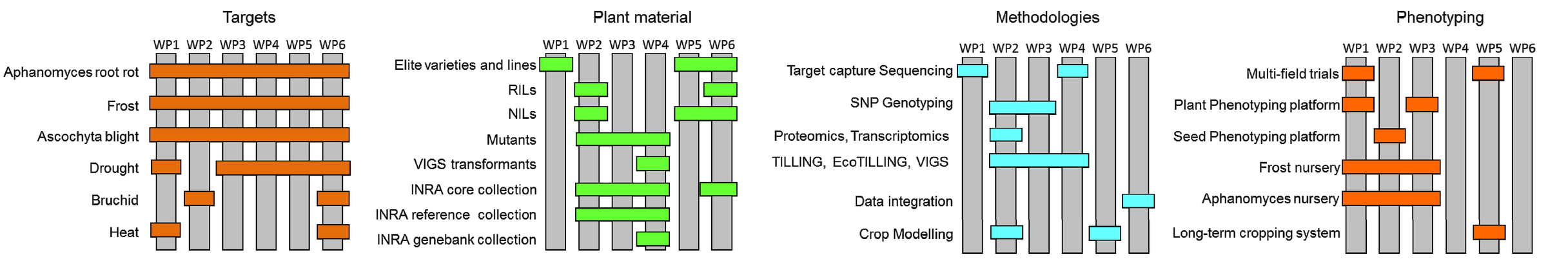
Protéagineux : des ressources génétiques à l'innovation variétale

Judith Burstin, Anne-Lise Brochot

Pea MUlti-STress adaptation and biological regulations for yield improvement and stability

- **What is PeaMUST ?**

  PeaMUST brings together 26 partners from the public and private sectors, having a large range of competencies, from geneticists to biochemists, stakeholders to farmers. PeaMUST is tailored to provide new insights into the mechanisms of multi-stress resistance and enable efficient and rapid exploitation of useful genetic diversity – natural and induced – to develop improved crop varieties with a more stable yield.



- **Objectives:**

  The overall objective is to develop novel pea varieties and optimize plant-symbiotic interactions for stabilized seed yield and quality, in the context of climate change and pesticide reduction.

Validation and Mining using TILLING or VIGS platforms

Genomic selection for improving yield regularity

WP7 Management
Internal communication & audit
A.L. Brochot

WP4
Functional Validation
R. Thompson

WP1
Genome-wide approach of multi-stress tolerance
J. Burstin

WP5
Socio-economic evaluation of Impacts
B. Carrouée

Evaluation of genotypes and tools produced in PeaMUST to implement new breeding strategies

Identify combinations of genes underlying main stress resistance loci, for assisting breeding for durable resistance

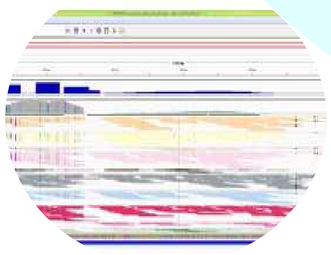
WP2
Translational Genomics of Resistance to main stresses
M.L. Pilet-Nayel

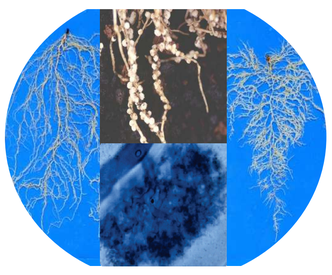
WP3
Architecture and multi-stress Resistance
C. Rameau

Identification of architectural traits and associations bringing multi-stress resistance.

Data management, analysis and bioinformatics community

WP6
Bio-informatics
N. Rivière





WP8 Dissemination, technology transfer & training
I. Chaillet

- **More specifically:**
  - Undertake a program of genomic selection, targeting low-input cropping systems
  - Discover molecular determinants of disease, insect and frost partial resistance in peas for assisting breeding of durable resistances
  - Investigate the potential of the manipulation of architecture and of plant-symbiont interactions for assisting breeding of durable resistances
  - Provide enhanced platforms for gene validation in peas – such as diversified TILLING and Virus induced gene silencing (VIGS) and user-friendly database for the rapid integration of outputs in breeding programs

http://www.peamust-project.fr/

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