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louis.hebrard@ens-paris-saclay.fr

@

louheb.github.io/cv

Skills

■ Computer:

(years of experience)

Python	● ● ● ● +
Matlab	● ● ● ●
ImageJ/FIJI	● ● ●
Abaqus	● ● ● ●
Gmsh	● ● ●
Cast3M	●
SolidEdge	● ● ●
Catia V5	● ●
Solidworks	●
Latex	● ● ● ● +
LAMMPS	●
Excel	● ● ● ● +
Photoshop	● ● ● ● +

■ Experiments:

SEM
EBSD
Polishing & Sample prep.
X-ray μ-tomography
Synchrotron experiments

■ Languages:

French - Native Speaker
English - C1 Advanced
Spanish - Basic Knowledge

■ French driving licence

(since 2015)

Interests

- Basketball
- Arts (drawing, painting)
- Social problematics

Louis HÉBRARD

- Material Sciences & Mechanical Engineering -

▌ Research projects:

2020 - 2023: <u>PhD thesis</u>
Study on the effect of the environment on internal fatigue crack propagation in Ti64
Matéis Lab - INSA Lyon 🇫🇷

Jean-Yves Buffiere - Thierry Palin-Luc (I2M Bordeaux) - Nicolas Ranc (PIMM Paris)
· *Synchrotron experiment on Ti-6Al-4V very high cycle fatigue crack propagation*
· *Study of the effect of environment: comparison of crack propagation in air and in vacuum*

2020: <u>Research internship</u> (6 months)
In-situ synchrotron tomography of laser powder bed fusion additive manufacturing
Simap - Grenoble & PIMM - Arts et Métiers - Paris 🇫🇷

Pierre Lhuissier - Guilhem Martin - Patrice Peyre - Frédéric Coste
· *Synchrotron tomography adapted exp. device to study LPBF impacting parameters*

2018 - 2019: <u>Engineering internship</u> (6 months)
Creation of a fatigue test bench for a humanoid-robot foot
Wandercraft - Paris 🇫🇷
· *Design and assembly of the test bench*
· *Mechanical and economic study on materials and processes for a production approach*

2017 - 2018: <u>Research internship</u> (10 months)
Numerical simulations at an atomic scale of the solute segregation toward grain boundaries in an Al-Mg alloy
The University of British Columbia - Vancouver 🇨🇦

Chad W. Sinclair - Microstructure group
· *Modelling of grain boundaries and segregation with hybrid Molecular Dynamic Method*
· *Post-processing of the numerical data to build free energy diagrams*

2017: <u>Engineering internship</u> (14 weeks)
Evaluation of the control loads on a H175 helicopter
Airbus Helicopters - Marignane 🇫🇷

▌ Publications:

2024 - Ball et al. - Acta Materialia - Grain-level effects on in-situ deformation-induced phase transformations in a complex-phase steel using 3DXRD and EBSD doi.org/10.1016/j.actamat.2023.119608

2023 - Hebrard et al. - Materials Science and Engineering: A - Environment effect on internal fatigue crack propagation studied with in-situ X-ray microtomography doi.org/10.1016/j.msea.2023.145462

2022 - Lhuissier et al. - Review of Scientific Instruments - Miniature laser powder bed fusion system for in situ synchrotron x-ray micro-computed tomography experiments at the ESRF - doi.org/10.1063/5.0090623

2018 - Daghia et al. - Composites Part A: Applied Science and Manufacturing - The Double Drum Peel (DDP) test: A new concept to evaluate the delamination fracture toughness of cylindrical laminates - doi.org/10.1016/j.compositesa.2018.07.020

▌ Teaching experience:

2020 - 2022: Mechanical system conception, Technical drawing and Computed-aided design (undergraduates from INSA Lyon)