



HORIZON 2020

TRUSS

Training in Reducing Uncertainty
in Structural Safety

ESR4: Rui Teixeira



Trinity College Dublin

Coláiste na Tríonóide, Baile Átha Cliath

The University of Dublin

Probabilistic Analysis of Offshore Wind Turbines



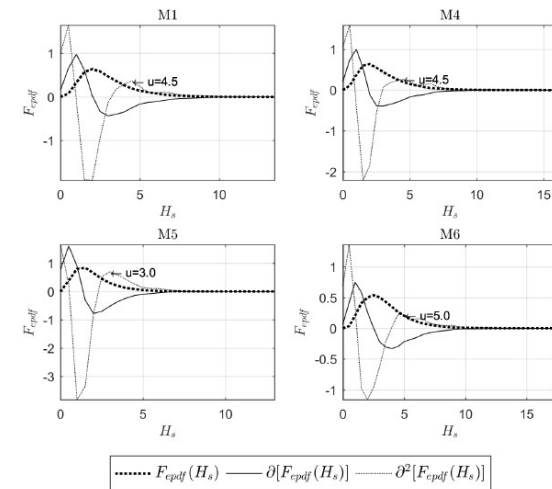
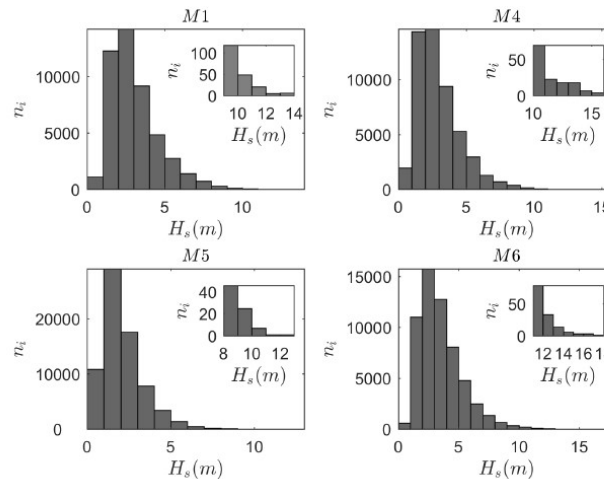
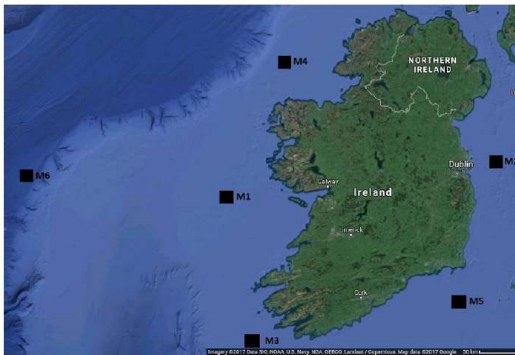
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Research

- Thesis completed and under revision.
 - 4 State of the art chapters
 - 3 Original contribution chapters
- I - Extrapolation of extreme waves with the Peak-over-threshold





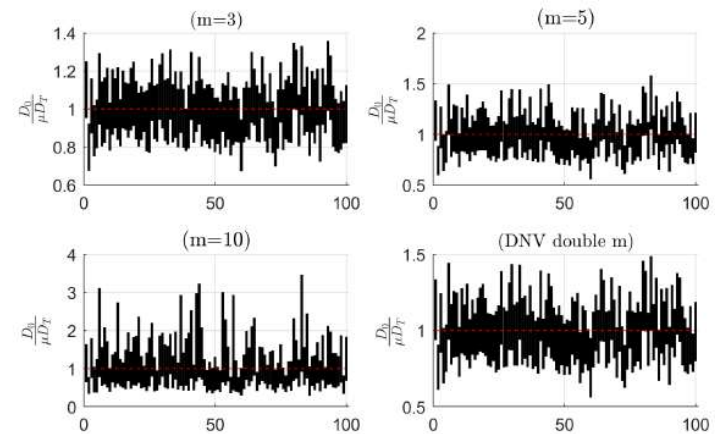
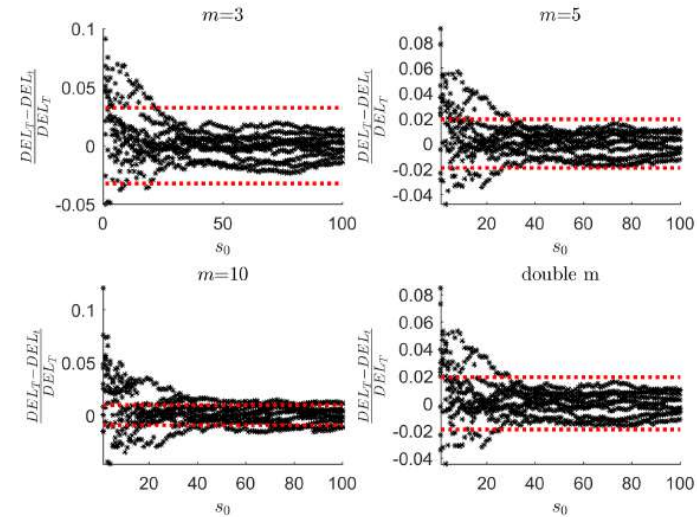
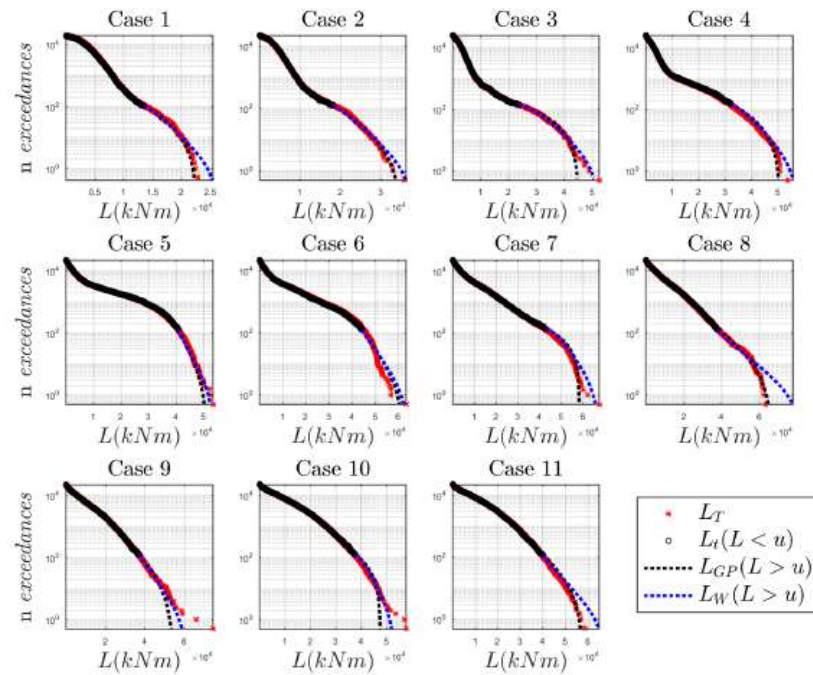
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➤ II - Comparative analysis of OWT fatigue design practices





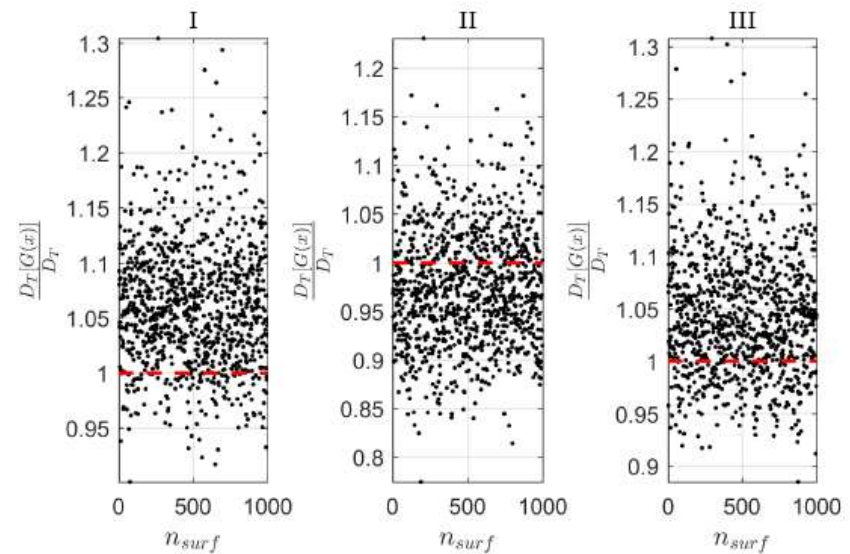
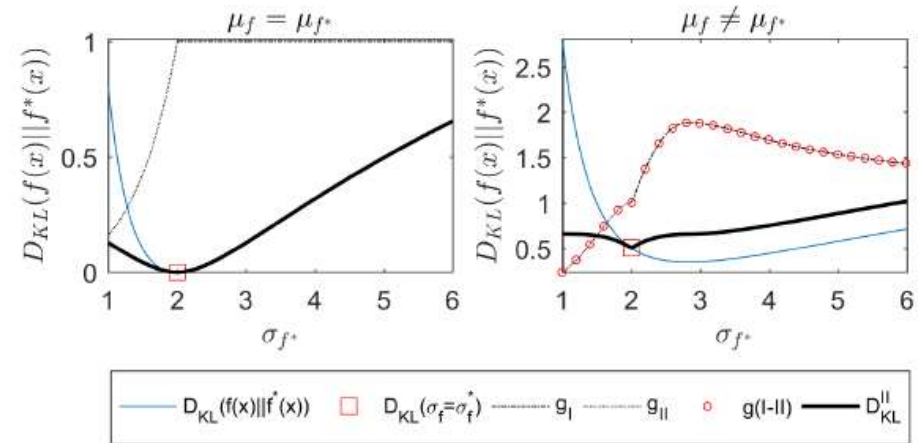
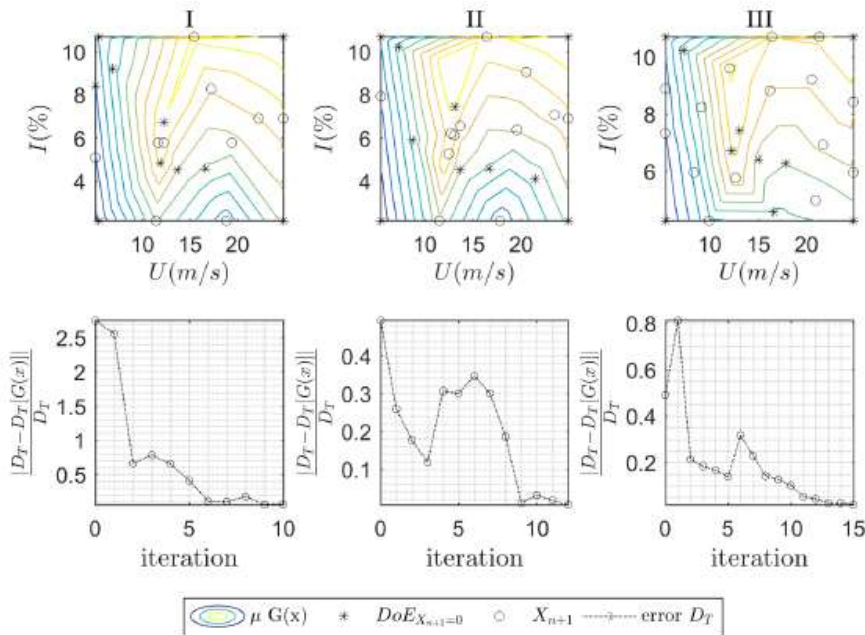
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III - Meta-modelling in the design of OWT to fatigue





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Training

Seminar (<=1 day)	18-01-2016	18-01-2016	Matlab code to analyse structures
Seminar (<=1 day)	25-01-2018	25-01-2018	DNV Webinar about modelling corrosion
Seminar (<=1 day)	22-03-2018	22-03-2018	DNV Learn how the latest software and cloud developments can support your offshore wind projects
Examination	03-05-2016	03-05-2016	Exam on course 5C2
Examination	13-05-2016	13-05-2016	Exam on course 5A2
Outreach	10-12-2016	10-12-2016	Trinity College Dublin open day 2016
Outreach(open day, talks)	14-09-2016	14-09-2016	Participation in Higher Options 2016
Secondment (Short Stay < 3 months)	03-10-2016	09-12-2016	Start of the secondment in London
Secondment (Short Stay < 3 months)	12-12-2016	10-02-2016	Start of the Secondment in Aberdeen
Secondment (Short Stay < 3 months)	30-10-2017	01-12-2017	Secondment Phimeca Engineering in Paris
Tutorial/Supervision/D	30-10-2015	20-11-2015	Tutorial Teaching 2E7 - Engineering and the Environment TCD, Dublin, Ireland
Tutorial/Supervision/D	01-02-2016	04-04-2016	Tutorial 4A6 - Teaching Structures II - Advanced Design of Structures, TCD, Dublin, Ireland
Tutorial/Supervision	20-09-2017		Start supervision of visiting student in work to be underpinned regarding the analysis of offshore wind turbines



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Dissemination

Conference publication	29-08-2016	30-08-2016	Comparative analysis of the probabilistic methods to estimate the probability of failure of offshore wind turbine towers	Teixeira, R., O'Connor, A., and Nogal, M.	Civil Engineering Research in Ireland, CERI 2016, Galway, Ireland
Conference publication	18-06-2018	22-06-2017	Structural probabilistic assessment of Offshore Wind Turbine operation fatigue based on Kriging interpolation	Teixeira, R., O'Connor, A., Nogal, M., Nicholson, J. Spring, M.	European Safety and Reliability Conference, ESREL2017, Portoroz, Slovenia
Conference publication	04-09-2017	07-12-2017	Analysis of the design of experiments of offshore wind turbine fatigue reliability design with Kriging surfaces	Teixeira, R., O'Connor, A., Nogal, M., Nandakumar, K., Nicholson, J.	International Conference on Structural Integrity, ICSI2017, Madeira, Portugal
Journal publication	15-10-2017	15-10-2017	On the suitability of the Generalised Pareto to model extreme waves	Teixeira, R., Nogal, M., O'Connor, A.	Journal of Hydraulic Research
Conference publication	04-05-2018	07-05-2018	Interpolation of confidence intervals for fatigue design using a surrogate mode	Teixeira, R., Nogal, M., O'Connor, A.	IFED2018 Conference
Conference publication	28-08-2018	29-08-2018	Application of Gaussian process regression for structural analysis	Teixeira, R., O'Connor, A., Nogal, M.	CERI Conference
Conference publication	03-09-2018	07-08-2018	On the calculation of offshore wind turbine load spectra for fatigue design	Teixeira, R., Nogal, M., O'Connor, A.	ICMFMXIX Conference
Conference publication	22-11-2018	22-08-2018	Convergence analysis for Offshore Wind Turbine operational fatigue reliability analysis.	Teixeira, R., O'Connor, A., Nogal, M.	IALCCE2018

- 17 Blog publications



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Outreach

