

Evacuation project overview

World Ranked - Triple Accredited - Award Winning









European Commission





"Testing communication strategies to save lives in emergency evacuation"



- 2yrs: March 2018 2020
- Marie Sklodowska-Curie
 Individual Fellowship
- EU Commission Funded Grant 748647

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Core Project Members

PI: dr. Natalie van der Wal



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- -agent-based simulations, soc. science
- Supervisor: prof. Wändi Bruine de Bruin -Professor Behavioural Decision Making -decision research, risk communication

-Senior Lecturer GIS & Comp. Geography

Co-Supervisor: dr. Andrew Evans

-social simulations, data analytics





Professor Keith Still

–Professor of Crowd Science, Manchester Metropolitan University

Robert Pyke

- –Leeds City Council, West Yorkshire Resilience Forum Coordinator
- Paul Townsend

-Associative Director, Crowd Dynamics

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Advisory Board Members

dr. Angelika Kneidl

-Founder, crowd simulation institute accu:rate

Corinne Mycock

-Centre Operations Manager Trinity Leeds, Land Securities



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Background

• EU urgently seeks improvement of emergency evacuation preparedness





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- EU urgently seeks improvement of emergency evacuation preparedness
 - -100.000 600.000 fires in the EU per year
 - -100-1000 deaths due to fire per country, per year
 - -Rising EU security threat (terroristic attacks)
 - –Increasing populations = more crowded transport hubs, shopping malls, public spaces













• EU calls for evidence-based recommendations for evacuations, which are mostly non-existent



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- EU calls for evidence-based recommendations for evacuations, which are mostly non-existent
 - -Existing guidelines based on restricted reports
 - -These have not been systematically tested
 - -These can actually slow down evacuation time by 25% ("Run than Hide")
 - –Can lack realism (ignoring slow response & taking familiar route)













How can speed and survival in emergency evacuations be improved?

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- **Objective**: Identify which risky behaviours occur in emergency evacuations and underlying causes
- Expected Outcomes: a list of risky behaviours observed in videos and (mis)understandings of the emergency situation
- Method: Video observations, focus groups, interviews, surveys















- **Objective**: Use models to identify communication strategies that improve evacuation time and survival
- Expected Outcomes: evacuation simulation outcomes (speed and survival) of different communication strategies in multiple emergency situations
- Method: Agent-based modelling, experiments in silico













- Objective: Test communication strategies for improving evacuation time and survival in experiments
- Expected Outcomes: real life outcomes of different communication strategies during evacuations
- Method: Human Experiments













Work Packages



WP1. Identify risky behaviours

WP2. Identify communciation strategies with models

WP3. Test communication strategies in experiments

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- The UK is an ideal testbed for our project aims, but we will inform evacuations worldwide:
 - -Workshops announced at project website
 - -Video about research coming soon
 - -Subscribe to news
- Project website:

cdr.leeds.ac.uk/project-evacuation/

Additional Advisory Board Member place

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Contact



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Project Evacuation

Natalie van der Wal, Centre for Decision Research, Leeds University Business School

This project is being funded by a 2-year EU Mane (Rilodowska-Curie Individual Fellowehrp (ref: 748647), awarded to Dr Natalie van der Wal, to work with Professor Wandi Bruine de Bruin in the Centre for Decision Research, Leeds University Business School.

Background and Rationale

The EU ungenty seeks to improve emergency execution proportions. To Upditic scares are provident provident of the set between statical require emergency execution. For these execution from public buildings during emergencies axes more here. Observations of actual emergencies show that people tend to be slow to respond to execution alterns (taking up to 10 minutes) and take the familiar rout on kinds of the meants only.





The EU calls for evidence-based recommendations for executions, which are monthy nonexistent. The task or the art uses compared models of evacuations pased, but more realism is needed. We take the novel approach of combining table of the art computer models in evacuation speed, but more realism is needed. We take the novel approach of combining table of the art computer models in evacuations.

Project Alms and Objectives

1. Identify which risky behaviors occur in emergency evacuations and underlying causes (WP

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