

21 - 22 FEBRUARY 2012
SINGAPORE

BLACK SWAN EVENTS

THIRD INTERNATIONAL SYMPOSIUM ON
CATASTROPHE RISK MANAGEMENT 2012



Academic Partner:



Acknowledgements:



Asia
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Reinsurance
Group





ICRM SYMPOSIUM 2012 - BLACK SWAN EVENTS

21 – 22 FEBRUARY 2012 | GRAND BALLROOM I, LEVEL 4,
GRAND COPTHORNE WATERFRONT HOTEL, SINGAPORE

WELCOME MESSAGES



Prof Haresh Shah

Founding Chairman, Advisory Board, ICRM;
Member of the Board of Trustees, NTU;
Emeritus Professor, Stanford University;
Chairman, Asia Risk Centre Inc., Singapore
Founder & Senior Advisor, RMS Inc., USA

We are delighted to welcome you to our third International Symposium on Catastrophe Risk Management. Particular welcome goes to our Guest-of-Honour Mr S.R. Nathan, Sixth President of the Republic of Singapore and H.E. Dato' Misran Karmain, Deputy Secretary-General of ASEAN, ASEAN Socio-Cultural Community. ICRM has made impressive progress in developing its research agenda, funding for research support from the government, industry and NTU resources, and in establishing collaborative programmes with academic and industrial institutions. This year, our Symposium theme is on Black Swan Events, a theme that has repeatedly stuck all of us in recent years. We are certain that with your participation, the Symposium would help everyone gain a better understanding of the pressing issues and to develop mitigation strategies through the concerted efforts of the government, private and public sectors, and the society at large.



Professor Tso-Chien PAN

Founding Executive Director, ICRM, NTU,
Singapore

On behalf of NTU's Institute of Catastrophe Risk Management (ICRM), I would like to extend our warmest greetings to our Guest-of-Honour Mr S.R. Nathan, Sixth President of the Republic of Singapore, H.E. Dato' Misran Karmain, Deputy Secretary-General of ASEAN, ASEAN Socio-Cultural Community, and Speakers and Delegates to the Third Symposium. ICRM was launched in January 2010 and over the past two years, we have received very encouraging support from the government and the industry for two key start-up projects on flood and seismic risk assessments. We are honoured that Aon Benfield is funding PhD Scholarships while Willis Re is funding Post-doctoral Fellowships at ICRM. Several of our industry partners are also contributing towards the cost of running this annual Symposium. This April, ICRM and RMS Inc will co-organize the Sixth Microinsurance Round Table Forum where our focus will be on catastrophe micro-insurance pilot projects in ASEAN region.

This Symposium, with a timely theme on Black Swan Events, will not only help to address the pertinent global concerns but also investigate policy implications leading to Public-Private Partnerships in managing catastrophe risk with low probability of occurrence but extremely high consequences. International and local delegates can look forward to engaging presentations and panel discussions from the world's leading experts in catastrophe risk spanning academia, industry and government. We are positive that your presence will make a difference to the Symposium. Lastly, but not the least, I wish all of you a most wonderful time in Singapore.

SYMPOSIUM SYNOPSIS

Over the last Decade, there have been many extreme catastrophes that were not on the radar screens of planners, policy makers, risk analysts, or researchers. Examples are the Great Asian Tsunami of 2004, Hurricane Katrina of 2005, the Pakistan floods of 2010, the 2011 Tohoku earthquake and tsunami and the resulting Fukushima Nuclear Power Plant meltdown are but just a few examples of such events. The global financial crisis of 2008, triggered by the housing bubble in USA is still reverberating around the world. In 2008 unprecedented food scarcity dictated the rules of a new political order where individual countries were scrambling to secure their own food supplies with little concern for the rest of the world. The evolving nature of climate also may pose serious challenges to nations and societies.

There has been much written about how often such Black Swan Events occur. There are even suggestions that such events take place more often than most experts have indicated. It is obvious that the inter-connected world is entering a new phase of evolving challenges. The ICRM Symposium 2012, with its theme on Black Swan Events is timely and aims to bring together researchers, policy makers, governments and risk management gurus to contemplate and create an understanding of such events and possible mitigation strategies.

It is the aim of the Symposium to raise awareness and understanding of Black Swan Events particularly for ASEAN countries. This will contribute towards the development of novel and innovative approaches in possibly mitigating and managing such risks.

This Symposium will have the following sub-themes:

1. Thoughts on Black Swan Events
2. Asia's Recent Black Swan Events
3. Future Black Swan Events - Challenges and Plans for ASEAN Countries
4. Black Swan Events and Insurance
5. Black Swan Events – Perspectives from ASEAN

WHO WILL ATTEND

The world's leading scientists, engineers, researchers, and representatives from the finance, insurance, public and private sectors.

PROGRAM OVERVIEW

DAY 1 - 21 FEBRUARY 2012, TUESDAY

SESSION 1 – OPENING SESSION

0800	Registration and Arrival
0840	Introductory Remarks Prof Tso-Chien Pan, Executive Director, ICRM, NTU, Singapore
0850	Welcome Address Prof Freddy Boey, Provost, NTU, Singapore
0900	Address H.E. Dato' Misran Karmain, Deputy Secretary-General of ASEAN, ASEAN Socio-Cultural Community (ASCC)
0910	Address Guest-of-Honor: Mr S.R. Nathan, Sixth President of Republic of Singapore
0930	Presentation 1: 10 Great Risks Prof Haresh Shah, Founding Chairman, Advisory Board, ICRM; Member of the Board of Trustees, NTU; Emeritus Professor, Stanford University; Chairman, Asia Risk Centre Inc., Singapore Founder & Senior Advisor, RMS Inc., USA
0950	Morning Refreshment

SESSION 2 – THOUGHTS ON BLACK SWAN EVENTS

1020	Presentation 2: In Search of Black Swans Prof Danny Ralph, Academic Director, Cambridge Centre for Risk Studies, Judge Business School, University of Cambridge, UK
1040	Presentation 3: Black and Red Swans Dr Gordon Woo, Adjunct Professor, Institute of Catastrophe Risk Management, NTU, Singapore; Catastrophe Risk Consultant, RMS, Inc., UK
1100	Presentation 4: Mediterranean Volcano Risk – Black Swan Does Not Exist Prof Domenico Giardini, Professor, Seismology and Geodynamics, ETH Zurich; Director, Swiss Earthquake Research Center, Switzerland; President, National Institute of Geophysics and Volcanology, Italy
1120	Presentation 5: Impacts of Climate-Related Black Swan Events on Food Security in South East Asia Dr Roman Hohl, Head Agriculture Asia Pacific, Swiss Reinsurance Company, Singapore
1140	Panel Discussion 1 Session Chairman: Prof Su Guanig, President Emeritus, NTU, Singapore Panelists: 1. Prof Haresh Shah, Founding Chairman, Advisory Board, ICRM; Member of the Board of Trustees, NTU; Emeritus Professor, Stanford University; Chairman, Asia Risk Centre Inc., Singapore Founder & Senior Advisor, RMS Inc., USA 2. Prof Danny Ralph, Academic Director, Cambridge Centre for Risk Studies, Judge Business School, University of Cambridge, UK 3. Dr Gordon Woo, Adjunct Professor, Institute of Catastrophe Risk Management, NTU, Singapore; Catastrophe Risk Consultant, RMS, Inc., UK 4. Prof Domenico Giardini, Professor, Seismology and Geodynamics, ETH Zurich; Director, Swiss Earthquake Research Center, Switzerland; President, National Institute of Geophysics and Volcanology, Italy 5. Dr Roman Hohl, Head Agriculture Asia Pacific, Swiss Reinsurance Company, Singapore
1210	Lunch

SESSION 3 – ASIA'S RECENT BLACK SWAN EVENTS

1310	Presentation 6: Overview of the 1991 Eruption of Pinatubo Volcano and its Aftermath Ms Perla J. Delos Reyes, Supervising Science Research Specialist Geology and Geophysics Research and Development Division Philippine Institute of Volcanology and Seismology (PHIVOLCS), Philippines
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1330	Presentation 7: Monsoon Flood of 2010 in Pakistan: Climate, Population, Land-Use, and Hazard Prof Charng Ning Chen, Emeritus Professor, School of Civil & Environmental Engineering, NTU, Singapore
1350	Presentation 8: The Great Eastern Japan Earthquake – What I have been learning from the latest Black Swan event in Japan Mr Takashi Kanemori, Director and Senior Executive Officer, OYO Corporation, Japan
1410	Presentation 9: The Great Thailand Flood 2011: Looking Back and Looking Forward Dr Seree Supratid, Director, Centre on Climate Change and Disaster Rangsit University, Thailand
1430	Panel Discussion 2 Session Chairman: Prof Kusnowidjaja Megawati, Principal Investigator, Earth Observatory of Singapore (EOS), NTU; School of Civil & Environmental Engineering, NTU, Singapore Panelists: 1. Ms Perla J. Delos Reyes, Supervising Science Research Specialist, Geology and Geophysics Research and Development Division, Philippine Institute of Volcanology and Seismology (PHIVOLCS), Philippines 2. Mr Takashi Kanemori, Director and Senior Executive Officer, OYO Corporation, Japan 3. Prof Charng Ning Chen, Emeritus Professor, School of Civil & Environmental Engineering, NTU, Singapore 4. Dr Seree Supratid, Director, Centre on Climate Change and Disaster, Rangsit University, Thailand
1500	Afternoon Refreshment

SESSION 4 – FUTURE BLACK SWAN EVENTS - CHALLENGES AND PLANS FOR ASEAN COUNTRIES I

1530	Presentation 10: Health Pandemics – From Black Swans To ...? Dr Pane Stojanovski, Adjunct Professor, Institute of Catastrophe Risk Management, NTU, Singapore; Executive Director, Asia Risk Centre, Inc. Singapore
1550	Presentation 11: Food Pandemic: The Coming Shortfall Dr Auguste Boissonnade, Chief Technology Officer, Asia Risk Centre, Inc., Singapore
1610	Presentation 12: Potential Threat of Magnitude 8.7 Earthquake at South of Sunda Strait, Indonesia Dr P. J. Prih Harjadi, Deputy Director General for Geophysics, Meteorological Climatological and Geophysical Agency of Indonesia, Indonesia
1640	Panel Discussion 3 Session Chairman: Prof Edmond Lo, Deputy Director, Maritime Institute @ NTU; School of Civil and Environmental Engineering, NTU, Singapore Panelists: 1. Dr Pane Stojanovski, Adjunct Professor, Institute of Catastrophe Risk Management, NTU, Singapore; Executive Director, Asia Risk Centre, Inc, Singapore 2. Dr Auguste Boissonnade, Chief Technology Officer, Asia Risk Centre, Inc., Singapore 3. Dr P. J. Prih Harjadi, Deputy Director General for Geophysics, Meteorological Climatological and Geophysical Agency of Indonesia, Indonesia
1710	End of Day 1 Symposium
1830	Symposium Dinner @ Singapore Flyer

PROGRAM OVERVIEW

DAY 2 – 22 FEBRUARY 2012, WEDNESDAY

SESSION 5 – BLACK SWAN EVENTS & INSURANCE

- 0900 **Presentation 13: Black Swan Events and the Reinsurance Industry of Asia**
Dr Suzanne Corona, Head, Natural Perils, Asia Capital Reinsurance Group, Singapore
- 0920 **Presentation 14: Black Swan - a Reinsurance Intermediary's Perspective**
Mr Vinod Krishnan, Chief Executive Officer, Aon Benfield Asia Pte Ltd, Singapore
- 0940 **Presentation 15: Actually Grey Swans**
Mr Scott Ryrie, Former Chief Executive Officer of Allianz SE Reinsurance Branch Asia-Pacific, Singapore
- 1000 Morning Refreshment
- 1030 **Presentation 16: Insurance, Systemic Risk and Black Swan**
Ms Priya Nandita Pooran, Visiting Fellow, The Lauterpacht Centre for International Law, University of Cambridge, UK; Barrister-at-law (UK); Attorney-at-law (NY), USA
- 1050 **Presentation 17: Systemic Risk and the Global Financial Crisis**
Mr Andrew Wong, Co-Chief Investment Officer, Convex Strategies Group at Fortress Investment, Singapore
- 1110 **Panel Discussion 4**
Session Chairman: **Mr George Attard**, Managing Director, Head of Aon Benfield Analytics, Aon Benfield Asia, Singapore
- Panelists:
1. **Dr Suzanne Corona**, Head, Natural Perils, Asia Capital Reinsurance Group, Singapore
 2. **Mr Vinod Krishnan**, Chief Executive Officer, Aon Benfield Asia Pte Ltd, Singapore
 3. **Mr Scott Ryrie**, Former Chief Executive Officer of Allianz SE Reinsurance Branch Asia-Pacific, Singapore
 4. **Ms Priya Nandita Pooran**, Visiting Fellow, The Lauterpacht Centre for International Law, University of Cambridge, UK; Barrister-at-law (UK); Attorney-at-law (NY), USA
 5. **Mr Andrew Wong**, Co-Chief Investment Officer, Convex Strategies Group at Fortress Investment, Singapore
- 1145 Lunch

SESSION 6 – FUTURE BLACK SWAN EVENTS - CHALLENGES AND PLANS FOR ASEAN COUNTRIES II

- 1300 **Presentation 18: Terrorism Risk in ASEAN: Preparing for Black Swan Events**
Prof Rohan Gunaratna, Professor of Security Studies; Head, International Centre for Political Violence and Terrorism Research, S. Rajaratnam School of International Studies (RSIS), NTU, Singapore
- 1320 **Presentation 19: Is the Frequency of Intense Typhoons Increasing under Global Warming?**
Prof Johnny C.L. Chan, Chair Professor of Atmospheric Science; Dean, School of Energy and Environment; Director, Guy Carpenter Asia-Pacific Climate Impact Centre, Hong Kong SAR

- 1340 **Presentation 20: Black Swan Threats: The Cambridge-NTU System Shock Project**
Dr Gary Bowman, Research Associate, Cambridge Centre for Risk Studies, Judge Business School, University of Cambridge, UK
- 1400 **Presentation 21: Damages and Rehabilitation of Disaster Caused by the 2009 Typhoon Morakot**
Prof Benson Hsiung, National Kaohsiung University of Applied Sciences, Taiwan; Section Chief, CECEI Engineering Consulting Inc., Taiwan
- 1420 **Panel Discussion 5**
Session Chairman: **Prof Tso-Chien Pan**, Executive Director, ICRM, NTU, Singapore
- Panelists:
1. **Prof Rohan Gunaratna**, Professor of Security Studies; Head, International Centre for Political Violence and Terrorism Research, S. Rajaratnam School of International Studies (RSIS), NTU, Singapore
 2. **Prof Johnny C.L. Chan**, Chair Professor of Atmospheric Science; Dean, School of Energy and Environment; Director, Guy Carpenter Asia-Pacific Climate Impact Centre, Hong Kong SAR
 3. **Dr Gary Bowman**, Research Associate, Cambridge Centre for Risk Studies, Judge Business School, University of Cambridge, UK
 4. **Prof Benson Hsiung**, National Kaohsiung University of Applied Sciences, Taiwan; Section Chief, CECEI Engineering Consulting Inc., Taiwan
- 1450 Afternoon Refreshment

SESSION 7 – BLACK SWAN EVENTS – PERSPECTIVES FROM ASEAN

- 1520 **Presentation 22: Impact of Tropical Storm "Sendong" (Washi) in Southern Philippines: Lessons and Strategies for Disaster Risk Reduction**
Mr Edgardo J. Ollet, Chief of Operations, National Disaster Risk Reduction and Management Council-Office of Civil Defense Operations Center, Philippines
- 1540 **Presentation 23: Regional Cooperation during Black Swan Events: Thailand Prospective**
Ms Pannapa Na Nan, Policy and Plan Analyst, Research and International Cooperation Bureau, Department of Disaster Prevention and Mitigation, Thailand
- 1600 **Panel Discussion 6**
Session Chairman: **Prof Haresh Shah**, Founding Chairman, Advisory Board, ICRM; Member of the Board of Trustees, NTU; Emeritus Professor, Stanford University; Chairman, Asia Risk Centre Inc., Singapore; Founder & Senior Advisor, RMS Inc., USA
- Panelists:
- Representatives from ASEAN Committee on Disaster Management (ACDM)**
- 1700 **Close of Symposium**
Prof Tso-Chien Pan, Executive Director, ICRM, NTU, Singapore