, School of Biosciences, University of Nottingham, UK

#### 16h35 (Title to be confirmed)

Jérôme ENJALBERT, GQE, INRAE, Le Moulon, France

#### 16h50 Integrating traits at different scales to predict GxE: where statistics and ecophysiology meet

Daniela BUSTOS KORTS, Universidad Austral de Chile, Valdivia, Chile

#### 17h05 Walking back and forth among scales to achieve an impact in the field

Vincent VADEZ, IRD, Dakar, Sénégal

#### 17h20 Panel Discussion

#### 17h50 Concluding remarks

#### 18h00 SEMINAR ADJOURNED

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