

Centre for Disaster Resilience

Centre for Disaster Resilience at the University of Salford, UK
www.disaster-resilience.salford.ac.uk

International Conference on Building Resilience

The Centre for Disaster Resilience, School of the Built Environment, University of Salford, and the Royal Melbourne Institute of Technology (RMIT), Australia, are organising the next event in the series of "Building Resilience" International Conferences. This international conference entitled: Interdisciplinary approaches to disaster risk reduction and the development of sustainable communities and cities; will be held at the Heritage Kandalama, Sri Lanka from 19th – 21st July 2011. A landmark gathering for international academics, practitioners, professionals and policy makers concerned with interdisciplinary approaches to disaster risk reduction, and the development of sustainable communities and cities this event will provide a forum for sharing knowledge, testing theories and questioning policies and strategies aimed at preventing and recovering from international disasters.

The local hosts are the University of Moratuwa, the University of Peradeniya, the Social Policy Analysis and Research Centre at the University of Colombo, and the Chamber of Construction Industry Sri Lanka. This is also the Annual Conference of the International Institute for Infrastructure Renewal and Reconstruction (IIIRR), which is a multi-university international consortium that provides overall leadership in research, education, planning, design and implementation for mitigation of the impact of natural disasters and infrastructure renewal and reconstruction projects in tsunami affected or underdeveloped regions. The conference will look to build on the success of previous events in Canada, Sri Lanka, and the USA. As a country that has been subjected to several large scale disasters in recent years, including the 2004 Indian Ocean Tsunami and a civil war spanning several decades, the Conference team feel that Sri Lanka is an ideal setting to explore the challenge of creating resilient communities and cities.

A list of themes for which research papers are welcome is available on the conference website. If you have any questions or would like further information about the conference, please do not hesitate to contact the conference chairs, Professor Dilanthi Amaratunga or Dr Richard Haigh.

For more information visit the conference website at: www.buildresilience.org



Joint Conferences and Seminars with RMIT, Australia

Managing Disasters is a global issue, share your knowledge, expertise and research and you are on the road to solving the problem. The Centre for Disaster Resilience did just this recently when they organised a series of events in conjunction with the Royal Melbourne Institute of Technology's (RMIT) Department of Civil Engineering, the Sustainable and Urban Futures Research Programme, Global Cities Institute, Centre for Governance, Work and Technologies, and RMIT's EU Centre. The events focused upon the theme of building resilience.

The series began with research seminars in Melbourne, Australia on Disaster risk reduction and capacity development and Research Directions in Disaster Preparedness, Mitigation, Management and Community Resilience. This was organised by: Sustainable and Urban Futures Research Programme; Global Cities Institute, RMIT, Centre for Governance, Work and Technologies, RMIT; EU Centre, RMIT; and Centre for Disaster Resilience, University of Salford (UK). A report entitled 'Lessons from Tsunami Recovery in Sri Lanka and India Research Reports' by Judith Shaw, Martin Mulligan, Dave Mercer, Yaso Nadarajah and Ifte Ahmed of RMIT was also launched as part of the seminar. Authors of the selected papers that were presented at the seminar will be invited to submit their papers to International Journal of Disaster Resilience in the Built Environment with a special issue comprising these papers, jointly guest edited by RMIT and Salford teams.

If you would like more information on any of the articles from the Centre for Disaster Resilience please use the contacts below:

Professor Dilanthi Amaratunga
 Head of Centre for Disaster Resilience
 T 0161 295 4471
 E r.d.g.amaratunga@salford.ac.uk

Dr. Richard Haigh
 T 0161 295 7306
 E r.p.haigh@salford.ac.uk

Cerebella: Community Engagement for risk erosion in Bangladesh to Enhance Lifelong Advantage.

The Centre for Disaster Resilience (CDR) here at the University, as part of international research collaborations, work very closely with Patuakhali Science and Technology University, Dumki, Patuakhali, Bangladesh, not just providing these institutions with academic advice but with implementable evidence based research. The Centre have recently utilised this practical knowledge and helped Patuakhali University establish their Disaster management unit.

With the recent CDR success in obtaining funding from the British Council via their INSPIRE (Strategic Partnership Awards) scheme to work with Patuakhali Science and Technology University on a project entitled "CEREBELLA: Community Engagement for Risk Erosion in Bangladesh to Enhance LifeLong Advantage", relationships between the two Universities have strengthened even further. Professor Dilanthi Amaratunga, Dr Richard Haigh, Dr Udayangani Kulatunga and David Baldry are the Salford University CDR team leading the CEREBELLA project, and the project's broad aim is to create long-term a sustainable and strategic partnership between Patuakhali Science and Technology University and the University of Salford to share skills, knowledge and experience on climate change and disaster management academic learning and research.



The objectives of the project include: Carrying out a hazard, vulnerability and risk analysis and the development of risk response strategies for disaster risk reduction with the engagement of the community and local authority of Patuakhali, Bangladesh; Developing recommendations for urban safety planning based on disaster risks of Patuakhali, Bangladesh; Updating and developing undergraduate/postgraduate curriculum on disaster risk reduction; Facilitating staff exchange and training programmes to enhance capacity of partner institutions to develop knowledge, competencies and international research skills.



World-first for Salford remote sensing research

Are you a tree hugger, tree planter or a lover of the world's forests, woodlands and green canopies? Over the ages, trees and forests have given us shelter, sources of heat and food and vital resources such as timber, now two of Salford's scientists, Professor Mark Danson and research fellow Dr Rachel Gaulton from the School of Environment and Life Sciences, are developing new and exciting technologies to study our natural friends.

The structure of forests is critical to understanding their role in carbon and water cycles. Mark and Rachel are working with researchers at UCL and industrial partners Halo Photonics Ltd to develop world-leading new technology allowing the detailed three-dimensional measurement and monitoring of forest canopies.

With rising atmospheric carbon dioxide levels and a changing global climate, understanding the influence of forests on carbon uptake and storage, local and regional climate and hydrological cycles is vital. Measurements of vegetation canopy structure form crucial inputs to models that increase our understanding of the role of forests and the likely influence of future environmental change. Supported by a Technology Proof of Concept grant from the Natural Environment Research Council (NERC), Mark and Rachel along with colleagues at University College London and Halo Photonics Ltd are developing a new instrument to take the most detailed and accurate measurements of the three-dimensional structure of forest canopies to date. The Salford Advanced Laser Canopy

Analyser, or SALCA, uses a scanning laser system to measure the distance to objects such as leaves and branches in the forest canopy.

The system also records the level or 'intensity' of the reflected signal providing information on the size and characteristics of intercepting surfaces. Unlike commercially-available ground-based laser scanners, which only record the distance to a single object within the laser beam, SALCA can provide additional information on multiple targets, giving a more detailed record of the 3-D structure of the forest. The instrument has two lasers operating at different wavelengths; near-infrared light which reflects strongly from leaves and shortwave-infrared light that is absorbed by moisture within vegetation. The combination of the two reflectance measurements allows leaves to be distinguished from woody material such as branches and trunks providing better estimates of the amount of foliage in the canopy, the key parameter that influences carbon fluxes.

The SALCA instrument's dual-wavelength system is unique globally and has important

applications in validating measurements of forests made using aerial and satellite images, providing unprecedented information on the moisture content, and therefore fire risk, of wooded environments, and for monitoring seasonal changes in vegetation structure. With growing interest from government agencies, industry and NGO's, terrestrial laser scanners are the focus of the recently funded Terrestrial LiDAR Knowledge Exchange Network (LiDAR:Net), part of the NERC Earth Observation Technology Cluster. Lead by Dr Nick Tate from the University of Leicester and the Salford team, LiDAR:Net aims to develop a community of academics, industry and end-user organisations, to build collaborations and to scope future developments in technology and applications, through a series of specialist meetings and workshops.

If you would like to know more about this research contact:

f.m.danson@salford.ac.uk or
r.gaulton@salford.ac.uk