

June 9-10, 2014

Westin Downtown Denver

Denver, Colorado



## June 9-10, 2014 Westin Downtown Denver • Denver, Colorado



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#### SEMINAR OVERVIEW

The purpose of this seminar is to provide actuaries at all levels of experience with a greater knowledge of risk management in the P&C industry. Eighteen different concurrent sessions and three general sessions, covering systematic risk, decision making and value creation, challenges with empowering and embedding ERM, and more, will be covered at this year's seminar.

## CONSENT TO USE OF PHOTOGRAPHIC IMAGES

Registration and attendance at, or participation in, CAS meetings, seminars and other activities constitutes an agreement by the registrant to CAS's use and distribution (both now and in the future) of the registrant or attendee's image or voice in photographs, videotapes, electronic reproduction, and audiotapes of such events and activities.

#### ANTITRUST NOTICE

The Casualty Actuarial Society is committed to adhering strictly to the letter and spirit of the antitrust laws. Meetings conducted under the auspices of the CAS are designed solely to provide a forum for the expression of various points of view on topics described in the programs or agendas for such meetings. Under no circumstances shall CAS meetings be used as a means for competing companies or firms to reach an understanding—expressed or implied—that restricts competition or in any way impairs the ability of members to exercise independent business judgment regarding matters affecting competition. It is the responsibility of all meeting participants to be aware of antitrust regulations, to prevent any written or verbal discussions that appear to violate these laws, and to adhere in every respect to the CAS antitrust compliance policy. For more complete information regarding the CAS antitrust compliance policy, please refer to the CAS website at http://www.casact.org/about/policiesProc/index.cfm?fa=antitrust.

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## **SCHEDULE AT A GLANCE**

Unless otherwise noted, all program activities will take place on the Mezzanine Level.

## **SUNDAY, JUNE 8, 2014**

4:00 p.m. – 6:00 p.m.	Registration	Conference A/B
4:00 p.m. – 6:00 p.m.	Speaker Ready Room	McCourt
5:00 p.m. – 6:00 p.m.	Welcome Reception	V's Lounge, Lobby Level

## **MONDAY, JUNE 9, 2014**

7:00 a.m. – 5:00 p.m.	Registration	Conference A/B
7:30 a.m. – 8:30 a.m.	Continental Breakfast	Confluence Foyer
8:00 a.m. – 10:00 a.m.	Speaker Ready Room	McCourt
8:30 a.m. – 10:00 a.m.	General Session 1: Global Risks and Their Relevance to P&C Insurers Stephen Lowe; Richard Lino 3 - Advanced	Confluence A Description on page 8
10:00 a.m. – 10:15 a.m.	Refreshment Break	Confluence Foyer
10:15 a.m. – 11:30 a.m.	Concurrent Sessions	Descriptions on page 9
	M-1: Beyond Marginal Analysis 3 - Advanced	Confluence A
	M-2: Model Validation 2 - Intermediate	Confluence B
	M-3: Inconsistent Inference in Qualitative Risk Assessment  1 - Basic	Blake
	M-4: Dare to be a CERA 2 - Intermediate	Curtis
11:30 a.m. – 1:00 p.m.	Luncheon	Augusta, Lobby Level
11:30 a.m. – 12:00 p.m.	Speaker Ready Room	McCourt
1:00 p.m. – 2:15 p.m.	Concurrent Sessions	Descriptions on page 11
	M-5: Allocating Economic Capital to Drive Business Decisions  2 - Intermediate	Confluence A
	M-6: Operational Risk: What is It and How Can You Manage It? 1 - Basic	Blake
	M-7: Casualty Catastrophe Risk: Qualitative and Quantitative Evaluation 2 - Intermediate	Confluence B
	M-8: Flood Panel 2 - Intermediate	Curtis
2:15 p.m. – 2:30 p.m.	Networking Break	Confluence Foyer

2:30 p.m. – 3:45 p.m.	Concurrent Sessions	Descriptions on page 13
	M-9: Reserving and Reserve Risk: Thinking Outside the	Confluence A
	Triangle	
	2 - Intermediate	
	M-10: ORSA for U.S. P&C Insurers	Confluence B
	2 - Intermediate	
	M-11: So Much to Do So Little Time (and Resources)!	Blake
	1 - Basic	
	M-12: Risk Culture – How It Drives Everything	Curtis
	1 - Basic	
3:45 p.m. – 4:00 p.m.	Refreshment Break	Confluence Foyer
4:00 p.m. – 5:00 p.m.	Speaker Ready Room	McCourt
4:00 p.m. – 5:30 p.m.	General Session 2:	Confluence A
	Catastrophic Risk Behaviors: Empirical Evidence and Policy	Description on page 15
	Implications	
	Debra Ballen; Robert Meyer	
	2 - Intermediate	
5:30 p.m. – 6:30 p.m.	Reception	Augusta, Lobby Level

## **TUESDAY, JUNE 10, 2014**

7:15 a.m. – 12:00 p.m.	Registration	Conference A/B
7:15 a.m. – 8:00 a.m.	Continental Breakfast	Confluence Foyer
8:00 a.m. – 9:15 a.m.	Concurrent Sessions	Descriptions on page 16
	T-1: Changes to the NAIC and A.M. Best Capital Models  1 - Basic	Blake
	T-2: What's Ahead for Terrorism Insurance 2 - Intermediate	Curtis
	T-3: Focusing ERM: Correlations and Dependencies 2 - Intermediate	Confluence A
9:15 a.m. – 9:30 a.m.	Networking Break	Confluence Foyer
9:30 a.m. – 10:45 a.m.	Concurrent Sessions	Descriptions on page 18
	T-4: ORSA's Beneficial Impact on Capital Management  3 - Advanced	Curtis
	T-5: Reserve and Underwriting Risk: Dependencies and Volatility 2 - Intermediate	Confluence A
	T-6: Getting to Know Your ERM Actuarial Standards of Practice 1 - Basic	Blake
10:45 a.m. – 11:00 a.m.	Refreshment Break	Confluence Foyer
11:00 a.m. – 12:30 p.m.	General Session 3:	Confluence A
	CRO Panel: A Day in the Life Michael Mahaffey; Alessa Quane; Robert Rupp 1 - Basic	Description on page 20

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## IN FOCUS SEMINAR PLANNING COMMITTEE

This committee is responsible for developing the program for two-day seminars on topics of current interest. Past seminars addressed subjects such as government in insurance, the underwriting cycle, predictive modeling, environmental and catastrophic risk, emerging technologies, medical cost containment, valuation, profitability and rate of return methodologies, and international issues.

Xiao-shu Su, Chairperson

Barry Franklin Jonathan Hayes Mark Homan Stephen Kolk Stephen Lowe Mathieu Picard Alessa Quane

Klayton Southwood Xiangfei Zeng

## CASUALTY ACTUARIAL SOCIETY CENTENNIAL GOAL

The CAS will be recognized globally as a leading resource in educating casualty actuaries and conducting research in casualty actuarial science. CAS members will advance their expertise in pricing, reserving and capital modeling, and leverage their skills in risk analysis to become recognized as experts in the evaluation of enterprise risks, particularly for the property and casualty insurance industry

## SPEAKER OPINIONS

The opinions expressed by the speakers at this event are their own and do not necessarily reflect the positions of the CAS.

## **MEETING LOCATION**

The Westin Denver Downtown 1672 Lawrence Street Denver, Colorado 80202 **Phone:** (303)572-9100 **Check out time:** 12:00 p.m.

Parking: (self-parking) \$26/day; (valet) \$35/day

Internet: Guests receive complimentary Internet access in their guest rooms for one device per day.

#### CONFERENCE ATTIRE

Casual business attire is suggested for the conference sessions and reception. It's best to wear layered clothing as meetings rooms tend to fluctuate in temperature. In Denver, the average high temperature in June is 81 degrees F and the average low is 50 degrees F. A badge is required for admittance to **ALL** In Focus: Navigating Risky Waters Seminar functions.

## 2014 NAVIGATING RISKY WATERS—ERM FOR P&C RATING SYSTEM



**Basic.** No prior knowledge of the subject matter is assumed.

Little or no technical content.



**Intermediate.** General knowledge of the subject matter is assumed.

Moderate technical content.



Advanced. Working knowledge of the subject matter is assumed.

Moderate to highly technical content.

## **CONTINUING EDUCATION**

This activity may quality for up to 12.9 CE\* Credits for CAS members. Participants should claim credit commensurate with the extent of their participation in the activity. CAS members earn 1 CE credits per 50 minutes of educational session time not to include breaks or lunch.

The CAS Continuing Education Policy applies to all ACAS and FCAS members who provide Actuarial Services. Actuarial Services are defined in the CAS Code of Professional Conduct as "professional services provided to a Principal by an individual acting in the capacity of an actuary. Such services include the rendering of advice, recommendations, findings or opinions based upon actuarial considerations." Members who are or could be subject to the continuing education requirements of a national actuarial organization can meet the requirements of the CAS Continuing Education Policy by satisfying the continuing education requirements established by a national actuarial organization recognized by the Policy. For future information regarding the CAS Continuing Education Policy, please visit the CAS website www.casact.org/education.

\* The amount of CE Credit that can be earned for participating in this activity must be assessed by the individual attendee. It may also be different for individuals who are subject to the requirements of organizations other than the Casualty Actuarial Society.

## **ERM SPECIAL INTEREST SECTION KICK-OFF MEETING**

Monday, June 9, 7:00 a.m. - 8:15 a.m., Curtis

Join the CAS's new ERM Special Interest Section during breakfast for its inaugural meeting and officer election. Bring your breakfast and learn more about the new group, its goals and how to become more involved.

## **NETWORKING ACTIVITY – DINNER GROUPS**

Monday, June 9, 6:30 p.m., CAS Registration Desk

Not sure what to do once the reception is over? Sign up for a dinner group at the CAS Registration Desk and explore Denver's culinary scene with other attendees from the conference. This is a great networking opportunity! Dinner groups will meet at the CAS Registration Desk 15 minutes before the time of the dinner reservation. *Participants are responsible for their own expenses.* 

## **SPONSORS AND ADVERTISERS**

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#### PAULINE REIMER/PRYOR ASSOCIATES EXECUTIVE SEARCH

"It Takes One To Know One...An Actuary Placing Actuaries"

Named a top recruiting firm by Dun & Bradstreet, Pryor has 40 years of insurance (P&C, Health, Life, Pensions & Investments) experience.

Pauline Reimer, ASA, MAAA, has headed the Actuarial Placement Division since 1986, after working as an actuary in insurance and consulting firms. Proudly the CAS's first Platinum Partner, she is also on the SoA's Entrepreneurial Section Council, the Executive Board of ASNY, and the Advisory Boards of both Columbia University's MS in Actuarial Science program and New York University's BS in Actuarial Science program.

Quoted in periodicals and television, Pauline handles each step of every actuarial assignment personally—no client is ever relegated to just an Assistant. Her impressive placement records of 99% retention rate and 100% success ratio in retained searches confirm her status as one of the most successful actuarial recruiters worldwide.

## **ADVERTISER**



#### EZRA PENLAND ACTUARIAL RECRUITMENT

Ezra Penland Actuarial Recruitment Ezra Penland Actuarial Recruitment was established by Sally Ezra and Claude Penland, ACAS, MAAA, partners with over 35 years of combined industry experience. With the industry's leading actuarial salary surveys and a rapidly growing actuarial recruiting staff, our goal is to be the top actuarial recruitment firm in the world while serving the long-term needs of clients and actuaries.

Our educated, knowledgeable and highly-trained staff will always exhibit business ethics, integrity, empathy and strong listening skills to help you reach your business goals. Ezra Penland works on both retained and contingent searches at all levels of actuarial analysts, credentialed actuaries and senior roles.

Each attendee receives a copy of the ALL NEW, UPDATED 2013 Ezra Penland US Property & Casualty Actuarial Salary Surveys. These four surveys are split by Consulting, Reinsurance, Insurance/All Other, and All Employers Combined. Attendees will also receive a handy Ezra Penland notebook to jot down notes throughout the In Focus Seminar.

## **ADVERTISER**



#### **TOWERS WATSON**

Towers Watson is a leading global professional services company that helps organizations improve performance through effective people, risk and financial management. With 14,000 associates around the world, we offer solutions in the areas of employee benefits, talent management, rewards, and risk and capital management.

Our focus is on giving you the clarity to make the right decisions and take the right actions. And our approach is grounded in perspective – the kind that comes from our deep experience working on a wide range of issues.

But more important, our perspective begins at eye level – with a clear understanding of your organization, the way you work, your goals and your challenges.

By connecting the big picture and your picture, we help you achieve real-world results.

## GENERAL SESSION MONDAY, JUNE 9, 8:30 A.M. - 10:00 A.M.



## GS-1: Global Risks and Their Relevance to P&C Insurers

#### Monday, June 9, 8:30 a.m. - 10:00 a.m., Confluence A

The World Economic Forum recently published its ninth edition of "Global Risks," in which it identified, explored, and prioritized 31 major risks that could have global social, economic, and political consequences if they are not remediated. Towers Watson has also recently published an update to its analysis "Extreme Risks," in which it prioritized 30 extreme risks. While the approaches taken by the two research groups differ, both argue that the world is undergoing change at an increasing pace, that the world is becoming increasingly interconnected, and that a longer-term view is necessary to successfully grapple with major risks. The panel will explore the nature of these risks in a broader societal context, but also discuss how they should be incorporated into the management of risk within the context of a P&C insurer.

Moderator: Michael Angelina, Executive Director, Academy of Risk Management and

Insurance, Saint Joseph's University

Speakers: Stephen Lowe, Senior Consultant, Towers Watson

Richard Lino, Partner, Oliver Wyman



# CONCURRENT SESSIONS MONDAY, JUNE 9, 10:15 A.M. - 11:30 A.M.



## M-1: Beyond Marginal Analysis

#### Monday, June 9, 10:15 a.m. - 11:30 a.m., Confluence A

Many large insurance companies are using their capital models to evaluate strategic decisions on a marginal basis. For example, many firms measure the value of a reinsurance purchase based on the marginal impact of that reinsurance on required capital—the larger the insurer, however, the smaller the marginal impact of any given decision. Taken to an extreme, no individual risk mitigation decision would appear to be worth making. This session will first explore whether other types of large organizations use marginal decision analysis, then to consider alternative decision evaluation approaches insurers can employ.

Moderator/Speaker: Donald Mango, Vice Chairman, Enterprise Analytics, Guy Carpenter & Co., LLC

Speaker: Spencer M. Gluck, Actuary, PC ERM, AIG



## M-2: Model Validation

#### Monday, June 9, 10:15 a.m. - 11:30 a.m., Confluence B

As the topic of model risk evolves at insurance companies, risk managers and model owners are faced with questions from business leaders about how model risk is being managed across the enterprise. How do you create a model validation practice? What does success look like? What's the value? How do you get buy-in from senior leaders and business partners? This session will focus on these questions and other topics related to the emerging issue of model risk across the insurance industry.

Moderator: Xiao-shu Su, Pricing Actuary, AIG Property Casualty

Speakers: Gary Venter, Head of Model Validation, AIG PC

Brian J. Neary, Vice President and Chief Operational Risk Officer, The Hartford



## M-3: Inconsistent Inference in Qualitative Risk Assessment

#### Monday, June 9, 10:15 a.m. - 11:30 a.m., Blake

The variety of risks that the financial industry faces nowadays requires different approaches to risk assessment. If enough experience data exists, quantitative risk assessment using statistical inference is normally chosen. For risks with insufficient data, qualitative risk assessment using human inference is used. While standard rules are used in statistical inference in most cases, human inference is subject to cognitive biases. Biases can be caused by loss aversion, overconfidence, anchoring, representativeness, and the incapability of processing too much information.

Biases likely affect our risk assessment and decision-making. As a result, exposure levels to different risk types may be inconsistently estimated; they may be overestimated, underestimated or even ignored. Suboptimal and inferior decisions may be made. It is difficult to eliminate biases but some strategies can be used to reduce their negative impact.

In this session, strategies that could be used to reduce the impact of biased inferences will be discussed. Most materials will be drawn from a prize winning paper titled "Inconsistent Inference in Qualitative Risk Assessment," sponsored by the North American CRO Council.

Moderator: Alessa Quane, Senior Vice President, Chief Risk Officer, AIG Property Casualty

Speaker: Kailan Shang, Managing Director, Head of Research, Swin Solutions Inc.



#### M-4: Dare to be a CERA

#### Monday, June 9, 10:15 a.m. - 11:30 a.m., Curtis

More than 2,000 actuaries globally have now been awarded the CERA designation, including about 150 CAS members. CAS members interested in learning more about the benefits of the CERA designation or how to qualify under the CAS process should attend this session. Our panel will provide a brief history of the CERA designation, including an overview of the existing CAS qualification process, the current state of the CERA designation and future plans for enhancing the CAS CERA qualification process. Speakers include the former VP-ERM for the CAS and two CAS members who earned their CERA designation under the CAS qualification process. In addition to discussing the designation itself and the CAS qualification process, speakers will explore how they apply CERA learning objectives in practice within their respective job responsibilities.

Moderator: Bob Wolf, Actuary, Head of Capital Modeling, ANV Insurance Services, US Inc.

Speakers: Avraham Adler, Senior Vice President, Guy Carpenter & Co. LLC

Bryan Ware, Senior Vice President and Chief Actuary, Employers Insurance Group

# CONCURRENT SESSIONS MONDAY, JUNE 9, 1:00 P.M. - 2:15 P.M.



## M-5: Allocating Economic Capital to Drive Business Decisions

#### Monday, June 9, 1:00 p.m. - 2:15 p.m., Confluence A

A methodology for allocating capital based to business segments will be presented and discussed, with broad application across P&C insurance products. In addition, specific examples of applications of the methodology will be presented, with discussion around business decision making impact and executive level acceptance.

Moderator: Mark J. Homan, Vice President and Actuary, Risk and Profitability Measurement,

The Hartford

Speakers: Donald Mango, Vice Chairman, Enterprise Analytics, Guy Carpenter & Co., LLC

Tim Borst, Senior Manager, Risk and Return Management, Allstate Insurance

Company



## M-6: Operational Risk: What is It and How Can You Manage It?

#### Monday, June 9, 1:00 p.m. - 2:15 p.m., Blake

This session will start by defining operational risk, and then discuss a framework for managing the many facets of operational risk within an insurance company. We will include examples on a how to use the three lines of defense to manage operational risk. The presentation will necessarily be more qualitative than quantitative but will involve some quantitative approaches.

Moderator: Alessa Quane, Senior Vice President, Chief Risk Officer, AIG Property Casualty

Speaker: Brian J. Neary, Vice President and Chief Operational Risk Officer, The Hartford



## M-7: Casualty Catastrophe Risk: Qualitative and Quantitative Evaluation

#### Monday, June 9, 1:00 p.m. - 2:15 p.m., Confluence B

As a means to understanding and modeling casualty catastrophes, this session will discuss emerging issues that warrant monitoring as potential future casualty catastrophes. An overview of sources of information including the evolution of policy wordings, especially as it affects insured loss, will be discussed. The second panelist will present a framework for quantifying casualty risk. Both speakers will discuss the challenges and approaches for casualty modeling. Discussion will include actuarial methodology and the catastrophe modeling framework as applied to casualty catastrophe risk.

Moderator: Jessica (Weng Kah) Leong, Lead Casualty Specialty Actuary, Guy Carpenter & Co.,

LLC

Speakers: Tim McCarthy, Manager and Assistant Actuary, ISO

Joseph J. Wu, Manager, AIR Worldwide



#### M-8: Flood Panel

#### Monday, June 9, 1:00 p.m. - 2:15 p.m., Curtis

Flood Insurance is in the news again after Sandy. That devastating event calls for renewed understanding of the risks floods present. Come to this panel and benefit from two speakers, each with decades of experience to share about understanding, measuring and communicating flood risks and hazards.

Thomas Hayes will provide an overview of the National Flood Insurance Program and describe how recent legislation has changed the political landscape of flood risk assessment. He will also give a primer on the variability of flood risk—explaining how the low-frequency, high-severity nature of floods is both similar to and different from earthquake risk.

Dr. Howard Botts will examine all sources of flood risk including coastal storm surge, river and lake flood risk inside and outside the FEMA special flood hazard zones, flash flooding as well as basement flooding and sewer backup.

Moderator: Stephen Kolk, President, Kolkulations.com LLC

Speakers: Howard A. Botts, Vice President, Chief Scientist, CoreLogic

Thomas Hayes, Actuary, Federal Insurance Administration/FEMA

## CONCURRENT SESSIONS MONDAY, JUNE 9, 2:30 P.M. - 3:45 P.M.



## M-9: Reserving and Reserve Risk: Thinking Outside the Triangle

#### Monday, June 9, 2:30 p.m. - 3:45 p.m., Confluence A

What would the actuarial profession do if we had never estimated reserves before and faced a blank sheet of paper today? And how would we model the risk in those reserves? We will share some ideas from areas such finance and social sciences. We'll introduce you to Thomas Bayes and how his theorem can be applied to our problem. We'll look at the social sciences and draw conclusions about latent variables that are not directly observable, which may help us incorporate market cycles.

Moderator: Jonathan Hayes, Managing Director, Guy Carpenter & Co. LLC

Speakers: Jessica (Weng Kah) Leong, Lead Casualty Specialty Actuary, Guy Carpenter & Co.,

LLC

Dave Clark, Senior Actuary, Munich Re America



### M-10: ORSA for U.S. P&C Insurers

## Monday, June 9, 2:30 p.m. - 3:45 p.m., Confluence B

Until a few years ago, many actuaries had never heard of the International Association of Insurance Supervisors (IAIS). Now, everyone is awakening to discover that this body has a great deal of influence over how insurers in the U.S. and elsewhere will be regulated for solvency. The IAIS has set standards for Own Risk & Solvency Assessment (ORSA) and are working on standards for groupwide regulation. With the National Association of Insurance Commissioners' model ORSA law having been adopted in multiple states effective January 1, 2015, how will the ORSA requirement be implemented in the U.S., and how will it compare with the ORSAs required by Bermuda, the U.K., and elsewhere? What can U.S. P&C insurers expect and how prepared are they to meet the new requirements? What role will actuaries play in meeting ORSA requirements?

Moderator: Michael Angelina, Executive Director, Academy of Risk Management and

Insurance, Saint Joseph's University

Speakers: Kevin M. Madigan, Director, PricewaterhouseCoopers LLP

Carl Groth, Managing Director, KPMG LLP



## M-11: So Much to Do...So Little Time (and Resources)!

#### Monday, June 9, 2:30 p.m. - 3:45 p.m., Blake

Enterprise risk management isn't just for the big boys and girls! Even those companies not yet large enough to be subject to the National Association of Insurance Commissioners' Own Risk & Solvency Assessment (ORSA) requirements can, and should, install an ERM process. This discussion will follow one company's journey as it installed (and is still installing) an ERM process without full-time dedicated resources. With the help of outsiders (consultants), and insiders (Fellows of the CAS taking time from other responsibilities), it is getting done one stage at a time, over multiple years. There will be a special focus on implementing the linkage of local risk limits to global risk appetite through the case study.

Moderator: Alessa Quane, Senior Vice President, Chief Risk Officer, AIG Property Casualty

Speakers: Bill Mech, Corporate Actuary, GuideOne Insurance

Stephen Lowe, Senior Consultant, Towers Watson



## M-12: Risk Culture – How It Drives Everything

#### Monday, June 9, 2:30 p.m. - 3:45 p.m., Curtis

Financial regulators, rating agencies and many commentators have blamed weak Risk Culture for many of the large losses and financial company failures of the past decade. But their exposition regarding a strong Risk Culture only goes as far as describing a few of the common ERM practices of an organization (Tone from the Top, Accountability, Communication and Challenge and Incentives in a recent report from the Financial Stability Board) These short lists of practices fall far short of describing the beliefs and motivations that are at the heart of any culture. This discussion will present thinking about how the fundamental beliefs and objectives of real risk cultures can be seen and how those beliefs may or may not align with the practices that are wanted by the regulators and rating agencies. Insights from cultural anthropology, business organizational theory and real life experiences talking to over 200 insurance organizations about their risk management programs over the past 10 years will be incorporated into the discussion.

Speaker: David Ingram, Senior Vice President, Willis Re

# GENERAL SESSION MONDAY, JUNE 9, 4:00 P.M. - 5:30 P.M.



## GS-2: Catastrophe Risk Behaviors: Empirical Evidence and Policy Implications

Monday, June 9, 4:00 p.m. - 5:30 p.m., Confluence A

This session will discuss the implications of observed catastrophe risk behaviors.

The first set of behaviors is based on field studies that measured the evolution of coastal residents' risk perceptions and preparation plans as hurricanes were approaching the United States. The data from that field study suggest that residents had a poor understanding of the threat posed by the storms. These misperceptions translated into preparation actions that were not commensurate with the nature and scale of the threat they faced. Possible causes of the biases and policy implications for improving hurricane warning communication will be discussed.

The second set of behaviors relates to consumer and political attitudes as we try to transition from mitigation awareness to mitigation action. Using video footage from the IBHS Research Center and social science analyses, this will include changing hearts and minds, understanding and activating incentives, and addressing political realities—all in the face of increasing wind, water, and land-movement risks.

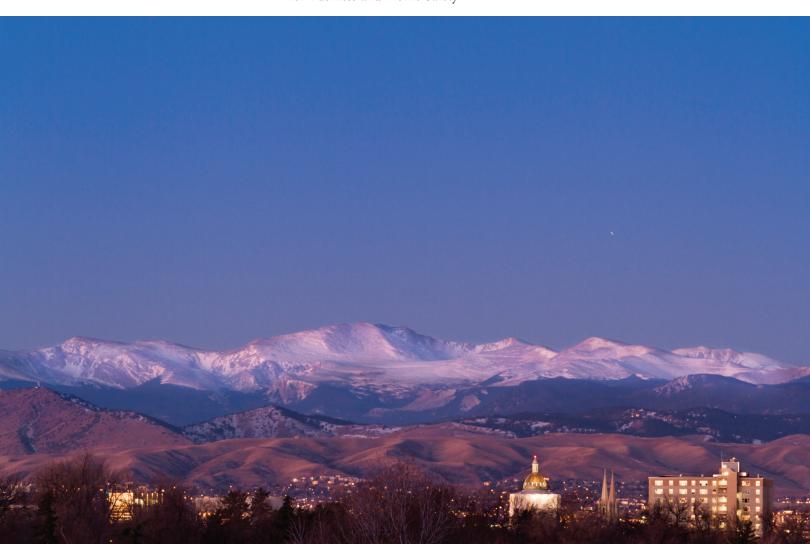
Moderator: Xiao-shu Su, Pricing Actuary, AIG Property Casualty

Speakers: Robert Meyer, Co-Director, Wharton Risk Management and Decision Processes

Center, University of Pennsylvania

Debra Ballen, General Counsel and Senior Vice President of Public Policy, Institute

for Business and Home Safety



## CONCURRENT SESSIONS TUESDAY, JUNE 10, 8:00 A.M. - 9:15 A.M.



## T-1: Changes to the NAIC and A.M. Best Capital Models

#### Tuesday, June 10, 8:00 a.m. - 9:15 a.m., Blake

U.S. insurance regulators are considering changes to the NAIC Property-Casualty RBC. Proposed changes include modification to the calculation of the existing capital charges and the introduction of new capital charges in the RBC formula. Catastrophe risk charges for earthquakes and hurricanes are already being tested by the NAIC. There is a proposal to introduce an explicit operational risk charge in RBC. Changes are contemplated or have been proposed to the way reinsurance and underwriting risks are reflected in the minimum capital requirements.

A.M. Best is contemplating changes in its approach to calculating certain risk factors in its capital model as well as changes to risk metrics and risk thresholds. A.M. Best intends to accomplish this through the use of stochastic simulation software. The session will compare the current model to the proposed model, the expected time frame for implementation, and the potential impact on ratings.

Changes to the minimum regulatory capital requirements and rating agency capital models should be considered in the context of the introduction of Own Risk and Solvency Assessment (ORSA), developments in practical enterprise risk management (ERM), and the growing adoption of improved risk governance.

The session will include an open panel discussion of the main changes and their potential impact on individual insurance companies and the industry.

Moderator: Klayton Southwood, Senior Consultant, Towers Watson

Speakers: Thomas Mount, Vice President, A.M. Best Company, Inc.

Ralph Blanchard, Vice President and Actuary, The Travelers Companies, Inc.

Alex Krutov, President, Navigation Advisors



## T-2: What's Ahead for Terrorism Insurance

#### Tuesday, June 10, 8:00 a.m. - 9:15 a.m., Curtis

Industry trade groups have made the case that the Terrorism Risk Insurance Act (TRIA) is among the most effective public-private partnerships currently in existence, but absent congressional action TRIA expires at year-end. Non-renewal of TRIA would be a serious issue for the industry. This session will bring people up to speed on the reasons for the program's existence as well as how it currently works. Major discussion will be around current political issues over TRIA renewal, the range of possible outcomes for TRIA in 2015 and what firms are doing and can do now to plan, manage, quantify and address uncertainty over TRIA renewal.

Moderator: Jonathan Hayes, Managing Director, Guy Carpenter & Co. LLC

Speakers: Joe Sigona, Managing Director, Guy Carpenter & Co, LLC

Tom McCrocklin, Vice President, Head of Federal Affairs, Zurich Insurance



## T-3: Focusing ERM: Correlations and Dependencies

#### Tuesday, June 10, 8:00 a.m. - 9:15 a.m., Confluence A

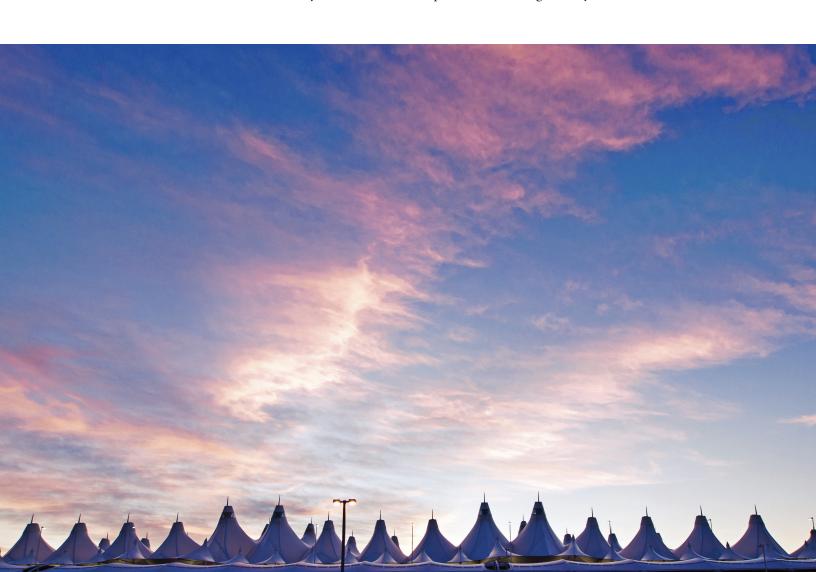
Understanding and quantifying risk dependencies is found in assessment of clash risk, capital models, the untangling and demystifying of the events of 2008, increasing appreciation for the interconnectedness of the global economy, and each company's own material interdependencies. While risk interdependency is not a new concept, and there were multiple reasons for the 2008 meltdown, what stood out during this "black swan" event was the magnitude of the risk interdependency within companies, within industries, and between industries, and the subsequent impact on both earnings and solvency.

As ERM continues to develop and mature within P&C insurance, and in conjunction with potentially enhanced stress and solvency assessments required by the Own Risk & Solvency Assessment (ORSA), boards and regulators will be looking to ERM functions for insights into a company's material interdependencies, both internal and external. Identifying them requires a thorough understanding of a company and its industry, as well as significant collaboration within each company. This session will address how we optimally elicit the type of information needed around these potential events and stresses, as well as approaches to quantifying them.

Moderator: Alietia Caughron, Vice President, CNA

Speakers: Stuart Hayes, Consultant, Towers Watson

Wayne Blackburn, Principal and Consulting Actuary, Milliman, Inc.



## CONCURRENT SESSIONS TUESDAY, JUNE 10, 9:30 A.M. - 10:45 A.M.



## T-4: ORSA's Beneficial Impact on Capital Management

## Tuesday, June 10, 9:30 a.m. - 10:45 a.m., Curtis

The National Association of Insurance Commissioners' Own Risk and Solvency Assessment (ORSA) program is shedding new light on risk and capital modeling programs across the industry. Insurer's with modeling capabilities are enhancing their capabilities and improving model governance. Others with underutilized, immature or excessively complex models are rethinking their approach as the 2015 ORSA deadline approaches. In the two decades since the first DFA models were conceived, there has seldom been as much clarity of purpose among capital modelers and the companies that they serve.

We will discuss risk and capital measurement requirements under ORSA, specifically focusing on the current and prospective solvency assessments. The discussion will cover key requirements for capital models to emphasize the need to design methodologies based on business objectives independently of the choice of modeling software.

By focusing on the ratio of actual capital to required capital, we will discuss opportunities for effective sensitivity testing and scenario analysis. A "forward" view of this capital ratio will be reviewed as an option for fulfilling ORSA's prospective solvency assessment. Further we will discuss how this forward view can help to drive connections to the business plan and provide a basis for attribution of year-over-year changes as required in future ORSAs.

The session will focus on practical steps that insurers can implement to achieve greater senior management and board buy-in and will avoid complex modeling theories. The flexibility afforded to insurers under ORSA and a range of modeling methodologies suitable for different circumstances will be discussed.

Moderator: Mark J. Homan, Vice President and Actuary, Risk and Profitability Measurement,

The Hartford

Speakers: Thomas McIntyre, Principal, KPMG

Matthew Berasi, Associate Vice President, Risk Management, The Hartford



## T-5: Reserve and Underwriting Risk: Dependencies and Volatility

#### Tuesday, June 10, 9:30 a.m. - 10:45 a.m., Confluence A

Loss reserves are the biggest liability item on the balance sheet of property-casualty insurers. Combined with current year underwriting results, these two components generally drive financial results.

How do we quantify dependencies between lines of business regarding reserve and underwriting risks? In their recently article, Stuart Hayes and Steve Lowe study historical market-based correlations between property-casualty lines of business, based on an industry database built since the early 1980s. Stuart will outline the high-level observations and implications from this dependency study and paper, including the conclusion that models ignoring the issue could significantly understate the aggregate variability of both risks.

The session will also include a discussion of the common drivers that create dependency, and will present a decomposition of industry data to measure drivers that affect reserves and underwriting, including insurance prices and drivers that act on losses according to the accident year and the calendar year of payment. Common movements across lines of business can be observed and measured, and macroeconomic effects on these drivers can be studied.

Moderator: Klayton Southwood, Senior Consultant, Towers Watson

Speakers: Stuart Hayes, Consultant, Towers Watson

Spencer M. Gluck, Actuary, PC ERM, AIG



## T-6: Getting to Know Your ERM Actuarial Standards of Practice

Tuesday, June 10, 9:30 a.m. - 10:45 a.m., Blake

In this session, we will discuss the two enterprise risk management actuarial standards of practice (ASOP) that became effective on May 1, 2013 ("ASOP No. 46 - Risk Evaluation in Enterprise Risk Management" and "ASOP No. 47 - Risk Treatment in Enterprise Risk Management"). We will also provide an update on efforts to adopt similar standards in other jurisdictions, and recent Actuarial Standards Board activity related to ERM, potentially leading to further ASOPs.

Speaker: Kevin M. Madigan, Director, PricewaterhouseCoopers LLP



# 2014 Centennial Celebration and Annual Meeting

New York City, NY – Hilton Midtown November 9 – 12, 2014 centennial.casact.org

## GENERAL SESSION TUESDAY, JUNE 10, 11:00 A.M. - 12:30 P.M.



## GS-3: CRO Panel: A Day in the Life

#### Tuesday, June 10, 11:00 a.m. - 12:30 p.m., Confluence A

What exactly does a CRO do? How do they spend their time? What keeps them awake at night? Who do they report to and who reports to them? These and other questions will be asked and answered in this interactive session with a panel of CROs.

Moderator: Stephen Lowe, Senior Consultant, Towers Watson

Speakers: Robert Rupp, Chief Risk Officer, The Hartford

Michael Mahaffey, Senior Vice President and Chief Risk Officer, Nationwide

Insurance

Alessa Quane, Senior Vice President, Chief Risk Officer, AIG Property Casualty



# 100 Years of Reserving... Where will it be 100 Years from Now?

www.casact.org/clrs

June 9-10, 2014 • Westin Downtown Denver • Denver, Colorado

## PERSONAL ATTENDANCE RECORD

The CAS Continuing Education Policy applies to all ACAS and FCAS members who provide Actuarial Services. Actuarial Services are defined in the CAS Code of Professional Conduct as "professional services provided to a Principal by an individual acting in the capacity of an actuary. Such services include the rendering of advice, recommendations, findings or opinions based upon actuarial considerations." Members who are or could be subject to the continuing education requirements of a national actuarial organization can meet the requirements of the CAS Continuing Education Policy by satisfying the continuing education requirements established by a national actuarial organization recognized by the Policy. For further information regarding the CAS Continuing Education Policy please visit the CAS website, http://www.casact.org/education/.

Start Time	Name	Credit	Attended
8:30 a.m.		Up to 1.8 CE	
	GS-1: Global Risks and Their Relevance to P&C Insurers		
10:15 a.m.		Up to 1.5 CE	
	M-1: Beyond Marginal Analysis *		
	M-2: Model Validation*		
	M-3: Inconsistent Inference in Qualitative Risk Assessment*		
	M-4: Dare to be a CERA*		
l:00 p.m.		Up to 1.5 CE	
	M-5: Allocation Economic Capital to Drive Business Decisions*		
	M-6: Operational Risk: What is It and How Can You Manage It?*		
	M-7: Casualty Catastrophe Risk: Qualitative and Quantitative Evaluation		
	M-8: Flood Panel		
2:30 p.m.		Up to 1.5 CE	
	M-9: Reserving and Reserve Risk: Thinking Outside the Triangle		
	M-10: ORSA for U.S. P&C Insurers*		
	M-11: So Much to Do So Little Time (and Resources)!		
	M-12: Risk Culture – How It Drives Everything*		
í:00 p.m.		Up to 1.8 CE	
_	GS-2: Catastrophic Risk Behaviors: Empirical Evidence and Policy Implications*	_	

Tuesday, June 10, 2014				
Start Time	Name	Credit	Attended	
8:00 a.m.		Up to 1.5 CE		
	T-1: Changes to the NAIC and A.M. Best Capital Models			
	T-2: What's Ahead for Terrorism Insurance			
	T-3: Focusing ERM: Correlations & Dependencies			
9:30 a.m.		Up to 1.5 CE		
	T-4: ORSA's Beneficial Impact on Capital Management			
	T-5: Reserve and Underwriting Risk: Dependencies and Volatility*			
	T-6: Getting to Know Your ERM Actuarial Standards of Practice*			
11:00 a.m.		Up to 1.8 CE		
	GS-3: CRO Panel: A Day in the Life			

## **EVALUATION NOTES**

Conference Evaluations will be sent electronically each day for concurrent sessions and the overall evaluation will come after the meeting. For your convenience, please use the space below to keep track of your evaluations of each course.

MONDAY, JUNE 9, 2014
General Session: Global Risks and Their Relevance to P&C Insurers
Speakers: Stephen Lowe; Richard Lino
Concurrent Session   10:15 a.m.
Speaker(s):
Concurrent Session   1:00 p.m.
Speaker(s):
Concurrent Session   2:30 p.m.
Speaker(s):
General Session: Catastrophic Risk Behaviors: Empirical Evidence and Policy Implications
Speakers: Debra Ballen; Robert Meyer
TUESDAY, JUNE 10, 2014
Concurrent Session   8:00 a.m.
Speaker(s):
Concurrent Session   9:30 a.m.
Speaker(s):
General Session: CRO Panel: A Day in the Life
Speakers: Michael Mahaffey; Alessa Quane; Robert Rupp

## **NOTES**

June 9-10, 2014 • Westin Downtown Denver • Denver, Colorado

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MEZZÁNINE LEVEL, THIRD FLOOR

