Research outputs:

**A decision theoretic approach towards planning of proof load tests**
Kapoor, M., Schmidt, J. W., Sørensen, J. D. & Thöns, S., 2019. 8 p.
Research output: Contribution to conference › Paper – Annual report year: 2019 › Research › peer-review

**An information value guide for infrastructure design and operation executives – fundamental idea & concept**
Research output: Contribution to conference › Paper – Annual report year: 2019 › Research › peer-review

**Case studies for quantifying the value of structural health monitoring information: lessons learnt**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2019 › Research › peer-review

**On decision optimality of terrorism risk mitigation measures for iconic bridges**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**On the Value of Structural Health Information**
Thöns, S., 2019. 8 p.
Research output: Contribution to conference › Paper – Annual report year: 2019 › Research › peer-review

**Quantification of the conditional value of SHM data for the fatigue safety evaluation of a road viaduct**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2019 › Research › peer-review

**Quantification of the Posterior Utilities of SHM Campaigns on an Orthotropic Steel Bridge Deck**
Research output: Contribution to conference › Paper – Annual report year: 2019 › Research › peer-review

**Quantifying the Value of B-WIM: Assessing costs and benefits for Value of Information Analysis**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2019 › Research › peer-review

**Risk Assessment and Value of Action Analysis for Icing Conditions of Wind Turbines Close to Highways**
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

**Structural Integrity Management with Unmanned Aerial Vehicles: State-of-the-Art Review and Outlook**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2019 › Research › peer-review
Structural Monitoring and Inspection Modeling for Structural System Updating
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2019 › Research › peer-review

The effects of deterioration models on the value of damage detection information
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

Value of information and value of decisions
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2019 › Research › peer-review

Value of pre-construction proof loading information for structural design
Research output: Contribution to journal › Journal article – Annual report year: 2019 › Research › peer-review

Value of the SHM System in the Context of Risk-based Inspection Planning
Research output: Contribution to conference › Paper – Annual report year: 2019 › Research › peer-review

A sampling-based approach to identifying optimal inspection and repair strategies for offshore jacket structures
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2019 › Research › peer-review

Assessment of Terrorism Risk Mitigation Measures for Iconic Bridges
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

Environmental sustainable decision making – The need and obstacles for integration of LCA into decision analysis
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Introduction: The Value of Health Monitoring in Structural Performance Assessment
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Communication

On Damage Detection System Information for Structural Systems
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

On knowledge and utility management
On the development of tools for decision analyses
Research output: Contribution to conference › Paper – Annual report year: 2018 › Research › peer-review

On the Value of Monitoring Information for the Structural Integrity and Risk Management
Thöns, S., 2018. In : Computer-Aided Civil and Infrastructure Engineering. 33, p. 79–94
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Reliability Assessment of a Bridge Structure Subjected to Chloride Attack
Research output: Contribution to journal › Journal article – Annual report year: 2018 › Research › peer-review

Risk Analysis for Road Tunnels – A Metamodel to Efficiently Integrate Complex Fire Scenarios
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2018 › Research › peer-review

Structural Integrity Management with Unmanned Aerial Vehicles: State-of-the-Art Review and Outlook
Research output: Contribution to conference › Paper – Annual report year: 2018 › Research › peer-review

Structural Monitoring and Inspection Modeling for Structural System Updating
Research output: Contribution to conference › Paper – Annual report year: 2018 › Research › peer-review

The effects of SHM system parameters on the value of damage detection information
Research output: Contribution to conference › Paper – Annual report year: 2018 › Research › peer-review

Unmanned Aerial Vehicle Benefit Assessment for the Structural Integrity Management of Wind Turbines
Research output: Contribution to conference › Paper – Annual report year: 2018 › Research › peer-review

Applying LCA in decision making- the need and the future perspective
Research output: Contribution to conference › Conference abstract for conference – Annual report year: 2017 › Research › peer-review

Damage Detection and Deteriorating Structural Systems
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

Design of the GDSI Open-Platform and GDSI: Factsheets
Research output: Book/Report › Report – Annual report year: 2017 › Research

Fatigue Model for the Structural Integrity Evaluation Applied to a Wind Turbine Concrete Shaft, Considering Corrosion and Freeze and Thaw Degradation
Moving on dangerous grounds – wind power and earthquake exposures in China
Research output: Book/Report › Report – Annual report year: 2018 › Research

Multi-hazard response analysis of a 5MW offshore wind turbine
Research output: Contribution to journal › Conference article – Annual report year: 2017 › Research › peer-review

On decision analysis about proof loading with inference to untested components
Brüske, H. & Thöns, S., 2017, Safety, Reliability, Risk, Resilience and Sustainability of Structures and Infrastructure: 12th Int. Conf. on Structural Safety and Reliability, Vienna, Austria, 6–10 August 2017. p. 3018-3029
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

On the Probabilistic Characterization of Robustness and Resilience
Research output: Contribution to journal › Conference article – Annual report year: 2017 › Research › peer-review

On the Value of Structural Health Monitoring Information for the Operation of Wind Parks
Thöns, S., Faber, M. H. & Val, D. V., 2017, Safety, Reliability, Risk, Resilience and Sustainability of Structures and Infrastructure: 12th Int. Conf. on Structural Safety and Reliability, Vienna, Austria, 6–10 August 2017. p. 3008-3017
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

Proceedings of the Joint COST TU1402 - COST TU1406 - IABSE WC1 Workshop
Research output: Book/Report › Book – Annual report year: 2017 › Research › peer-review

Progress of the COST Action TU1402 on the Quantification of the Value of Structural Health Monitoring
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

Resilience of systems by value of information and SHM
Miraglia, S., Faber, M. H., Thöns, S. & Stewart, M. G., 2017, Safety, Reliability, Risk, Resilience and Sustainability of Structures and Infrastructure: 12th Int. Conf. on Structural Safety and Reliability, Vienna, Austria, 6–10 August 2017. p. 2998-3007
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review

Reliability analysis and updating of deteriorating systems with subset simulation
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review

Simulating the service life performance of an inspected group of jacket-type structures
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2017 › Research › peer-review
System Reliability of Bridge Structure Subjected to Chloride Ingress

Value of information: A roadmap to quantifying the benefit of structural health monitoring

Value of information-based inspection planning for offshore structures

On the need for integrating LCA into decision making

The Influence of Brittle Daniels System Characteristics on the Value of Load Monitoring Information
Thöns, S. & Schneider, R., 2016. 9 p.

Wind turbines and seismic hazard: a state-of-the-art review

Assessing and updating the reliability of concrete bridges subjected to spatial deterioration - principles and software implementation
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

**Economic analysis of condition monitoring systems for offshore wind turbine sub-systems**
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

Evaluation of damping estimates in the presence of closely spaced modes using operational modal analysis techniques
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

**Integrating structural health and condition monitoring: a cost benefit analysis for offshore wind energy**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

**Intelligente Bauwerke: Prototyp zur Ermittlung der Schadens- und Zustandsentwicklung für Elemente des Brückenmodells**
Research output: Book/Report › Report – Annual report year: 2015 › Research › peer-review

**On the value of SHM in the context of service life integrity management**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

**Quantification of the Value of Structural Health Monitoring Information for Fatigue Deteriorating Structural Systems**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

**Resonance phenomenon in a wind turbine system under operational conditions**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

**The Influence of Redundant Structural System Characteristics on the Value of SHM Information**
Research output: Chapter in Book/Report/Conference proceeding › Article in proceedings – Annual report year: 2015 › Research › peer-review

**Vibration-based structural health monitoring of a wind turbine system Part II: Environmental/operational effects on dynamic properties**
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review

**Vibration-based structural health monitoring of a wind turbine system. Part I: Resonance phenomenon**
Research output: Contribution to journal › Journal article – Annual report year: 2015 › Research › peer-review
A software prototype for assessing the reliability of a concrete bridge superstructure subjected to chloride-induced reinforcement corrosion

Condition Monitoring Benefit for Operation Support of Offshore Wind Turbines

Economic analysis of condition monitoring systems for offshore wind turbine sub-systems

On the value of structural health monitoring

Optimal Design of Monitoring Systems for Risk Reduction and Operation Benefits

Fatigue and Serviceability Limit State Model Basis for Assessment of Offshore Wind Energy Converters.
Research output: Contribution to journal – Journal article – Annual report year: 2012 – Research – peer-review

Optimierung des Managements der Tragwerksintegrität für Offshore-Windenergieanlagen
Research output: Contribution to journal – Journal article – Annual report year: 2012 – Research – peer-review

Tragverhalten von Offshore Gründungskonstruktionen: Rechnerische und messtechnische Untersuchungen
Research output: Contribution to journal – Journal article – Annual report year: 2012 – Research – peer-review

Ultimate Limit State Model Basis for Assessment of Offshore Wind Energy Converters.
Research output: Contribution to journal – Journal article – Annual report year: 2012 – Research – peer-review

Integrated monitoring of offshore wind turbines – requirements, concepts and experiences
Projects:

Decision support for the efficient reclassification of bridges
Kapoor, M., Thöns, S., Engelund, S., Schmidt, J. W. & Sørensen, J. D.
Offentlig finansiering
01/09/2018 → 31/08/2021
Project: PhD

Monitoring thresholds- and output assessment related to in-situ full-scale concrete bridge testing
Christensen, C. O., Schmidt, J. W., Goltermann, P., Lantsoght, E., Thöns, S. & Waldbjørn, J. P.
Technical University of Denmark
01/06/2018 → 30/09/2021
Project: PhD

Risk-based Inspection Planning and Value of Information
Irman, A. A., Thöns, S., Faber, M. H. & Sørensen, J. D.
Samfinansieret - Andet
15/10/2016 → 30/12/2019
Project: PhD

Structural Health Monitoring Systems Design
Brüske, H., Thöns, S., Schmidt, J. W., Lu, D. & Sørensen, J. D.
Technical University of Denmark
01/11/2014 → 30/09/2018
Project: PhD

Development of a natural hazard risk model framework with application to flood risk
Custer, R., Faber, M. H., Nishijima, K., Thöns, S., Jonkman, S. N. & Baubion, C.
Technical University of Denmark
15/01/2011 → 24/08/2015
Project: PhD

Structural Health Monitoring Systems Design
Brüske, H. & Thöns, S.
02/11/2014 → 31/10/2017
Project: Research

Activities:

Applying LCA in decision making- the need and the future perspective
Yan Dong (Speaker), Simona Miraglia (Other), Stefano Manzo (Other), Stylianos Georgiadis (Other), Hjalte Jomo Danielsen Sørup (Other), Elena Boriani (Other), Tine Hald (Other), Sebastian Thöns (Other), Michael Zwicky Hauschild (Other)
10 May 2017
Activity: Talks and presentations › Conference presentations
Press clippings:

Wind farms: harvesting energy on shaky grounds and in stormy seas
Evangelos Katsanos & Sebastian Thöns
02/10/2017
1 Media contribution
Press/Media: Press / Media

Insuring wind power in China against typhoons and earthquakes
Evangelos Katsanos & Sebastian Thöns
14/09/2017
1 Media contribution
Press/Media: Press / Media

Media coverage on benefit quantification for condition monitoring of offshore wind parks in Eneuerbare Energien, Issue 26, Volume 7 and 8, August 2015, in German.
Sebastian Thöns
01/01/2015
1 Media contribution
Press/Media: Press / Media