

# Jean-Charles PASSIEUX

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## Education/Experience

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2020-2023	<b>Director of the Department of Mechanical Engineering</b> at INSA Toulouse (40 staff, 300 students)
Since 2018	<b>Full Professor</b> at INSA Toulouse, ICA (UMR 5312)
2015	<b>Accreditation to Supervise Research (HDR)</b> - Université Toulouse III - Paul Sabatier (now UT)
2010-2018	<b>Assistant Professor</b> at INSA Toulouse, ICA (UMR 5312)
2009-2010	<b>Post-doctorate fellow</b> - INSA Lyon, LaMCoS
2005-2009	<b>PhD thesis in Computational Mechanics</b> at ENS Cachan, LMT (now part of LMPS)
2002-2006	Student of <b>ENS Cachan</b> (now Paris-Saclay)

## Other responsibilities

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Since 2023	Executive board member of <b>PMa</b> (PhotoMechanics Association)
Since 2023	Board member of <b>CSMA</b> (Computational Structural Mechanics Association)
Since 2023	Head of L3 and M1 of mechanical engineering in apprenticeship
Since 2020	Board member of the scientific commission of ICA
Since 2016	Lecturer in Finite Element Method, Continuum Mechanics, Data Assimilation, Numerical Analysis
2016-2020	Deputy head of research group MS2M at ICA (34 academics - 48 PhDs)
2014-2019	Head of the Master 1 in Mechanical Engineering INSA Toulouse (72 students)
2014-2015	Elected member of the scientific council of INSA Toulouse
since 2013	Elected member of the mechanical engineering department council
2012-2020	Chairman of ISS research team (10 academics - 23 PhDs)

## Research activity

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### Research fields :

With a background in computational structural mechanics, I have been developing numerical methods in domain decomposition, time-space multiscale, multigrid, XFEM, model order reduction, isogeometric analysis with application to nonlinear mechanics, fracture, multiscale modeling of materials and structures, with special attention to the level of invasiveness and to the minimization of numerical complexity. In addition I am developing tools for optimization and inverse problems in the field of experimental and computational photomechanics. I contributed to the development of finite element based and global digital image/volume and stereo correlation (DIC) methods, regularization techniques, identification from digital images, image-based models and data assimilation, with attention to numerical complexity and to the propagation of measurement and modeling uncertainties.

### Publications

- 1 book, 1 book chapter and editor of 1 collective book
- > 200 publications with 51 peer-reviewed international journal papers
- Main developer of an opensource FE-DIC Python Library `pyxel` and co-founder of metadata standard `r3xa`

### Supervised PhDs :

I am currently supervising 3 PhD students and I have been supervisor of 13 PhD defended theses and one habilitation degree. I was external referee of 30 PhD theses.

### Other

- Chairman of the international conference PhotoMechanics2018 ([photomech2018.sciencesconf.org](http://photomech2018.sciencesconf.org))
- *Funded projects* : ANR ESKIF (2024), PEPS CNRS (2023), ANR AVATAR (2022-26), PIA IRT Trust (2022-25), PIA IRT WallSapp (2021-24), ANR ICARE (2013-17), VERTEX (2013-17), AVATAR (2022-25), 2 industrial contracts, 3 CIFRE projects (Airbus 2014, HSP 2021, ST 2023)

Full list of publications available on HAL (idHAL : jcpassieux)