

**International seminar**  
**Chair BigMeca Safran-Mines ParisTech PSL**  
*<https://bigmeca.mines-paristech.fr/>*  
Henry Proudhon, David Ryckelynck  
November 18th 2021

**Organizing Committee** : David Ryckelynck, Henry Proudhon, Fabien Casenave (SafranTech)

**Registration required**

**Contact** : [bigmeca.chaire@mines-paristech.fr](mailto:bigmeca.chaire@mines-paristech.fr)

**Hybrid participation**, online and at SafranTech (Rue des jeunes Bois, 78117 Châteaufort)

**Schedule** (Central European Time):

*Talk 25min and 10min for discussions*

9h00 Henry Proudhon (Mines ParisTech), 4D experiments and simulations: the data challenge to study the mechanics of materials

9h35 Clément Ribart (Mines ParisTech), Coupled X-ray and EBSD multimodal testing to study crystal plasticity in pure titanium

10h10 Aldo Marano (ONERA), BigData Platform for image-based digital twins

10h45 *Break*

11h00 Daria Mesbah (CEA), Laplacian eigenmodes for geometrical variabilities of mechanical specimens

11h35 Axel Aublet (SafranTech), Image-based digital twins on Nickel-based Superalloy Fatigue specimens involving geometrical variabilities

12h10 Joao Bertoldo (Mines ParisTech), Machine learning for image segmentation applied to composite materials

12h45 *Break*

14h15 David Ryckelynck (Mines ParisTech), Data assimilation and machine learning in thermomechanical digital twins

14h50 Thomas Daniel (Dassault Systèmes), Fabien Casenave (SafranTech) , ROM-net for uncertainty quantification in plasticity

15h25 *Break*

15h40 Hamza Boukraichi (SafranTech), GAN for structural submodels in dynamics

16h15 Choi, Youngsoo (LLNL), Efficient nonlinear manifold reduced order models with sparse shallow neural networks

16h50 Samantha Daly (UC Santa Barbara), Damage Mechanism Identification in Composites via Machine Learning and Acoustic Emission

17h25 Conclusion of the seminar