



Academic Contributions

Natural Capital (NC) 2 Vision:
“We have coastal communities, habitats, landforms and infrastructure that are resilient to the impacts of climate change”

UrbanARK: Assessment, Risk Management, & Knowledge for Coastal Flood Risk Management in Urban Areas

Dr Ulrich Offerdinger, Queen's University Belfast

NI Evidence Report Risks & Opportunities Addressed:

In3: Risks to infrastructure services from coastal flooding & erosion
Pb6: Risks to the viability of coastal communities from sea level rise

Collaborating Organisations:

University College Dublin, New York University, and the US-Ireland Research & Development programme

Funders

NI Department for the Economy (for Queen's University Belfast) & Science Foundation Ireland (for UCD) & US National Science Foundation (for New York University)

Implementation Timeline

By end of 2022

Research Project

The project aims to develop immersive virtual reality (VR) applications to enhance emergency management and preparedness of urban communities, including infrastructure assets and networks that are at risk from coastal flooding events. Research activities will utilise mobile and airborne LiDAR scanning (Mobile Lidar Systems/ Airborne Laser Scanning) with street-view imagery and airborne hyperspectral data to identify relevant underground structures such as commercial/ residential basements and transport infrastructure in coastal urban centres. The project aims to use available hyperspectral remote sensing data which may provide information on the nature and type of ground conditions (for example paved or open ground surfaces) which in turn will help to derive surface properties such as surface roughness which will be use in the flood inundation models.