



## **Population dynamics: the changing spatial pattern of hazard vulnerability and resilience in Azores**

Alessandra Lotteri (1), Janet Speake (1), David Chester (1), Angus Duncan (2), Nicolau Wallenstein (3), Rui Coutinho (3), and Francisco Ferreira (3)

(1) Liverpool Hope University, Geography and Environmental Science, UK (lottera@hope.ac.uk), (2) University of Liverpool, Department of Geography and Planning, Liverpool UK, (3) University of the Azores, Department IVAR - Instituto de Investigação em Vulcanologia e Avaliação de Riscos

Today's approach in risk- mitigation research combines analysis of physical phenomena with social and physical sciences. This approach leads to improvements in preparedness for, response to, and recovery from an emergency. Hazard analysis points to the physical process, while the analysis of vulnerabilities focuses on how these phenomena potentially generate dangerous conditions in groups within a population. Resilience is the ability of a system to cope with change, to readjust to a hazard threat, survive and recover. Nowadays, risk-mitigation research involves reduction in vulnerability and enhancement of resilience.

This project aims to investigate population exposure and resilience in the islands of São Miguel and Faial, in the Azores Archipelago. It considers the ways in which population growth, migration and settlement has exposed people to hazards. Sites of potential risk in the field are examined. The research also aims to understand the current resilience of the community in order to compare this with the results of surveys carried out over the past decades. This involves an analysis of the knowledge of residents, government officials and hazard managers about hazard exposure. More specifically: people's understanding of the physical hazard; their perception of the hazardous events; their disaster preparedness and attitudes to various hazard mitigation measures; their resilience to threats. Census data are analysed quantitatively and qualitatively. Interviews are semi-structured, but also allow 'free-responses'. Questionnaires are designed to allow statistical analysis using techniques of cross-tabulation and the qualitative analysis of free-responses. Moreover, the extensive literature published in Portuguese and English and archival information are examined. Working at the interface of social and physical science will improve hazard mitigation at the local scale promoting community knowledge and resilience.