

# Analysis and Mitigation of Risks in Infrastructures

## INFRARISK-

4<sup>th</sup> Summer School Workshop  
18<sup>th</sup> July 2018

### Program

8:30	<b>Opening Session</b> Prof. António Heleno Cardoso <i>Head of DECivil, IST</i> Prof. Rita Bento <i>Director of the Doctoral Programme INFRARISK-</i> Dr. Desmond Hartford <i>Member of the Evaluation Committee</i> Dr. Sébastien Proust <i>Member of the Evaluation Committee</i>	
8:50	<b>Inviting Lecture</b> Chairpersons: Prof. Rita Bento, Dr. António A. Correia <b>The Global RAPid post-disaster Damage Estimation (GRADE) Approach: Infrastructure and Sectoral Loss Estimates in a fast-paced world</b> Dr. James Daniell ( <i>Invited Speaker</i> )	
9:10	<b>Research Project Presentations – Earthquake Engineering</b> Chairpersons: Prof. Rita Bento, Dr. António A. Correia  <b>Evaluation of the angle of seismic incidence effect on the collapse risk of RC buildings</b> Despoina Skoulidou ( <i>4<sup>th</sup> year</i> ) Supervision: Xavier Romão (FEUP)  <b>Experimental Tests &amp; Numerical Modeling of Cross-Laminated Timber Diaphragms</b> Leonardo Rodrigues ( <i>4<sup>th</sup> year</i> ) Supervision: Jorge Branco (U Minho), Luís Neves (U Nottingham)  <b>Seismic risk assessment of "Placa" buildings. Cost-effectiveness analysis of techniques for risk mitigation</b> Vasco Bernardo ( <i>1<sup>st</sup> year</i> ) Supervision: Paulo Candeias (LNEC), Aníbal Costa (U Aveiro)  <b>Mitigating earthquake vulnerability of mixed URM-RC buildings at the urban scale</b> Gonçalo Lopes ( <i>1<sup>st</sup> year</i> ) Supervision: Romeu Vicente (U Minho), Miguel Azenha (U Minho)  <b>Development of BRD_AL Prototype: Development of an aluminium alloy hysteretic damping system for seismic retrofitting of pre-coded reinforced concrete buildings</b> Ricardo Ferreira ( <i>1<sup>st</sup> year</i> ) Supervision: Jorge Proença (IST), António Gago (IST)  <b>Seismic Loss Estimation and Strengthening of an old RC building in Lisbon</b> Claudia Caruso ( <i>3<sup>rd</sup> year</i> ) Supervision: Rita Bento (IST), Miguel Castro (FEUP)	
10:40	<b>Coffee break</b>	
11:00	<b>Research Project Presentations – Earthquake Engineering</b> Chairpersons: Prof. Romeu Vicente, Prof. Xavier Romão  <b>Optimization methodology for the design of reinforced concrete bridge infrastructures based on evolutionary algorithms</b> Vitor Camacho ( <i>3<sup>rd</sup> year</i> ) Supervision: Mário Lopes (IST), Carlos Sousa Oliveira (IST)  <b>Seismic risk of PreCode RC buildings retrofitted with Jacketing</b> Sanam Moghimi ( <i>3<sup>rd</sup> year</i> ) Supervision: Alexandra Carvalho (LNEC), Paulo B. Lourenço (U Minho)  <b>Development and validation of an experimental platform for hybrid simulation and uncertainty quantification</b> Gidewon Tekeste ( <i>3<sup>rd</sup> year</i> ) Supervision: António A. Correia (LNEC), Aníbal G. Costa (U Aveiro)  <b>Economic prospects of rehabilitation of UCH assets in Portugal: repair cost functions and cost-benefit analysis</b> Rui Maio ( <i>3<sup>rd</sup> year</i> ) Supervision: Romeu Vicente (U Aveiro), Sergio Lagomarsino (U Genova)	
		<b>Investigations on the seismic behaviour of URM buildings with timber floors: research methodology and introductory results</b> Mária Pía Ciocci ( <i>2<sup>nd</sup> year</i> ) Supervision: Paulo B. Lourenço (U Minho), Rui Marques (U Minho)
12:30	<b>Lunch break</b>	
14:00	<b>Keynote Lecture</b> Chairpersons: Prof. Carlos Sousa Oliveira, Prof. Laura Caldeira <b>The hydraulic modelling of extreme flood events</b> Dr. Sébastien Proust ( <i>Invited Speaker</i> )	
14:45	<b>Research Project Presentations – Hydrological Engineering</b> Chairpersons: Prof. Carlos Sousa Oliveira, Prof. Laura Caldeira  <b>CERA: GIS-based assessment on coastal erosion risk</b> Pedro Narra ( <i>4<sup>th</sup> year</i> ) Supervision: Carlos Coelho (U Aveiro), Francisco da Ponte Sancho (LNEC)  <b>The Joy of Reliable Scour Protections - a PhD survival guide</b> Tiago Ferradosa ( <i>4<sup>th</sup> year</i> ) Supervision: Francisco Taveira Pinto (FEUP), Luciana Neves (FEUP), Teresa Viseu (LNEC)  <b>Sensitivity Analysis and Probability Density of Bed Morphodynamics</b> Bruno Oliveira ( <i>3<sup>rd</sup> year</i> ) Supervision: Rodrigo Maia (FEUP), Francesco Ballio (Politecnico di Milano)  <b>Risk-Based Analysis of Bridge Scour Prediction with Live Bed Conditions - 2<sup>nd</sup> year</b> Ana Margarida Bento ( <i>2<sup>nd</sup> year</i> ) Supervision: Teresa Viseu (LNEC), João Pêgo (FEUP)	
15:45	<b>Coffee break</b>	
16:00	<b>Research Project Presentations – Infrastructures &amp; Geotechnics</b> Chairpersons: Prof. Paulo Lourenço, Prof. Humberto Varum  <b>Experimental investigation and numerical modelling of embankment failure by overtopping</b> Teresa Alvarez ( <i>2<sup>nd</sup> year</i> ) Supervision: Rui Ferreira (IST), Teresa Viseu (LNEC)  <b>Multi-hazard assessment for the safety management of embankment dams</b> Gonçalo Faustino ( <i>1<sup>st</sup> year</i> ) Supervision: Laura Caldeira (LNEC), João Bilé Serra (LNEC), Teresa Bodas Freitas (IST)  <b>Risk analysis of bridges using a new reliability-based robustness assessment methodology</b> Hugo Guimarães ( <i>4<sup>th</sup> year</i> ) Supervision: José Campos e Matos (U Minho), Dan Frangopol (U Lehigh), António Abel Henriques (FEUP)	
		<b>Fatigue loading in historic brick masonry under moderate stress levels. Experimentally based investigations and monitoring strategies</b> Georgios Karanikoloudis ( <i>3<sup>rd</sup> year</i> ) Supervision: Paulo B. Lourenço (U Minho), João Bilé Serra (LNEC)
		<b>Dynamic Structural Health Monitoring of an Overhead Power Line using Interferometric Radar</b> Fábio Paiva ( <i>2<sup>nd</sup> year</i> ) Supervision: Luís Guerreiro (IST), Rui Carneiro de Barros (FEUP)
17:15	<b>Discussion: Board of Studies and Researchers/Scholars</b>	
17:45	<b>Closing Session</b> Prof. Carlos Sousa Oliveira <i>Members of the INFRARISK-, Board of Studies</i> Dr. Desmond Hartford <i>Principal Engineering Scientist, BC Hydro, Vancouver, Canada</i> Dr. Sébastien Proust <i>Member of the Evaluation Committee</i>	