

The International Ergonomics Association – Resilience Engineering Technical Committee and the Resilience Engineering Association aim to collaborate with others who are leading research and developing practical applications in how to create resilience in complex systems. Our events allow participants to learn from other domains seeking to engineer resilience into their systems such as healthcare, critical infrastructure, energy, critical digital services, transportation (aviation, marine, rail), automation (self-driving cars, drones), emergency response, finance, and aerospace.

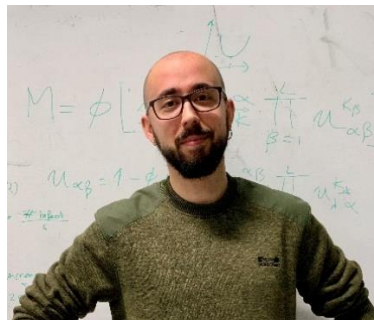
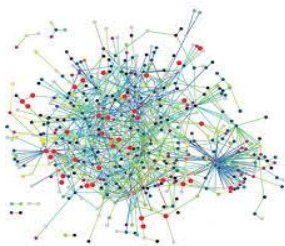
The Resilience Engineering webinar series spans theory, practice, cases, research and more! Watch the [REA website](#) for other upcoming presentations.

This month's talk:

Modeling the structure and dynamics of socio-technical systems through network science

16th September 2022

12-13 pm UTC



Talk Description

Over the last years, network theory has been revealed to be a convenient and flexible framework to characterize and model the structure and dynamics of complex systems. A wide range of disciplines, from socio-technical to natural sciences, face common questions when their objects of study can be represented as networks such as the identification of the most relevant nodes, link prediction, community detection, the resilience to perturbations and malfunctions.

This seminar is intended to be an introduction to network science. There will be a review of the main concepts of network theory, as well as different types of networks, and illustrations of how to correctly use them. Then, some time will be devoted to discuss simple mechanisms that explain the formation and growth of networks, and that are able to reproduce the large-scale structural patterns reported in empirical networks. A particular focus will be dedicated to

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Resilience Engineering webinar series



the quantification of network robustness and resilience. To close, current and future challenges will be sketched.

Presenter's bio

Oriol Artime is a postdoctoral researcher at Bruno Kessler Foundation in Italy. He holds a PhD in Physics from the Institute for Cross-Disciplinary Physics and Complex Systems (IFISC, UIB-CSIC) in Spain. His research focuses on topics at the interface between statistical physics and complex systems, from classical problems such as phase transitions and first-passage processes to modern applications of network science. He has a bent on innovative interdisciplinary challenges and, when possible, seeks to orientate his research on those directions.

Webinar Chair

Prof. Riccardo Patriarca, Sapienza University of Rome – riccardo.patriarca@uniroma1.it

Zoom link for registration

Registration is mandatory and free for all interested people. The webinar will be recorded and published on YouTube. Registration permits live interaction with the presenters via Q&A. To register to this webinar, navigate through REA website [here](#).

Feel free to share this announcement with your network.

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