



LLOYD'S

# THE SCIENCE OF RISK PRIZE 2011

**LLOYD'S RESEARCH PRIZE FOR ACADEMICS**

Information booklet

## KEY CONTACTS

**Trevor Maynard** Exposure Management

Telephone: +44 (0) 20 7327 6141 [trevor.maynard@lloyds.com](mailto:trevor.maynard@lloyds.com)

**Alexandra Vincenti** Exposure Management

Telephone: +44 (0) 20 7327 6926 [alexandra.vincenti@lloyds.com](mailto:alexandra.vincenti@lloyds.com)

**Science of Risk** Central Inbox

[scienceofrisk@lloyds.com](mailto:scienceofrisk@lloyds.com)

### Disclaimer

No responsibility of liability is accepted by the Society of Lloyd's, the Council, or any Committee of Board constituted by the Society of Lloyd's or the Council or any of their respective members, officers, or advisors for any loss occasioned to any person acting or refraining from action as a result of any statement, fact, figure or expression of belief contained in this document or communication.

The views expressed in the paper are Lloyd's own. Lloyd's provides the material contained in this document for general information purposes only. Lloyd's accepts no responsibility, and shall not be liable for any loss which may arise from reliance upon the information provided.

## FOREWORD

I am pleased to launch the Lloyd's Science of Risk Prize for 2011. Lloyd's has a long tradition of identifying, tracking and managing emerging risks. Everyday, Lloyd's helps organisations manage a range of risks, including protecting communities from the impact of hurricanes, floods and earthquakes, safeguarding the passage of cargo across dangerous waters and managing the liabilities of multinational companies. However, the risks we face are constantly changing and are becoming ever more complex. To stay abreast of the latest emerging risks facing society and to stimulate new cutting edge research into these risks, we believe in developing strong relationships and links with the academic community. It is for these reasons we launched our Science of Risk prize last year.

I was delighted with the level of interest in the prize in 2010 and with the high standard of entries across the board. The topics covered in the entries has increased our understanding in a number of areas relevant to our business, including how climate models can be better used to improve our knowledge of hurricane forecasts, how human behaviour can unconsciously escalate risks and how nanotechnology can support the development of pioneering medical procedures.

However, we believe that there will always be more us to learn. There will be new risks out there that we as insurers need to be aware of, as well as new ways of thinking about old risks.

As with last year, there are five topics for this year's competition, including a new topic of Insurance Markets and Operations. There is a prize for each category and an additional prize for the best overall research paper, and winners will have the opportunity to present their work at a conference held at Lloyd's in front of an audience drawn from both academia and business.

I look forward to reading your entries and good luck!



**Dr Richard Ward**  
Chief Executive Officer  
Lloyd's



# LLOYD'S RESEARCH PRIZE

The aim of this competition is to capture your thoughts on how various risks will affect the insurance industry. By better understanding risk, we can ensure we can deliver a superior return to our investors and create the financial strength to give us the best chance of being there to help our policyholders when they need us. Additionally, we can also ensure that our insurance pricing fairly reflects the risks posed by various sectors or perils. If we get this right we can incentivise companies or individuals to better manage risk.

We want to hear as much about risks that are reducing, for example through the intelligent use of technology, as about risks that are rising. Please do speculate! We want to hear about what might happen, not just what you're sure about. However, please be clear about the level of speculation.

For examples of entries to the 2010 Science of Risk prize please see the 2010 conference summary report available at [www.lloyds.com/scienceofrisk](http://www.lloyds.com/scienceofrisk).

## HERE ARE THE DETAILS:

- > In an accompanying letter of between 500 - 1000 words you must summarise the key findings of your paper, why you think your research is relevant to the insurance industry and why you think your paper is of high quality research.
- > Papers must be peer reviewed and have already been published in a journal. Papers accepted for future publication by a journal are admissible. However, you must obtain express written permission from the publishing journal to enter the prize and for us to use your summary for promotional means.
- > The paper must have been published on or after 30 September 2009.
- > Jointly authored papers are acceptable: but you must have carried out the majority of the research.
- > Academic papers and the accompanying summary must be in English.

## JUDGING CRITERIA

The applications will be shortlisted based on your summary and then reviewed by a panel of judges including leading academics and senior staff within Lloyd's. The criteria for judging will include:

- > Relevance to the insurance industry.
- > Writing style: clear, plain English will impress us.
- > Financial significance – risks that might translate into large profits or losses are clearly important and will be ranked higher.
- > Novelty. New risks will score well.
- > Quality of research.

Last year, we received many excellent applications for the prize. Unfortunately, we can only select a few of them as winning entries and we reserve the right not to award a prize

for some or all of the categories. We are sorry, but there will be no appeals procedure.

## THE PRIZE

There are five categories, and;

- > We are offering prizes of £2,000 for the best research paper in each category.
- > The best overall paper will win an additional £3,000.
- > A prize of £500 for best runner-up in each category will also be awarded.
- > An awards dinner in Lloyd's historic Adam Room will be held for the category winners and runners up.
- > The winners are expected to present their work at a conference at Lloyd's prior to the awards dinner. The runners up and shortlisted entrants are also expected to show their work on A1 portrait posters which will be shown at the event.
- > Attendance at the dinner and conference is expected for all those receiving monetary prizes. Key dates
- > Closing date for entries: **30 September 2011**
- > Shortlisted entrants notified: End of October
- > Winners notified: Week commencing 14 November 2011
- > Awards conference and dinner date: 24 November 2011

## ELIGIBILITY

We are keen to receive entries from researchers at every level in their career. So our competition is open to PhD students as well as qualified Post Doctoral research staff.

You must be either working in a university department or at a government (owned or part-funded) research organisation.

Government research organisations in the UK include: British Geological Survey, Met Office, British Antarctic Survey, National Oceanography Centre, Plymouth Marine Laboratory, Food and Environment Research Agency, European Centre for Medium-Range Weather Forecasts.

## OWNERSHIP OF WORK

You own your work. However, by submitting a paper to this competition Lloyd's will have the right to reproduce an accompanying summary in whole or part on our website ([www.lloyds.com](http://www.lloyds.com)) or in other Lloyd's publications. You agree that we can attribute the work to you by name, department and organisation. We may seek to publish your research in more detail or engage a science journalist to summarise it; we will contact you and the relevant journal in this event.

## ENTRY INFORMATION

Please go to [www.lloyds.com/scienceofrisk](http://www.lloyds.com/scienceofrisk) for the application form. We'll also keep you updated throughout the process from this website page. Full terms and conditions can be found at [www.lloyds.com/scienceofrisk](http://www.lloyds.com/scienceofrisk)

## RISK CATEGORIES

This year we are calling for published research on the following themes.

- > Natural hazards (excluding climate change)
- > Climate change
- > Biological and Technological risks
- > Behavioural risks
- > Insurance operations and markets (including financial mathematics)

We regret that we won't be able to consider subjects outside of these themes. However, you are still welcome to draw our attention to any ideas for topics – we may consider them for future years.

We've listed a few questions below just to get you thinking. But don't let these steer you too much. We are keen to hear about the questions you think we should be asking too.

**NATURAL HAZARDS:** What risks are faced by developing world countries and how could insurers help? Do climate models help us assess the level of climate risk in the coming year? What is the latest science for our critical perils (wind, flood, earthquake, and others)? What data should we be collecting and what could we do with it if we had it? Does the weather in one part of the world affect the likelihood of a catastrophe in another?

**CLIMATE CHANGE:** How might climate change impact critical perils for insurers (tropical cyclones, flooding, windstorms in Europe, wildfires, hail, lightning strikes, subsidence and heave for example)? How might political risk change around the globe due to climate change and other trends (water shortage or food security for instance)? After a large event, for example a flood, what materials should we use to rebuild sustainably? What does a "sustainable insurer" look like? How might the price of carbon change in the coming years?

**BIOLOGY/TECHNOLOGY:** How might new safety technologies affect accident rates? How could better characterised new materials reduce risks? How can we assess the long-term health impacts of new technologies? Is the internet introducing new systemic risk into our global economy? How can we stimulate innovation whilst protecting health and the environment? How is the latest medical research changing the risk of epidemics? How soon might

third generation biofuels be available? What did we think we knew last year, that we now realise we don't? How is urbanisation affecting the evolution rate of new diseases? Are intensive farming practices a hot bed for new pandemics?

**BEHAVIOURAL:** How might behavioural biases affect the way insurers manage risks? What processes should we put in place to help avoid these biases? Should insurers run "failure training" in the same way airline pilots have to undergo such tests: what could we learn from this? How can we stimulate cross stakeholder scenario analysis?

**INSURANCE OPERATIONS AND MARKETS (INCLUDING FINANCIAL MATHEMATICS):** What are the drivers of claims inflation and how might they change in future? What innovative methods can be used to detect fraud? What advances in mathematics or statistics can help with modelling of insurance risk (reducing run times, improving accuracy)? How can parameter uncertainty in models be estimated and illustrated to management? What innovative graphical methods have been developed to help visualise large data sets? What are the key drivers of the insurance cycle? What breakthroughs in technology could lead to better experience for insurance customers?