

## // Paris-Saclay Institute for Mobility Infrastructures

### // Seminar #1: Prefiguration of the Institute Railway infrastructures

Monday, Nov. 6, 2023

Paris-Saclay University – CentraleSupélec – bâtiment Bouygues – théâtre Rousseau / Gif-sur-Yvette

Link for remote participation: [CLICK HERE](#)

#### // 9am – Introduction and welcome

Paul-Henry COURNÈDE [CentraleSupélec] Dean for Research

Objectives and Program of the day: Pierre-Étienne GAUTIER and Pierre JEHEL [CentraleSupélec]

#### // 9:15-11:30am – Keynote Session

- 09:15am **Georgio TRAVAINI** [Europe's Rail Joint Undertaking] Executive Director ad interim  
*Collaborating, researching & innovating to make rail the everyday mobility in Europe*
- 09:30am **Thomas JOINDOT** [SNCF Réseau] Chief Technical Officer
- 09:45am **Raphael BLANCHARD** [RATP] Technical and Industrial Group Director
- 10:00am **Olivier GICQUEL** [CentraleSupélec] Provost  
*A few words on the CentraleSupélec strategic plan*
- 10:30am **Christian CHAVANEL** [UIC] Director of the Rail System Department  
*UIC – Presentation – Global perspectives*
- 10:45am **Tina CLELAND** [Network Rail] BIM Programme Manager  
*Digitalisation of Permanent Way Maintenance*
- 11:00am **Clive ROBERTS** [University of Birmingham] Professor of Railway Systems  
*Railway system optimised design & progressive assurance using simulation & digital twin*
- 11:15am **Javier LOZANO LOPEZ** [ADIF] Deputy Director, BIM and Digital continuity  
*Technological challenges in the BIM and Digital Twin implementation of ADIF: The CDE*

#### // Coffee break

#### // 11:45-12:45pm – Technical Session #1

Theme 1: The Minerve project

11:45am **É. VANNIER & J.-P. JOUVE** [SNCF Réseau]  
*Unlocking digital collaboration in the rail sector: the MINERVE project as catalyst for the French railway infrastructure*

Theme 2: Digital twins

12:05pm **C. ZAMORANO** [Polytechnic U. of Madrid]  
*Digitalization at the UPM. The Digital-Twins project*

Theme 3: Combining AI and physical models

12:25pm **F. GATTI** [CentraleSupélec]  
*Generative strategies to empower physics-based wave propagation with deep learning. Applications to earthquake engineering and structural health monitoring*

#### // Lunch break

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## // 2-3:15pm – Technical Session #2

### Theme 1: Resilience

**2:00pm A. BARROS** [CentraleSupélec]

*Resilience analysis and optimization for interconnected or distributed systems: use cases and methodological contributions from the chair "Risk and Resilience of Complex Systems" (RRSC)*

**2:30pm K. TARBALI** [CentraleSupélec]

*Decision making in uncertain environments using engineering risk metrics*

### Theme 2: Acceleration of construction through digital technologies

**2:45pm A. KABIL** [University Paris-Saclay]

*Equipex+ CONTINUUM: collaborative continuity between digital and human*

### Theme 3: Biodiversity

**3:00pm F. ASCENSAO** [University of Lisbon] & **J. ABEN** [University Paris-Saclay]

*Linear infrastructure and biodiversity: impacts and opportunities for conservation*

## // Coffee break

## // 3:30-5pm – Round table

**Theme:** *What is the research needed to accelerate progress in the design, construction, and operation of railway infrastructures thanks to digitalization?*

**Panel:** **Christian CHAVANEL** [UIC], **Dominique CHEVILLARD** [FNTP], **David DE ALMEIDA** [SNCF], **Clive ROBERTS** [University of Birmingham], **Pierre-Alain ROCHE** [IREX], **Clara ZAMORANO** [Polytechnic University of Madrid]