1. Curriculum Vitae Matthias G.R. Faes

1.1. Personal details

Gender	Man
Nationality	Belgian
Birthdate, place	15.10.1991, Lier, Belgium
Address	Sonnenstr. 76, 44139 Dortmund, Germany
Phone	+49 (0) 151 7047 0499
E-mail	matthias.faes@tu-dortmund.de
ORCID	0000-0003-3341-3410

1.2. Education

2013 – 2017 Ph.D. Engineering Technology – Dissertation presentation: 27/11/2017
KU Leuven - Department of Mechanical Engineering
Dissertation title: “Interval methods for the identification and quantification of inhomogeneous uncertainty in Finite Element models”
Supervisor: Prof. Dr. Ir. David Moens

2012 – 2013 M.Sc. Engineering Technology
Thomas More University of Applied Sciences - campus De Nayer
Dissertation title: “Extrusion based Additive Manufacturing of ceramic components”.
Supervisor: Prof. Dr. Ir. Eleonora Ferraris (KU Leuven)
Grade: Summa cum Laude (86.7% - ECTS grade: “A”)

2009 – 2012 B.Sc. Engineering Technology
Lessius University of Applied Sciences- campus De Nayer
Grade: Magna cum Laude (81.2% - ECTS grade: “A”)

1.3. Professional experience

2022 – now Full Professor (W3) and Head of the Chair for Reliability Engineering, Department of Mechanical Engineering, Technische Universität Dortmund, Germany.

2025 – now Guest professor at the Department of Civil Engineering, Beijing University of Technology, Beijing, PR China.

2023 – now Guest professor at the Department of Civil Engineering, Tongji University, PR China in the International Joint Research Centre for Engineering Reliability and Stochastic Mechanics.

2022 – 2025 Affiliated researcher, Department of Mechanical Engineering, KU Leuven, Leuven, Belgium.

2020 – 2022 Alexander von Humboldt Postdoctoral Fellow, Department of Civil Engineering, Institute for Risk and Reliability (mentor: Prof. Michael Beer), Leibniz Universität Hannover (Hannover, Germany).

2017 – 2022 Postdoctoral researcher, Department of Mechanical Engineering, KU Leuven (Leuven, Belgium). Personal post-doc grant of the Flemish Research Foundation (FWO) between 2019 and 2022. Mentor: Prof. David Moens.

2017 Visiting Scholar, Institute for Risk and Reliability, Leibniz University Hannover (Hannover, Germany). Mentor: Prof. Michael Beer.

2013 – 2017 Scientific and teaching assistant, Department of Mechanical Engineering, KU Leuven (Leuven, Belgium)

1.4. Editorial activities

Associate editor roles

2025 – now Associate Editor, *Reliability Engineering and System Safety (IF: 11.0)*

2023 – now Associate Editor, *ASCE Practice Periodical on Structural Design and Construction.*

2022 – now Associate Managing Editor and Associate editor, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering (IF: 2.5) and Part B: Mechanical Engineering (IF: 2.2)*

2021 – now Associate editor, *Mechanical Systems and Signal Processing (IF: 8.9)*

2021 – 2024 Associate editor, *ASME Open Journal of Engineering*.

Other editorial roles

2024 – now Editorial board member, Journal of Reliability Science and Engineering.

2020 – 2022 Early Career Editorial Board member, *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering*.

2017 – now Organizer of Mini-symposia (15+) on leading international conferences such as ICASP (’19, ‘23), UNCECOMP (’17, ’19, ’21, ’23, ‘25), EURODYN (’23, ‘26), APSSRA2020, ICOSSAR (’21, ’25), WCCM-ECCOMAS (2020,2024,2026), WCCM-APCOM (2022), ISRERM (2022, 2024), ICVRAM (24), EMI (‘25), 20+ international collaborators, more than 100 contributions.

1.5. Guest editorials

2025 Co-guest editor of special issue on “Reliability Assessment and Quality Assurance of Industrial Equipment”, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems Part B: Mechanical Engineering.

2025 Co-guest editor of special issue on “Surrogate Modeling and Simulation-Based Approaches for Structural Reliability Analysis Under Uncertainty”, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems Part A: Civil Engineering.

2024 Lead guest editor of special issue on “Uncertainty quantification and reliability analysis in structural dynamics”, Reliability Engineering and System Safety.

2024 Co-guest editor of special issue on “Advances in Numerical and Experimental Methods for Uncertainty Quantification in Engineering”, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems Part A: Civil Engineering.

2024 Co-guest editor of special issue on “Reliability Modelling and Assessment of Complex Engineering Systems with Mixed Uncertainty”, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems Part B: Mechanical Engineering.

2023 Co-guest editor of special issue on “Reliability and Safety Analysis, Uncertainty Quantification, and Prognostics of Fuel Cells”, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems Part B: Mechanical Engineering.

2022 Co-guest editor of special issue on “Communities resilience to disruptive events: models and analyses, lessons learned and case studies”, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems Part B: Mechanical Engineering.

2020 Lead guest editor of special issue on “Non-probabilistic and hybrid approaches for uncertainty quantification and reliability analysis”, S042B, ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems Part B: Mechanical Engineering.

1.6. Committee memberships

International scientific committees

2025 – now Chair of the Technical Committee on Robust Reliability, Risk and Decision Making of the International Association of Structural Safety and Reliability (IASSAR)

2025 – now Chair of the Committee on Probability and Statistics on the Physical Sciences (C(PS)^2) of the Bernoulli Society

2025 – now Executive board member of the International Society of Mechanical System Dynamics (ISMSD) Professional Committee of Stochastic Dynamics

2024 – now Executive board member of the International Association for Reliability Engineering and Risk Management (IARERM).

2024 – now Chair of the Award committee for the best paper award of the ASCE/ASME Journal for Risk and Un-certainty in Engineering Systems, Part A: civil engineering

2023 – now Executive board member of the European Society for Structural Dynamics (EASD)

2023 – now Technical Committee Chair of the committee on “Mathematical and Computational Methods in Reliability and Safety” of the European Safety and Reliability Association (ESRA)

2022 – now Chair of the Award committee of the European Safety and Reliability Association (ESRA)

2021 – now Member of the American Society of Mechanical Engineers (ASME)

2021 – now Member of the ASCE Risk and Resilience Measurements Committee

2021 – 2025 Voting member of the Award committee for the best paper award of the ASCE/ASME Journal for Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering

2020 – now Member of the American Society of Civil Engineers (ASCE)

2020 – now Member of the ASCE Engineering Mechanics Institute

Conference organization

2026 REC 2026 – the 11th international workshop on reliable engineering computing. September 2 – 5 2026, TU Dortmund, Germany.

Conference committees

2027 Scientific Committee Member of the 7th International Conference on Uncertainty Quantification in Computational Science and Engineering (UNCECOMP), Rhodos, Greece
2026 Scientific Committee Member of ISMA-USD2026, Leuven, Belgium
2026 International Scientific Committee of the 10th International Symposium on Reliability Engineering and Risk Management (ISRERM 2026), Sapporo, Japan.
2025 Program Committee member of the 14th International Symposium on Imprecise Probabilities: Theories and Applications (ISIPTA), Bielefeld, Germany.
2025 Scientific committee member of the 9th International Conference on Vibration Engineering, October 24-26, Nanjing, PR China.
2025 Scientific committee member of the 2025 International Probabilistic Workshop, Rostock, Germany
2025 Scientific committee member of the ESREL SRA-E 2025 conference, Stavanger, Norway
2025 Scientific Committee Member of the 6th International Conference on Uncertainty Quantification in Computational Science and Engineering (UNCECOMP), Rhodos, Greece
2024 International Technical Committee member of ISRERM 2024, Hefei, PR. China
2024 International Scientific Committee member ASCE-ICVRAM-ISUMA 2024, Shanghai, PR China
2024 Scientific committee member of ISMA-USD2024, Leuven, Belgium
2023 Program Committee member of the 13th International Symposium on Imprecise Probabilities: Theories and Applications (ISIPTA), Oviedo, Spain
2023 Scientific Committee Member of the 5th International Conference on Uncertainty Quantification in Computational Science and Engineering (UNCECOMP), Athens, Greece
2023 Member of the tenure evaluation committee of Prof. Zhang Yi at Tsinghua University, PR China.
2023 International Technical Committee member of IWERSM 2023, Shanghai, PR China
2022 International Technical Committee Chair of ISRERM2022, Hannover, Germany

Self-governance activities

2025 – 2026 Co-speaker “Area of High Potential” of the “Ruhr Innovation Lab” proposal for the Excellence Initiative of TU Dortmund University and the Ruhr University Bochum.
2025 Member of the re-accreditation committee of the Mechanical Engineering Bachelor and Master curricula of TU Dortmund University
2024 – now Vice chair of the doctoral committee of the Mechanical Engineering Department of TU Dortmund University
2023 – now Member of four professorial appointment committees at the Department of Statistics, Social Sciences and Mechanical Engineering at TU Dortmund University
2022 – now Elected member on the departmental council of the Mechanical Engineering Department of TU Dortmund University

1.7. Supervision and mentorship of Researchers

Postdoctoral researchers

Since 2026	Dr. Xueqin Li	TU Dortmund (Humboldt Fellow), main supervisor
Since 2025	Dr. Zohreh Behboudi	TU Dortmund, main supervisor
Since 2024	Dr. Zhouzhou Song,	TU Dortmund (Humboldt Fellow), main supervisor
Since 2022	Dr. Marcos Valdebenito	TU Dortmund, main supervisor, chief engineer of the CRE
2024 – 2026	Dr. Chao Dang,	TU Dortmund, main supervisor – now full professor at Hunan University
2023 – 2025	Dr. Peipei Li,	TU Dortmund (Humboldt Fellow), main supervisor – now full professor at Beijing University of Technology
2023 – 2025	Dr. Xuan-Yi Yuan,	TU Dortmund (Humboldt Fellow), main supervisor – now associate professor at Beijing University of Technology

2021 – 2024	Dr. Augustin Persoons,	KU Leuven, co-supervisor – now associate professor at the University of Technology Troyes

Doctoral students

Since 2025	MSc. Weiming Zheng	TU Dortmund, main supervisor
Since 2024	MSc. Walid Belkacem	University Oran 2 Mohamed Ben Ahmed, external co-supervisor
Since 2024	MSc. Cristobal Acevedo,	TU Dortmund, main supervisor
Since 2023	MSc. Ali Kilicsoy,	TU Dortmund, main supervisor
Since 2022	MSc. Nataly Manque Roa,	TU Dortmund, main supervisor
Since 2022	MSc. Mauricio Misraji,	TU Dortmund, main supervisor
Since 2021	MSc. Bouwe Verkens,	KU Leuven, co-supervisor
Since 2021	MSc. Miriam Dodt,	KU Leuven, co-supervisor / TU Dortmund
Since 2021	MSc. Damien Bonnet-Eymard,	KU Leuven, co-supervisor
2018 – 2025	MSc. Lars Bogaerts,	KU Leuven, co-supervisor, now post-doctoral researcher at KU Leuven
2020 – 2025	MSc. Konstantinos Ypsilantis,	KU Leuven, co-supervisor
2019 – 2025	MSc. Robin Callens,	KU Leuven, co-supervisor, now post-doctoral researcher at KU Leuven
2018 – 2023	MSc. Conradus van Mierlo,	KU Leuven, co-supervisor, now metrology engineer at ASML

Visiting doctoral students

2025 – 2026	MSc. Xin Huang	Tongji University (1y CSC scholarship)
2025 – 2026	MSc. Bo-Yu Wang	Beijing University of Technology (1y CSC scholarship)
2025 – 2026	MSc. Jiaran Liu	Dalian University (1y CSC scholarship)
2024 – 2025	MSc. Zidong Zhao	Beijing University of Technology (1y CSC scholarship)
2024 – 2025	MSc. Hui-Juan Liu	Beijing University of Technology (1y CSC scholarship)
2023 – 2024	MSc. Xiang-Wei Li	Beijing University of Technology (1y CSC scholarship)

Master students

KU Leuven:	Co-supervisor of 25 master students between 2013 and 2020 (two of which won best master thesis awards)
TU Dortmund:	Main supervisor of 14 master students since 2022

1.8. Developed teaching curricula

I offer all my courses in full hybrid format to enable students the most flexible learning experience.

Master's level

2022 – ongoing	TU Dortmund University, Department of Mechanical Engineering, Advanced methods for reliability engineering
2017 – 2020	KU Leuven, Department of Mechanical Engineering, Numerical methods for nonlinear finite element analysis

Bachelor's level

2023 – ongoing	TU Dortmund University, Department of Mechanical Engineering, Quality Management
2023 – ongoing	TU Dortmund University, Department of Mechanical Engineering, Introduction to computational methods (not only) for engineers
2022 – ongoing	TU Dortmund University, Department of Mechanical Engineering, Introduction to reliability engineering

1.9. Awards

Own awards

2025 TU Dortmund University's Prize for Internationalization 2025 in the field of research
2023 EASD Junior Research Prize in the Area of Development of Methodologies for Structural Dynamics. European Association of Structural Dynamics.
2022 Top Cited Article in the "International Journal for Numerical Methods in Engineering"
2020 Alexander von Humboldt postdoctoral fellow, Alexander von Humboldt Foundation
2020 Willy Asselman Award as an appreciation for Prof. Faes' research in Uncertainty Quantification for Engineering Analysis, Belgium.
2020 Best paper award at the at Asian Pacific Symposium on Structural Reliability and its Applications in collaboration with Dr. Marco Daub and Prof. Michael Beer.
2019 IJAR Young researcher award for research excellence in imprecise probabilities, awarded by Elsevier and The Society for Imprecise Probability: Theories and Applications, Ghent, Belgium.
2018 ECCOMAS Award for the two best Ph.D. theses in 2017 on computational methods in applied sciences and engineering in Europe, European Committee on Computational Methods in Applied Sciences, Glasgow, United Kingdom.
2018 2nd Laureate of the BNCTAM Award for the Best PhD Thesis of 2017 in applied or theoretical mechanics, awarded by the Belgian National Committee on Theoretical and Applied Mechanics, Brussels, Belgium.
2016 Excellent Paper Award – CIRP ISEM18 conference, awarded by the international academy for production engineering, Tokyo, Japan
2009 Best student in sciences, St.-Gummarus-College, Lier, Belgium.

Awards of supervised students

2025 Best student paper award for PhD student Nataly Manque Roa at the 14th International Conference on Structural Safety and Reliability (ICOSSAR'25), June 1-6 2025, University of Southern California, Los Angeles, CA, USA
2024 "First class student paper award" for PhD student Mauricio Misraji at the International Conference on Vulnerability and Risk Analysis and Management (ICVRAM2024)" & "8th International Symposium on Uncertainty Modelling and Analysis (ISUMA2024), held from April 25. – 27. 2024, at Tongji University, Shanghai, China.
2024 "First class student paper award" for PhD student Nataly Manque Roa at at the 9th International Symposium on Reliability Engineering and Risiko Management (ISRERM2024), held from October 18-21, 2024, at Hefei University of Technology in China.

1.10. Invited seminars, keynote talks and plenary lectures

Keynote and plenary lectures

2027 Semi-plenary keynote lecture | 7th International Conference on Uncertainty Quantification in Computational Science and Engineering (UNCECOMP), Rhodos, Greece
2026 Semi-plenary keynote lecture | 13th International Conference on Structural Dynamics (EURODYN), Hannover, Germany
2025 Plenary keynote lecture | 3rd Sino-German workshop on Reliability of Complex Systems, Xi'an, PR China.
2025 Semi-plenary keynote lecture | 14th International Conference on Structural Safety and Reliability - ICOSSAR'25, Los Angeles, United States of America.
2024 Plenary keynote lecture | 5th Metal Plasticity Seminar, Ghent, Belgium.
2024 Plenary keynote lecture | 2024 International Symposium on Reliability Engineering and Risk Management (ISRERM), Hefei, PR China
2024 Plenary keynote lecture | 2nd Sino-German workshop on Reliability of Complex Systems, Xi'an, PR China.
2024 Keynote lecture | 4th International Conference on Vulnerability and Risk Analysis and Management (ICVRAM2024) & 8th International Symposium on Uncertainty Modelling and Analysis (ISUMA2024), Shanghai, PR China.
2023 Plenary keynote lecture | 5th Sheffield Workshop on Structural Dynamics, Sheffield, United Kingdom.

2019 Keynote (mini symposium) | UNCECOMP3, Crete, Greece

Invited talks

2025 Guest Seminar | Beijing University of Technology, PR China, Invitede by Prof. Zhao-Hui Lu
2025 Guest Seminar | Zhejiang University, Hanghzhou, PR China. Invited by Prof. Binbin Li.
2025 Guest Seminar | Shanghai Jiao Tong university, Shanghai, PR China. Invited by Prof. Ping Zhu
2025 Guest Seminar | Tongji University, Shanghai, PR China. Invited by Prof. Jianbing Chen and Prof. Yongbo Peng.
2025 Guest Seminar | International Online Seminar on Interval Methods in Control Engineering. Invited by Prof. Andreas Rauh
2024 Guest Seminar | University of Trento, Trento, Italy. Invited by Prof. Marco Brocccardo.
2024 Guest Seminar | Tongji University, Shanghai, PR China. Invited by Prof. Jianbing Chen and Prof. Yongbo Peng.
2024 Guest Seminar | Hefei University of Technology, Hefei, PR China. Invited by Prof. Fan Kong.
2024 Guest Seminar | City University Hong Kong, PR China. Invited by Prof. Min Xie.
2024 Guest Seminar (online) | Sanjivani K.P.B. University, India. Invited by Prof. M. Gawali.
2023 Guest Seminar | Tongji University, Shanghai, PR China. Invited by Prof. Jianbing Chen and Prof. Yongbo Peng.
2023 Guest Seminar | Beijing University of Science and Technology, Beijing, PR China. Invited by Prof. Lechang Yang.
2023 Invited speaker | SIPTA seminar series “What's going on in...”. Invited by Prof. Jasper De Bock (University of Ghent).
2022 Invited Speaker | SPP 1886 Workshop on Interactions and Multi-Physical Behavior Considering Uncertain Data at the Karlsruhe Institute of Technology. Invited by Prof. Steffen Freitag.
2021 Guest Lecturer (2 talks) | 1st network-wide event GREYDIENT MSCA Network
2021 Guest Lecturer (2 lectures) | Virtual Winter School of the SPP1886. Invited by Prof. Michael Kaliske.
2021 Guest Seminar | University of Sheffield, United Kingdom. Invited by Prof. K. Worden.
2020 Invited speaker | 1st Sino-German workshop on Reliability of Complex Systems. Invited by Prof. Pengfei Wei (Nortwestern Polytechnic University, X'ian).
2020 Guest Seminar | University Federico Santa Maria in Valparaiso, Chile. Invited by Prof. Hector Jensen
2019 Guest seminar | Leibniz University Hannover, DE. Invited by Prof. Udo Nackenhorst.
2018 Guest seminar | TU Munich, Germany. Invited by Prof. Fabian Duddeck.
2016 Special Focus Talk |ICEM18, Tokyo, Japan. Invited talk as part of the Excellent Paper Award.

1.11. Awarded projects and grants

Prof. Faes has obtained grants and projects for a total sum of at least 6 million Euros (excluding e.g., obtained Humboldt Fellowships) since obtaining his PhD in 2017. These grants were obtained both as PI and as Co-PI in the Belgian, German, and European research systems both as only applying individual, as in a coordinating role tying in multiple partners.

Research projects

2025 German Research Foundation (DFG), 357.887 Euros, PI (joint proposal)
DFG FA 2004/5-1: “Holistic process chain modelling for aluminum profile forming”,
Sub-project in SPP2476 “Prozessübergreifende Modellierung in der Produktionstechnik”
2025 DTEC-SHM: collaboration agreement, 152.800 Euros, PI
2024 State Key Laboratory of Disaster Reduction in Civil Engineering, Tongji University (SLDRCE), 40.000 euros (300.000 RMB), PI
Reliability-based Optimization of Structures Subject to Wind and Seismic Loading
2024 German Research Foundation (DFG), 383.040 Euros, PI
DFG INST 212/566-1:“Project C06* Schadensoptimierung von Massivumformungsprozessen unter Unsicherheit”. Sub-project in SFB/TRR188 „Schädigungskontrollierte Umformprozesse“.

2023 German Research Foundation (DFG), 351.324 Euros, PI.
DFG FA 2004/3-1: “P-box Fields: definition, analysis and practical applications”,
2023 German Research Foundation (DFG), 324.118 Euros, PI.
DFG FA 2004/2-1: “Operator norm theory as a tool to efficiently bound failure probabilities
2022 Humboldt Foundation, PI
Henriette Herz Scouting program, up to 3x24 post-doc month FTE.
2021 KU Leuven Internal Funding - C2, 629.000 Euros, Co-PI.
“Resistance pressure welding process modelling: a grey-box approach”,
2020 European Commission - H2020, 3.938.269,68 Euros, Coordinator.
H2020-MSCA-ITN project “GREYDIENT: European Training Network on Grey-Box Models for Safe and Reliable Intelligent Mobility Systems”. I was responsible for developing the project framework and overlying idea, coordinating with 7 academic and 11 industrial partners and writing the proposal.
2017 Stichting De Nayer, 68.000 Euros, Co-PI.
Hardware funding project for the acquisition of stereo high-speed visual strain measurement (Digital Image Correlation) equipment.

Personal fellowships

2020 Humboldt Foundation, 12 month fully paid grant.
Personal fully paid research grant to spend a period of 12 months at the Institute for Risk and Reliability, Leibniz University Hannover on the development of random field estimation methods under extremely scarce data.
2018 Flemish Research Foundation, 267.000 euros.
Personal fully paid three-year grant to perform post-doctoral research on generalized methods for inverse data-based uncertainty quantification.

Humboldt Fellowships as host

2025 Post-doctoral Humboldt Fellowship for Dr. Xueqin Li (2 years)
2022 Experienced Research Fellowship for Dr. Alice Cicirello (0.5 years)

PhD Fellowships as PI

2025 Chinese Scholarship Council, PI
PhD grant for Xin Huang for a period of 1 year.
2025 Chinese Scholarship Council, PI
PhD grant for Boyu Wang for a period of 1 year.
2025 Chinese Scholarship Council, PI
PhD grant for Jiaran Liu for a period of 1 year.
2024 Chinese Scholarship Council, PI
PhD grant for Zhidong Zhao for a period of 1 year.
under imprecise information”.
2023 Chinese Scholarship Council, PI
PhD grant for Xiang-Wei Li for a period of 1 year.
2023 Chinese Scholarship Council, PI
PhD grant for Hui-Juan Liu for a period of 1 year.
2022 VLAIO (Belgium), 353.821 euros, co-PI
Baekelandt mandaat in collaboration with Covess NV
“Study of the residual stresses in a thermoplastic filament winding process for high-pressure H2-storage vessels”.
2022 Flemish Research Foundation (FWO), approx. 200.000 euros, co-PI
PhD (FWO-SB) research grant (48 months) for Bouwe Verkens, “Development of a robust simulation of a resistance pressure welding process”.
2020 Flemish Research Foundation, approx. 200.000 euros, Co-promoter.
PhD (FWO-SB) research grant (48 months) for Robin Callens: “From full-field data to spatial uncertainty”.
2020 Flemish Research Foundation, approx. 200.000 euros, Co-promoter.
PhD (FWO-SB) research grant (48 months) for Konstantinos I. Ypsilantis: “Reliability Based Topology Optimization of composites with continuous fibre reinforcement”.
2018 Flemish Research Foundation, approx. 200.000 euros, Co-PI.

PhD (FWO-SB) research grant (48 months) for Conradus Van Mierlo, “Development and application of field uncertainty quantification methods for transient numerical analysis in the time-domain”.

2. Full list of publications

Since 2016 Prof. Faes has published 120+ publications in international peer-reviewed journals, 3 book chapters and 120+ conference contributions; 2400+ citations; H-index 27 (Scopus)

Link to profiles: ORCID; Google Scholar

Journal publications

1. Zhang, X., Jiang, Y., Zhou, H., Beer, M., **Faes, M**., Xiao, Y., He, Z. (2026). Failure mode identification for dynamic stochastic systems using operator norm and parameter space sample search. Reliability Engineering and System Safety, *Article in press.*
2. Song, L.K., **Faes, M.**, Tao, F. (2026). Generative data-physics fusion for hierarchical reliability assessment, Reliability Engineering and System Safety, *Article in press.*
3. Zhao, Z., Valdebenito, M., Li, Y., Zhang, W., Dang, C., **Faes, M.** (2026). Reliability-aware collapse-resisting design of precast concrete beam-column joints using strengthened steel angles and high-strength bolts. Structural Safety, *Article in press.*
4. Kanjilal, O., Tatarevic, A., Valdebenito, M., Papaioannou, I., **Faes, M.**, Straub, D. (2026). Revisiting the cross entropy method for first-passage probability of Gaussian-process excited linear structural dynamic systems. Reliability Engineering and System Safety. *Article in press.*
5. Misraji, M., Valdebenito, M., Jerez, D., Jensen, H., Beer, M., **Faes, M.** (2026). First Excursion Probability Sensitivity in Stochastic Linear Dynamics by means of Multidomain Line Sampling. Reliability Engineering and System Safety. Available online 10 February 2026, 112389. 10.1016/j.ress.2026.112389.
6. Song, Z., Dang, C., Valdebenito, M., **Faes, M.** (2026). Active learning Kriging with functional dimension reduction for reliability analysis of stochastic dynamical systems. Reliability Engineering and System Safety. Volume 273, September 2026, 112360. 10.1016/j.ress.2026.112360.
7. Zhang, X.-Y., Valdebenito, M., **Faes, M.**, Shields, M. (2026). Modeling Non-stationary Non-Gaussian Random Fields: a D-vine Copula Approach. Journal of Engineering Mechanics. *Article in press.*
8. Zhang, X.-Y., Zhao, Y.G., Valdebenito, M., **Faes, M.** (2026). Sensitivity Estimation of Stochastic Output with respect to Distribution Parameters of Stochastic Inputs. Reliability Engineering and System Safety. Volume 270, June 2026, 112191. 10.1016/j.ress.2026.112191.
9. Cai, E., Xu, J., Zhu, H., Zhang, C., **Faes, M.** (2026). Realistic 3D Complex Crack and Engineering Structure Reconstruction Based on Adaptive Stereo Photogrammetry. Mechanical Systems and Signal Processing. Volume 244, 15 January 2026, 113771. 10.1016/j.ymssp.2025.113771.
10. Acevedo, C., Valdebenito, M., Gonzalez, I., Jensen, H., **Faes, M.** (2026). Variance-Reduced Estimation of Third-Order Statistics Using Control Variates with Splitting. Reliability Engineering and System Safety. Volume 267, Part A, March 2026, 111859. 10.1016/j.ress.2025.111859.
11. Li, P.-P., Valdebenito, M., Dang, C., Beer, M., **Faes, M.** (2025). Aleatory and epistemic uncertainty in reliability analysis: An engineering perspective. Structural Safety. Volume 119, 2026, 102666. 10.1016/j.strusafe.2025.102666.
12. Wang, B.-Y., Zhang, X.-Y., Zhao, Y.-G., Valdebenito, M., **Faes, M.** (2025). Third moment method for reliability analysis involving independent parametric probability-boxes. Applied Mathematical Modelling. Volume 151, Part B, March 2026, 116488. 10.1016/j.apm.2025.116488.
13. Dang, C., Li, P.-P., Valdebenito, M., **Faes, M**. (2025). Time-dependent structural reliability analysis: A single-loop approximate Bayesian active learning quadrature approach. Mechanical Systems and Signal Processing. Volume 241, 1 December 2025, 113473. 10.1016/j.ymssp.2025.113473.
14. Besedin, M., Valdebenito, M., Zhang, X.-Y., Acevedo, C., Misraji, M., **Faes, M.** (2025). An Importance Sampling Approach for Estimating First Excursion Probabilities of Linear Systems Subject to Non-Gaussian Loading. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part B: Mechanical Engineering. Volume 11, December 2025, 041210. 10.1115/1.4069174.
15. Fina, M., Valdebenito, M., Wagner, W., Broggi, M., Freitag, S., **Faes, M**., Beer, M. (2025) Control Variates Method to Estimate the Stochastic Buckling Behavior of Thin-walled Structures

International Journal for Numerical Methods in Engineering. Volume 126, 2025, e70070. 10.1002/nme.70070.
16. **Faes, M.**, Sofi, A., Valdebenito, M. (2025). Avoiding Two Common Pitfalls in Uncertainty Propagation. Reliability Science and Engineering, Volume 1, 18 June 2025. 10.1088/3050-2454/adde61.
17. Song, Z.-Z., Xu, W., Valdebenito, M., **Faes, M.** (2025). Efficient forward and inverse uncertainty quantification for dynamical systems based on dimension reduction and Kriging surrogate modeling in functional space. Mechanical Systems and Signal Processing, Volume 235, 15 July 2025, 112898. 10.1016/j.ymssp.2025.112898
18. Zhao, Y.-G., Liu, Y.-T., Li, P.-P., Weng ,Y-Y., Valdebenito, M., **Faes, M.** (2025). A Bayesian piecewise fitting method for estimating probability distributions of performance functions. Reliability Engineering and System Safety, Volume 263, November 2025, 111266. 10.1016/j.ress.2025.111266.
19. Zhang, X.-Y., Valdebenito, M., Zhao, Y.-G., **Faes, M.** (2025). Probability Sensitivity Estimation with Respect to Distribution Parameters via the Method of Moments. ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering. Vol. 11, No. 4, December 2025. 10.1061/AJRUA6.RUENG-1657.
20. Misraji, M., Valdebenito, M., **Faes, M.** (2025). First Excursion Probability Sensitivity in Stochastic Linear Dynamics by means of Domain Decomposition Method. Mechanical Systems and Signal Processing. Volume 235, 15 July 2025, 112865. 10.1016/j.ymssp.2025.112865.
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