

# Seminari del Departament d'Estadística i Investigació Operativa

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**Title:** Uncertainty planning to evaluate resilience after great disasters.

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**Abstract:** Every year, natural and human-made disasters cause extensive loss of life, infrastructure damage, and disruption to livelihoods of the people in the affected areas. The devastating earthquakes that struck southern Türkiye and northern Syria on February 6, 2023, exemplify these impacts, affecting 11 key provinces and over 14 million people in Türkiye. Rapid assessments conducted in the immediate aftermath of such disasters provide crucial insights, revealing the initial situation and understanding the immediate impacts. However, once the initial emergency is managed, further field assessments are often made to gather information on the long-term effects of the disaster, fully understand the changing and newly arising vulnerabilities, and evaluate the ability to withstand and recover from the disruptions caused by the disasters. These assessments involve visits to affected areas and interviews with key informants, requiring careful logistical planning that includes representative location selection and field team routing, while accounting for uncertainties in site availability.

**Bio:** Ramón y Cajal researcher at the Universitat Politècnica de Catalunya. Civil engineer (UPC, 2012), master's in logistics (UPC, 2014), and PhD in Statistics and Operations Research (UPC, 2018). She has also conducted research at institutions such as HEC Montréal, CIRRELT, Universität Heidelberg, and Universitat Pompeu Fabra. Her research focuses on optimization models for logistics, transportation, and network design problems. She has received several awards, including the EURO YoungWoman4OR prize and the award for best applied contribution in Operations Research (SEIO-BBVA, 2022 and 2023). Committed to science outreach, she participates in socially impactful projects and promotes mathematical vocations among young people.