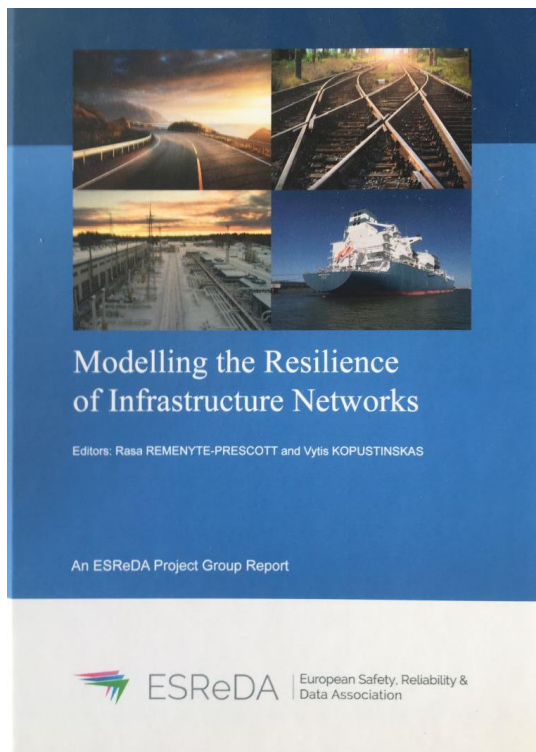


Modelling the Resilience of Infrastructure Networks

– An ESReDA Project Group Report –



L'IMdR invite un auteur :
Dr Rasa Remenyte-Prescott,
Resilience Engineering
Research Group, University of
Nottingham, UK

5 avril 2022
10h30 - 11h30 (UTC+1)
en ligne TEAMS

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BIOGRAPHIE :

Dr Rasa Remenyte-Prescott is an Associate Professor in Risk and Reliability Engineering, in the Resilience Engineering Research Group, at the University of Nottingham, UK. Rasa's current research areas of interest involve risk and reliability assessment methods, resilience evaluation and asset management approaches and fault diagnostics techniques in a range of industrial sectors, including railways, aerospace, highways and energy sector. Additional interests involve developing novel reliability modelling techniques for healthcare safety and efficiency evaluation.

RESUME

This book was published as a set of contributions by members of the European Safety, Reliability and Data Association (ESReDA) Project Group (PG) on “Resilience Engineering and Modelling of Networked Infrastructure”, established in 2018 and led by Dr Rasa Remenyte-Prescott and Professor John Andrews at the University of Nottingham, UK. The contributions are based on extensive experience from several industrial sectors and countries in Europe, and it focusses on transportation and utilities. It is envisaged that the book will benefit the many organisations and individuals worldwide who are interested in the protection of the critical infrastructure systems upon which our lives are so dependent.

Modern engineering systems continually increase in size and complexity, whilst also becoming more distributed, integrated, and autonomous, all of which can lead to many safety and risk management challenges. Threats constantly evolve and emerge, with recent years seeing numerous failures of aging infrastructure, catastrophic events following natural disasters or because of climate change, and major disruption caused by deliberate acts such as terrorism and cyber or hybrid attacks. Increasingly automated and software-intensive infrastructure can struggle to adapt to unanticipated situations and can hence be extremely vulnerable to emergent threats. The growing complexity and interdependencies require new approaches to protect critical infrastructure systems and their networks. (Remenyte-Prescott, R., Kopustinskias, V. 2021, Modelling the Resilience of Infrastructure Networks, DNV)

The talk will briefly present the PG, its aims and objectives and the journey that this community took over the last four years. We will give an overview of some aspects of the different chapters, such as a review of current modelling approaches for critical infrastructure, some examples of resilience modelling methods for utility and transport networks, followed by contributions on the resilience of interdependent networks and response modelling, with the final focus on some future directions for resilience modelling.

The PG is currently organising the 60th ESReDA Seminar on “Advances in Modelling to Improve Network Resilience”, in Grenoble Alpes University, on 4-5 May 2022; [60th ESReDA Seminar \(4-5 May 2022, Grenoble, France\) – ESReDA](#)

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