Introduction to Cat-Modelling and Oasis LMF

[Dickie Whitaker] Cat modelling started as a tool needed by the insurance industry. And here we are in the city of London, which for over 300 years has been trading insurance risk. In the future, we hope to see a changed environment, where society as a whole use the same tools that we are, where risk becomes better understood and more pervasive and the tools that we've been using exclusively in the insurance industry become available to society and all.

[Johanna Carter] Catastrophe models are representations of physical phenomena, such as hurricanes and earthquakes. And they're built for a very specific purpose of helping property owners and insurers understand the risk of economic loss from these such events.

[Dr Peter Taylor] What characterizes catastrophe levels is that they look at the accumulation of risk that can occur because the catastrophe-- however we define that-- affects many things simultaneously. And it's that accumulation that really brings London and the London market into the fore.

[Dickie Whitaker] Catastrophe risk modelling lies at the heart of risk assessment within the insurance industry. And behind me is the Lloyd's building, which for 300 years has been the centre of trading of insurance and reinsurance risk. It's hoped however though that with the foundation of Oasis, the ability to deploy software all around the world would mean that developing countries, corporates, and indeed governments could take the benefit of what we've done and learned in the production of these tools. Hopefully, academics can push more into this area and inform the industry on the cutting edge techniques that we can learn from.

[Paul Nunn] At its heart, catastrophe models play the role of supporting risk management. It gives us a common language, a way of communicating risk between different stakeholders in the industry, both in terms of insurance companies, their conversations with their brokers, and their reinsurance counterparts, but also for onward risk transfer into the capital markets through insurance linked securities as well.

[Dr Ben Lloyd-Hughes] Catastrophe modelling offers a wealth of opportunities for the jobbing academic. Basic science is required for an understanding of the perils which drive the catastrophes, particularly concerned around clustering and with respect to the geographical and temporal timing of these sort of events. Second is the, as we move from the peril itself into the fragility of the buildings which may be exposed to it, we move into applied disciplines, such as atmospheric science, oceanography, geology, hydrology. And then as we move from an understanding of fragility into trying to estimate the economic costs, we move into vulnerability estimation. And this requires additional understanding of the financial components, the economics, the law, and sociology.
[Dickie Whitaker] The understanding of extreme hazards and their impacts on society and on business is increasingly in demand. Catastrophe modelling is the paradigm that is being used often to be able to answer those questions. So this course, we hope, will give end users an insight to how these models work and academics an understanding about how they can increasingly make a contribution to this debate.