

2017 Casualty Loss Reserve Seminar

September 10-12, 2017

Loews Philadelphia Hotel

Philadelphia, Pennsylvania

The Casualty Loss Reserve Seminar (CLRS) provides a forum for presenting and discussing significant issues in loss reserving. The program includes a range of topics to interest professionals and students in a number of related disciplines. Moreover, the seminar meets the continuing education needs of actuaries and other professionals whose responsibilities include loss reserving. Attendees will leave this year's seminar better able to understand, evaluate and estimate loss reserves.

The seminar is recommended for risk and insurance managers, actuaries, actuarial students, accountants, underwriters, insurance regulators, and others who require an understanding of state-of-the-art developments, as well as traditional loss reserve methods and models. Generally, no advanced preparation, previous education, work experience or background knowledge are required, unless specifically stated within the session description.

The seminar uses a session calculator rating with a scale ranging from 1 (basic) to 3 (advanced) to provide information on the session's technical nature. Sessions on advanced reserving topics, including emerging and regulatory issues, reinsurance and accounting, are designed for experienced loss reserving professionals.

Intermediate reserving topics are recommended for individuals already familiar with basic evaluation techniques who wish to increase their knowledge of loss reserve methods and models. Sessions on basic reserving topics are recommended for individuals with limited or no experience evaluating loss reserves. In addition, a wide range of special topics will interest the general audience at all levels of experience.

The seminar will interest those seeking education within the field of study of specialized knowledge and applications. The seminar follows a group-live format and the sessions are generally made up of a panel of presenters, many using slides to augment the presentations. Illustrative numerical examples are used whenever possible. Practical approaches to problems will be presented and discussion will be encouraged. Participants can expect to gain awareness and insight into difficult issues and are encouraged to share their own ideas.

Joint Program Committee for the Casualty Loss Reserve Seminar

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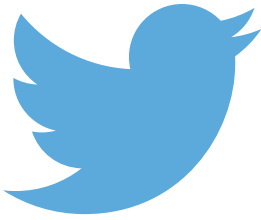
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What's happening at CLRS? We want to hear from you!
Tweet about the CLRS sessions and meeting events using the hashtag

#CLRS2017.

Follow the CAS on Twitter @CASact

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Text "CASact" to 40404 to Follow the CAS on Twitter

And Follow the Prompts to Sign Up!

Social Media

The CAS is on Facebook, Twitter and LinkedIn! Stay informed by following CAS on Facebook and Twitter for exclusive updates on CAS activities! The CAS Facebook and Twitter page will feature many different topics including conference updates, online discussions, and industry updates! Join and connect with peers and colleagues and discuss issues important to you!

If you cannot access Facebook, Twitter and LinkedIn from your office, please consider signing up to follow us from your personal account at home.



Please visit our Web Site at www.casact.org and click the social media widgets to find our pages!

Download the CAS Meeting App

We're excited to announce that again this year, the Casualty Actuarial Society has worked with Gather Digital to provide a mobile application for the event. You will get up-to-the-minute information such as the latest agenda, updates from the conference planner, speaker information, feedback opportunities, maps, exhibitor and sponsor details, an attendee list and more.

To enable your account, open the app, select "More" or side swipe to the right to view the menu, and select "Login." Please enter the email that you used to register for the conference and select "Request a Password." You will receive an email with a link to create your personal app password.



You may create a profile and upload a photo of yourself that other event attendees can view. Once logged into the app, select your email address at the top of the menu. This takes you to the "My Account" screen where you can "Edit" your profile and upload a photo.

To get the meeting mobile app:

iPhone and iPad users—search "casualty actuarial society" on the Apple App Store.

Android users—search "casualty actuarial society" on the Google Play Store.

Blackberry, Windows, others—go to the URL cas.gatherdigital.com on your smart phones (omit www).

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General Information

Continuing Education

CAS

The CAS Continuing Education Policy applies to all ACAS and FCAS 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.

This activity may qualify for up to 16.5* CE Credits for the Casualty Loss Reserve Seminar for CAS members. Breakfast Roundtable attendees may add a maximum of .9* CE Credits. Workshop attendees may add a maximum of 7.2* CE Credits. Participants should claim credit commensurate with the extent of their participation in the activity. CAS members earn 1 CE Credit per 50 minutes of educational session time not to include breaks or lunch.

*The amount of CE credit that can be earned for participating in this activity must be assessed by the individual attendee. It also may be different for individuals who are subject to the requirements of organizations other than the American Academy of Actuaries.

CPCU

Chartered property casualty underwriters (CPCUs) attending this year’s Casualty Loss Reserve Seminar will be awarded a maximum of 10 points under the Continuing Professional Development Program for CPCUs. Forms to receive credit will be available at the seminar.

CPA

Certified Public Accountants attending this year’s Casualty Loss Reserve Seminar may receive Continuing Professional Education (CPE) credits. One CPE credit may be received for each full 50-minute hour of seminar participation, up to 10 credits.

Registration Hours

The registration desk will be open as follows:

- | | |
|--|-----------------------|
| • Sunday, September 10, 8:00 a.m. – 2:00 p.m. | Workshop Registration |
| • Sunday, September 10, 4:00 p.m. – 7:00 p.m. | Seminar Registration |
| • Monday, September 11, 7:00 a.m. – 5:00 p.m. | Seminar Registration |
| • Tuesday, September 12, 7:00 a.m. – 4:00 p.m. | Seminar Registration |

Hotel Information

Loews Philadelphia Hotel
 1200 Market Street
 Philadelphia, PA 19107
 Phone: 215-627-1200

Checkout time is 11:00 a.m. Those checking out before the conclusion of the meeting may check their bags at the bell desk of the hotel. The Casualty Actuarial Society is not responsible for lost or stolen items left unattended in public areas of the hotel. CAS staff is unable to accept any bags or other personal items at the registration desk.

Security Note: When leaving the meeting room for an extended period of time, please take valuables and personal belongings with you. Neither the CAS nor the Loews Philadelphia may be held responsible for lost or stolen items.

Additional Information

For more information on future seminars or other CAS opportunities, contact the CAS office at (703) 276-3100 or visit <http://www.casact.org/education>.

Interactive Livestreaming at CLRS

Interactive livestreaming participants will join a select few of the CLRS sessions virtually, live from around the globe. Participants attending virtually will have the opportunity to interact with other virtual attendees as well as pose questions to the panel during the session.

Livestreaming Sessions (Monday, September 11- Regency B):

Monday, 8:00 a.m. – 9:30 a.m.

Keynote Address: Reserving 2020 (or maybe sooner...?)

Monday, 10:00 a.m. – 11:15 a.m.

ST-2: Reserving 2020 (or Maybe Sooner...?) A Follow-up to the Keynote Address

Monday, 11:30 a.m. – 12:45 p.m.

FR-3: IFRS 17 Insurance Contracts — The Final Standard is Here!

Monday, 1:45 p.m. – 3:00 p.m.

AR-1: A Primer on Mass Tort Reserving

Monday, 3:30 p.m. – 4:45 p.m.

PD-7: Revised ASOPS 21 and 23 and the Impact on the Reserving Actuary

Monday, 8:00 p.m. – 9:15 p.m.

AR-4: Individual Claims Reserving Made Easy

Monday Night Dinner Groups

Not sure what to do with your free evening? Sign up for a dinner group and explore Philadelphia's culinary scene with other attendees from the conference. This is a great networking opportunity! Dinner groups will meet at the CAS Registration Desk 30 minutes before the time of the dinner reservation and walk together to the restaurant.

If interested, please sign up at the CAS registration desk. (Limited space available. Participate on a first-come, first-served basis)

Participants are responsible for their own expenses. Please note that that CAS dinner groups are purely for informal networking and not third-party business.

Exhibitor Raffle

We are holding a raffle for attendees who visit all of our participating exhibitors. The winner will receive a \$250 American Express gift card.

There are two ways to participate:

1. **Raffle Form:** In your registration bag you received a raffle entry form. Visit each participating exhibitor and ask a representative to initial your form. Once you have initials from all participating exhibitors, submit the form at the Registration Desk by 2:00 pm on September 12 to be entered into the drawing.
2. **Mobile App Check-In:** Visit each participating exhibitor and ask a representative for their code word. Check in on the mobile app with the code word. Enter all code words for all exhibitors participating in the Raffle. All code words will need to be entered by 2:00 p.m. on September 12 to be considered for the prize.

The winner will be announced on-site during the closing session.

Mobile App Badge Game

We have added something exciting for your mobile app experience. You can earn different badges by completing certain tasks throughout the seminar. Size up the competition by checking the Leaderboard to see your own earned badges and to make sure you're staying ahead of the game! For those who earn that top spot within the game, you will have a chance to win a \$100 American Express Gift Card.

To play the badge game, simply download the conference app (see page 2) and sign into your app using your email address and password. Once you have signed in, you will be able to "check-in" at different events and locations. Check how you're doing by viewing the Leaderboard, located behind the MORE or MORE RESOURCES button. Your earned badges will be displayed on the Leaderboard and next to your name under the ATTENDEES button.

Best Session Award

Before the closing general sessions, you will have the opportunity to vote for the best concurrent session of the conference. The speakers from the winning session will each receive a \$100 American Express gift card. (And bragging rights for the next year!) Voting will be available in the CAS meeting app. Please make sure you download the meeting app and vote for your favorite concurrent session beginning at 3:00 p.m. on Tuesday, September 12.

CAS Escape Room

*Limited Space Available. Pre-registration Required.

Can you puzzle your way through the CAS Escape Room challenge? Put your actuarial knowledge to the test to solve riddles and obtain the golden key. The CAS Escape Room is a physical adventure game in which players will solve a series of puzzles using clues, hints and strategy to complete the objectives at hand. Players are given a set time limit to unveil secrets and other hidden information within the room. The room will be set in a fictional location, and is designed to encourage team building and overall fun.

This event will require some knowledge of basic insurance terms and coverages. It promotes team-work, tests your ability to think outside of the box and requires logical reasoning.

Sign-up at the CAS registration desk (Millennium Pre-function) to be locked in a room, find clues and solve puzzles to complete a mission and Escape. (Participation is on first come, first serve basis until all spaces available are full)

When: Tuesday, September 12, 10:00 a.m.

Where: Washington Rooms, 3rd Floor

Evaluations for Education

Fill out your evaluations to provide scholarships to students!

The CLRS Planning Committee invites attendees to fill out session evaluations for a great cause. The planning committee will donate \$500 dollars to the CAS trust if CLRS attendees fill out 1,750 evaluations by September 27th. The CAS trust provides scholarships to students pursuing an actuarial career.

Evaluation collection options:

- Mobile Event App
- Evaluation Kiosks at Registration and CAS booth
- Daily email

Providing your valuable feedback is necessary and assists the planning committee in its aim to provide a successful event every year. The committee thanks you in advance for your contributions and participation in this effort.

Paperless Seminar

Green seminars incorporate environmental considerations to minimize negative impacts on the environment. The CAS has taken a step in that direction by making the Casualty Loss Reserve Seminar “paperless,” which means:

- Paper copies of session handouts will not be provided in the meeting rooms.
- Paper copies of the list of attendees will not be distributed, though a few copies will be available for review at the CLRS registration desk.
- Seminar evaluations will be administered electronically.
- Session slides will be posted on the CAS website at least two weeks in advance of the CLRS so that attendees may download, print and bring handouts as desired. Please note that not every presenter will choose to provide a presentation for his or her session.

Attendees are encouraged to go online to view the list of attendees, complete the online evaluation forms and download presentations for the sessions they attend. The CAS appreciates your participation in this effort to reduce the seminar’s carbon footprint and impact.

Recommended Attire

Business casual attire is suggested for all sessions as well as the receptions on both evenings. Since meeting room temperatures and personal comfort levels vary, it is recommended that you bring a sweater or jacket to the sessions. In Philadelphia, the average high temperature during September is 78 degrees F and the average low is 58 degrees F.

2017 Casualty Loss Reserve Seminar Rating System



No prior knowledge of the subject matter is assumed.
Little or no technical content.



General knowledge of the subject matter is assumed.
Moderate technical content.



General or working knowledge of the subject matter is assumed.
Moderate to highly technical content.

Workshops

*Pre-registration is required for all workshops



Workshop 1: Reserving Bootcamp

Workshops, Sunday, September 10, 9:00 a.m. - 5:00 p.m., Congress A

What better way to jump start or refresh your loss reserving skills than in this one day loss reserving boot camp? This session will enhance your basic and intermediate skills and prepare you for the more advanced loss reserving topics to be presented in the CLRS. Participants will be part of a loss reserving team evaluating and estimating reserves from data organization to selecting the best estimate. Using hands-on learning, this session will divide participants into small teams of five to seven. The teams will work with experienced loss reserving professionals, using realistic loss and expense claims data. Sessions goals are to build triangles, compute and select loss development factors; perform a variety of loss and loss adjustment expense reserving methods; compare the results of various methods and their strengths and weaknesses; review additional information and take that into consideration in the methods and estimates; and make final reserve selections. The teams will compare and discuss their differences.

This workshop is appropriate for actuaries as well as non-actuaries. A laptop with wifi capabilities will be required.

Moderator: Karin Rhoads, Vice President & Actuary, The Travelers Companies, Inc.

Facilitators: Jane Taylor, Consulting Actuary

D. Scott Lamb, Senior Vice President, McKee Risk Management

Peter Rauner, Consulting Actuary, RMS Solutions, Inc.



Workshop 2: Maximizing the Value of Your Actuarial Opinion and Reports

Workshops, Sunday, September 10, 9:00 a.m. - 5:00 p.m., Congress B

Your actuarial opinion and reports are reviewed and analyzed by several people, a number of whom are not actuaries. These people include company management, auditors, regulators and court officials and jurors. This workshop will guide you to interact with these non-actuaries and communicate effectively in language that they can understand and how to .

Each group has different needs for information. Some only want bottom-line numbers, others want to know how you derived your numbers, and some may want to know if you verified your work. The workshop facilitators include a regulator, an actuary who conducts audits, an actuary who testifies in court, an actuary who is a CEO and an actuary who writes opinions on offshore companies not subject to NAIC regulations. There will also be a COPLFR representative as well.

- Moderator: Margaret Wendy Germani, American Actuarial Consulting Group, LLC
- Facilitators: Kathleen Odomirok, Executive Director, EY
Erich Brandt, Consulting Actuary, Pinnacle Actuarial Resources, Inc.
Michael Toothman, Retired
Julie Lederer, Property & Casualty Actuary, Missouri Department of Insurance



Workshop 3: Intermediate R

Workshops, Sunday, September 10, 9:00 a.m. - 5:00 p.m., Congress C

This workshop is intended for individuals that already have a familiarity with R. These individuals should already have conducted several data analyses in R. The Workshop Syllabus will include the following:

- Anonymous functions with `*apply` or `purr::map` functions.
- Package development using the `roxygen2` package.
- Data access and data munging.
- Reporting via `RMarkdown` and `Sweave`.
- `htmlwidgets`.
- Version control using `git`.

- Moderator: Rajesh Sahasrabudde, Partner and Philadelphia Office Leader, Oliver Wyman Actuarial Consulting
- Facilitator: Brian Fannin, Captain, PirateGrunt LLC

General Sessions



Keynote Address: Reserving 2020 (or maybe sooner...?)
(Livestreaming)

Opening & Address, Monday, September 11, 8:00 a.m. - 9:30 a.m., Regency Ballroom A/B

The keynote address will explore the impact of dramatic changes in the underlying loss generating processes on reserving functions. The digital evolution of the economy includes unprecedented changes such as cloud computing, machine learning, artificial intelligence, telematics, connected life and industrial internet. Many of these changes will fundamentally alter the loss-generating processes themselves, which traditionally have been known to actuaries only inferentially and indirectly by assessing financial impacts through the collection of claims data. Insurers, and therefore actuaries, have been operating behind an “underwriting curtain,” counting on statistical linkages between exposure and price metrics, economic trend measurements, and claims history (both their own and industry).

Attendees will also learn how the new technologies and analytics will drive fundamental changes in how insurers conduct business and engage with clients. Many insurers are moving “upstream in time,” beyond impact analysis to causal analysis. Causal analysis will allow feedback loops that allow loss mitigation and prevention on an unprecedented scale.

Immediate implications for a reserving function include these questions:

- How do we reflect fundamental changes in the loss process in our reserve estimates?
- If the past is no longer predictive of the future, what can we do?

Speakers will explore these questions and more during this high-level general session, and encourage attendees to join in a more in-depth, follow-up concurrent session.

Moderator: Anthony Bustillo, R&D Actuary, Safety National

Speakers: Philip Schwartz, Chief Global Architect for Insurance, IBM Watson Internet of Things
Christopher Gross, President & CEO, Gross Consulting



GS-1: International Strategic Planning, Enterprise Risk Management, and the Use of Captive Insurance Companies to Drive Corporate Value

General Session/Closing, Tuesday, September 12, 3:15 p.m. - 4:30 p.m., Regency A

The growth of enterprise risk management (ERM) is due in part to globalization and the increasing complexity of risk. A growing number of firms are integrating ERM into its strategic planning process to address risks associated with international expansion.

A growing number of cases show that captive insurance companies can effectively build holistic risk management programs to address exposures associated with globalization and new and more complex risks. Traditionally captive insurance companies have been employed to fund traditional regional exposures to loss such as workers' compensation, professional and products liability, and first-party property exposures. This session will discuss how multinational firms are integrating ERM into its international strategic planning process, and how this is driving the use of captive insurance programs to address a growing myriad of global risks. The session will also demonstrate how captive insurance companies, in turn, are driving ERM within its member/insured organization, and enabling it to more effectively address evolving threats such as cyber-related first- and thirdparty exposures. The role of the actuary will be discussed focusing on their assisting with program design, evaluating the captive's ability to retain risk, forecasting expected losses for premium calculation, and certifying casualty loss reserves.

Moderator: Alan Hines, Managing Director, PricewaterhouseCoopers

Speaker: M. Michael Zuckerman, Associate Professor, Temple University Fox School of Business



GS-2: Behavioral Finance for Actuaries

General Session/Closing, Tuesday, September 12, 3:15 p.m. - 4:30 p.m., Regency B

Behavioral bias can lead to poor decisions. When assessing behavioral bias, it is particularly important to review the CAS' Code of Professional Conduct. This session is based on the findings from primary research carried out with actuaries in 2016 and looks at:

- What biases actuaries demonstrate in practice.
- Whether actuaries are more or less biased than the general population.
- How actuaries can minimize the impact of biases in their work.
- How actuaries can effectively communicate with users of actuarial work.

The work has been undertaken by a cross-practice working party that is reviewing the application of behavioral finance to actuarial work. The working party aims to improve understanding and make recommendations on how behavioral finance can be incorporated into actuarial work, thus enhancing the role of the actuary and leading to more effective decision making.

Moderator: Susan Pino, Director, Deloitte Consulting, LLP

Speakers: Kathy Byrne, Managing Director, Askis
Jim Guszcz, U.S. Chief Data Scientist, Deloitte Consulting, LLP

Roundtable Discussions

There is no pre-registration required to attend a roundtable discussion. A maximum of 12 participants will be allowed in each roundtable discussion. Participation is first-come, first-served.



RT-1: Current Events — Can We Keep Up?

Roundtable Discussions, Monday, September 11, 7:00 a.m. - 7:45 a.m., Commonwealth Hall A1

The world is changing quickly. What will the impact of political changes be on reserving in the U.S. and abroad? In the past, current events used to be on the syllabus, this roundtable will generate ideas about the considerations today's reserving actuary must contemplate.

Facilitator: Lise Hasegawa, Vice President & Reserving Actuary, MetLife Auto & Home



RT-2: Florida Homeowners

Roundtable Discussions, Monday, September 11, 7:00 a.m. - 7:45 a.m., Commonwealth Hall A2

This session will examine the implications of recent events in Florida's homeowners market and will discuss what potentially lies ahead for the industry. We expect topics will include assignment of benefits, storms (or lack thereof), sinkhole update, and whatever the Sunshine State reviewers want to bring up.

Facilitator: Derek Freihaut, Consulting Actuary, Pinnacle Actuarial Resources, Inc.



RT-3: Reliance on Models

Roundtable Discussions, Monday, September 11, 7:00 a.m. - 7:45 a.m., Commonwealth Hall C

This roundtable discussion will focus on what questions to ask about input to models, data used, relevance of the data used.

Facilitator: Jane Taylor, Consulting Actuary



RT-4: Loss Adjusting Expenses

Roundtable Discussions, Monday, September 11, 7:00 a.m. - 7:45 a.m., Commonwealth Hall B

Loss adjusting expenses are a perennial favorite of Roundtable Discussions. Join your peers in exploring old and new issues related to estimating these liabilities properly. Discussion items such as when it is appropriate to utilize only one method of estimating this liability or why LAE doesn't act like the loss it is covering will be up to the participants to come up with. Come prepared with issues in mind, whether you have questions or if you want to share solutions. As is standard for the Roundtable format, we are looking for input and active participation from the participants. A session leader will be there to help keep productive conversation flowing.

Facilitator: Nicholas Alicea, Consulting Actuary, Pinnacle Actuarial Resources, Inc.



RT-5: Current Workers' Compensation Trends

Roundtable Discussions, Monday, September 11, 7:00 a.m. - 7:45 a.m., Commonwealth Hall D

This roundtable will discuss current developments in workers' compensation.

Facilitator: Lori Julga, Principal & Consulting Actuary, Milliman, Inc.



RT-6: Challenges with Implementing FASB Short Duration Contract Disclosure

Roundtable Discussions, Monday, September 11, 7:00 a.m. - 7:45 a.m., Washington A

Professionals who contribute to the creation of FASB Short Duration Contracts disclosures have many challenges. Have you "been there, done that"? Perhaps there's another way. Are you a first-time preparer? Maybe a colleague has been in your shoes before. Come to this roundtable to share your experiences and lessons learned.

Facilitator: Timothy Landick, Principal, PricewaterhouseCoopers



RT-7: Reserving for Asbestos

Roundtable Discussions, Monday, September 11, 7:00 a.m. - 7:45 a.m., Regency C2

During this roundtable we will discuss current trends in asbestos reserving.

Facilitator: Jonathan Sappington, Consultant, Willis Towers Watson



RT-8: Marijuana and General Insurance

Roundtable Discussions, Monday, September 11, 7:00 a.m. - 7:45 a.m., Regency C1

As legalized marijuana becomes more the norm, what will its impact be on the general insurance industry, beyond the impact on medical workers' comp?

Facilitator: Timothy Mosler, Pinnacle Actuarial Resources, Inc.

Concurrent Sessions

Advanced Reserving



AR-1: A Primer on Mass Tort Reserving (Livestreaming)

Concurrent Session 3, Monday, September 11, 1:45 p.m. - 3:00 p.m., Regency B

This will be a high-level session providing background on mass tort reserving issues and why traditional methods are typically not appropriate for such claims. It is meant as an introduction to mass tort reserving for those familiar with reserving in general but with little to no exposure to mass tort issues.

Moderator: Edmund Douglas, QBE North America

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



AR-2: The End of Triangles: Loss Reserves in the Digital Age

Concurrent Session 6, Tuesday, September 12, 9:45 a.m. - 11:00 a.m., Commonwealth Hall B

Big data, robotics and cognitive computing are part of nearly every field today. While we like to consider actuaries “the original” data scientists, our profession isn’t immune to change, either. Should we stay on the beach enjoying the triangles, patterns and other traditional approaches that our profession has relied on for more than 50 years, or should we chase the thrilling tidal wave of all opportunities to modernize our methods and technologies?

Last year we discussed a first generation application of machine learning to actuarial analysis, which was at an aggregated triangular level. This year, Zurich and KPMG will jointly discuss more advanced cognitive reserving — at the claim, coverage, and policy level. Cognitive reserving is already offering actuaries deeper and quicker insights, faster reaction, more frequent review, increased efficiency and improved communication.

We will begin with how cognitive reserving fits into reserve modernization, which includes three other core components: data visualization and reporting, robotic process automation and enterprise response. Then we will discuss what the model structures look like, how the model components blend together to predict the ultimate losses, how to validate the models and how to evaluate model performance. We will show sample insights and results that cognitive reserving produces.

Moderator/Speaker: G. Nyce, Principal, KPMG, LLP

Speakers: Andrew Golfin, Managing Director, KPMG, LLP

Zachary Martin, Zurich North America

Alexander Laurie, Director, Advisory, KPMG, LLP

Hongmei Li, KPMG, LLP



AR-3: Bayesian Loss Development: Creating An Informative Prior

Concurrent Session 5, Tuesday, September 12, 8:00 a.m. - 9:15 a.m., Commonwealth Hall D

Bayesian approaches to loss development are attractive because they provide a means for benchmark patterns and other prior beliefs to be incorporated. A challenge in using these models is that the prior knowledge must be explicitly quantified in the form of an informative prior distribution. In this session we will investigate how prior knowledge can be translated into a usable form. We will focus on conjugate families that allow the prior knowledge to take a form that is easy to interpret and that can be blended with new data in a simple calculation.

Moderator/Speaker: David Clark, Senior Actuary, Munich Re America, Inc.



AR-4: Individual Claims Reserving Made Easy

Concurrent Session 3, Monday, September 11, 1:45 p.m. - 3:00 p.m., Commonwealth Hall B
Evening Livestreaming, Monday, September 11, 8:00 p.m. - 9:15 p.m., Regency B

The session will provide an overview of a GLM reserving methodology applied to individual claims, based on a 2004 paper by Taylor and McGuire. More advanced than traditional triangle-based methods, it has the power to allow for changes in claims closure rates while also providing useful management insight to closure trends at a granular level.

Moderator: Lori Julga, Principal & Consulting Actuary, Milliman, Inc.

Speakers: Patrick Yu, Consultant, Willis Towers Watson
Paul Bailey, Consultant, Willis Towers Watson



AR-5: Inflation Sensitive Loss Development Projections

Concurrent Session 2, Monday, September 11, 11:30 a.m. - 12:45 p.m., Regency C1

This session will provide a concise method for reflecting changing inflation rates in loss development projections. The method finds a constant cost loss emergence pattern that is consistent with the loss emergence parameters in GLMs using convolution equations.

Moderator: Alexander Alimi, Vice President, Zurich North America

Speaker: James Ely, Independent Consultant



AR-6: Rehabilitating Traditional Reserving Methods

Concurrent Session 4, Monday, September 11, 3:30 p.m. - 4:45 p.m., Regency C1

Advances in statistical reserving have moved far beyond our algebraic theory. The session will reinterpret and extend the algebraic foundations of loss reserving to parallel the advances in GLMs. It will address the generally understood problems that traditional methods have no underlying mathematical basis, are deterministic and do not address changes in severity trends.

The session will also explain how to describe the diagonals of a two-dimensional system as a function of the basis vectors (using convolution equations).

Moderator/Speaker: Alexander Alimi, Vice President, Zurich North America

Speaker: James Ely, Independent Consultant



AR-7: Strategies for Modeling Loss Development

Concurrent Session 1, Monday, September 11, 10:00 a.m. - 11:15 a.m., Commonwealth Hall A2

Concurrent Session 2, Monday, September 11, 11:30 a.m. - 12:45 p.m., Commonwealth Hall A2

LDFs are simple in theory but complicated in practice. How does one select LDFs with volatile data? What data should be used — broader and more stable data or finer but more volatile? How many years of data should be used? How do LDFs change when moving up retentions? These questions are posed within a statistical framework and some new methods are shown that help address these questions.

Moderator: Joshua Merck, Senior Manager, Deloitte Consulting, LLP

Speaker: Uri Korn, Industry Analytics Leader, AIG

Enterprise Risk Management



ERM-1: ORSA: Year 1 and Beyond

Concurrent Session 7, Tuesday, September 12, 11:30 a.m. - 12:45 p.m., Commonwealth Hall D

ORSA requires insurers to assess their current and future risk via an internal process, which provides regulators an enhanced view of an insurer's ability to withstand financial stress. The NAIC ORSA model went into effect on January 1, 2015.

How has the market responded and what are the priorities going forward? This session provides a high-level overview of ORSA requirements, and outlines regulatory and market feedback in connection with early ORSA summary report submissions on topics including:

- Alignment of risk and capital.
- Forward-looking capital assessments.
- Integration with operational decision making.
- Model validation.
- Extreme scenario stress tests.

Moderator/Speaker: Christopher Tait, Principal and Consulting Actuary, Milliman

Speakers: Jed Isaman, Director, PricewaterhouseCoopers

Will Brown, Senior Associate, PricewaterhouseCoopers



ERM-2: Integrating Reserve Variability into ERM

Concurrent Session 1, Monday, September 11, 10:00 a.m. - 11:15 a.m., Regency C1

The development of a wide variety of reserve variability models has been primarily driven by the need to quantify reserve uncertainty. This quantification can serve as the basis for satisfying a number of Solvency II requirements in Europe, can be used to enhance Own Risk Solvency Assessment (ORSA) reports, and is often used as an input to DFA or dynamic risk models, to name but a few. Moving beyond quantification, the purpose of this presentation is to explore other aspects of reserve variability which allow for a more complete integration of these key risk metrics into the larger enterprise risk management framework.

Moderator: William Miller, KPMG Bermuda

Speaker: Mark Shapland, Principal & Consulting Actuary, Milliman, Inc.



ERM-3: Linking Reserve Variability to Variability in Future Accident Year Loss Ratio Forecasts

Concurrent Session 2, Monday, September 11, 11:30 a.m. - 12:45 p.m., Commonwealth Hall C

Estimating the variability in the next new accident year's loss ratio is common task when creating a model to estimate the risk from insurance operations for enterprise risk management (ERM). A case study will outline how to link an estimated reserve distribution that, for a given coverage, captures the inherent variability in reserve estimates to a distribution that, for the next new accident year, describes the behavior of the forecast loss ratio. The session will focus on the logic behind linking the two estimated distribution functions via simulation and on how to shape the results of the reserve model and current accident year loss ratio model when merging the two. The case study will include a realistic example of the process showing the inputs as parameters from the two distributions and the results; the case will not, however, cover the statistical modeling theory employed to generate the two starting distribution functions.

Moderator: William Miller, KPMG Bermuda
 Speakers: Michael Larsen, Director Research, The Hartford
 Thomas Struppeck, University of Texas at Austin



ERM-4: Reserve Risk Evaluation Tools — Case Studies

Concurrent Session 4, Monday, September 11, 3:30 p.m. - 4:45 p.m., Commonwealth Hall A1

The session will discuss the use of scenario analyses, back testing, risk aggregation methods and other exciting topics. The panel will debate alternative solutions to common but controversial problems. Audience's participation is encouraged!

Moderator: Sarah Krutov, Chief Reserving Actuary, QBE North America
 Speakers: Pinkal Pandu, Associate Actuary, QBE North America
 Krishnaanth Shanthikumar, QBE North America
 Daphne Morrissey, AVP-Actuarial, QBE North America

Financial Reporting



FR-1: Bermuda Economic Balance Sheet: Technical Provision

Concurrent Session 7, Tuesday, September 12, 11:30 a.m. - 12:45 p.m., Regency B

Bermuda's new Economic Balance Sheet (EBS) for major (re)insurers and groups has moved from theory to reality with the year-end 2016 financials. In this session, a representative from the Bermuda Monetary Authority (BMA) and a Willis Towers Watson consultant will discuss the first-year implementation of EBS. For instance, what went smoothly? What was difficult? What further developments might be in store for future years? This session will provide a practitioner's perspective on the EBS requirements and how the guidance is being interpreted and how companies are complying with the BMA's EBS provisions. This session will cover pitfalls and challenges and allow an open forum to discuss the various approaches taken to conform to the BMA's guidance.

Moderator: William Miller, KPMG Bermuda

Speakers: Ashley Wohler, Consultant, Willis Towers Watson
Jeferino dos Santos, Assistant Director, Bermuda Monetary Authority



FR-2: Company-Specific Risk Factors for SAO Users

Concurrent Session 7, Tuesday, September 12, 11:30 a.m. - 12:45 p.m., Commonwealth Hall C

Through audience participation, this session will discuss company-specific risk factors that might be significant to users of Statements of Actuarial Opinions (SAO). Panelists include a consulting actuary, an academic, a member of COPLFR and a state regulator, who will all provide a variety of perspectives to engage the audience.

Moderator/Speaker: Erich Brandt, Consulting Actuary, Pinnacle Actuarial Resources, Inc.

Speakers: Gregory Fears, Consulting Actuary, Pinnacle Actuarial Resources, Inc.
Julie Lederer, Property & Casualty Actuary, Missouri Department of Insurance
Kevin Ahlgrim, Associate Professor, Illinois State University - Katie School of Insurance and Risk Management



FR-3: IFRS 17 Insurance Contracts — the Final Standard is Here! (Livestreaming)

Concurrent Session 2, Monday, September 11, 11:30 a.m. - 12:45 p.m., Regency B

In May 2017, after 20 years in the making, the International Accounting Standards Board (IASB) adopted International Financial Reporting Standard (IFRS) 17-Insurance Contracts, effective for IFRS reporting beginning in 2021. As most countries outside the U.S. have or will adopt IFRS as their basis of financial reporting, IFRS 17 will transform financial reporting standards for many companies. IFRS 17 will rely on actuarial expertise much more than under existing financial reporting standards today: Requirements will include discounting for nearly all unpaid claim liabilities, a provision for uncertainty and a complex model for certain contracts with terms longer than one year. This session will provide a summary of IFRS 17 and its related impacts in particular as it affects property and casualty insurance and reinsurance companies.

Moderator/Speaker: Marc Oberholtzer, Principal, PricewaterhouseCoopers

Speakers: Gareth Kennedy, Executive Director, EY

Bob Miccolis, Actuary, Miccolis Consulting LLC



FR-4: Reinsurance — Expected Collectability Reporting Changes and the Data Challenges in Its Determination

Concurrent Session 5, Tuesday, September 12, 8:00 a.m. - 9:15 a.m., Commonwealth Hall C

A coming change in GAAP accounting rules for uncollectable reinsurance will alter how some companies have estimated their uncollectible reinsurance reserve. This session will address the new reporting requirements, data needs and calculation approaches. The issues discussed and approaches suggested also have relevance for the calculation of this reserve for statutory purposes.

Moderator: Thomas DeFalco, Retired

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



FR-5: Reserving War Stories

Concurrent Session 4, Monday, September 11, 3:30 p.m. - 4:45 p.m., Regency A

Have you encountered problems in doing your reserve analysis or presenting your reserve numbers to your boss or regulator? Did you over reserve or under reserve last year? Engage in a discussion with the experts on these topics.

Moderator/Speaker: Pat Teufel, University of Connecticut

Speakers: Joseph Herbers, Managing Principal, Pinnacle Actuarial Resources, Inc.

Camille Minogue, Retired



FR-6: Retained Risk for Non-Insurers: Accounting Treatments and Perspectives

Concurrent Session 6, Tuesday, September 12, 9:45 a.m. - 11:00 a.m., Commonwealth Hall C

Many corporate entities retain significant amounts of risks that are similar to risks that typically might be commercially insured. These entities often engage actuaries directly or indirectly through consulting firms, insurance brokers or insurance companies to assist the entity in valuing the unpaid claim estimates associated with these exposures. In turn, the management of the entity recognizes this actuarial estimate on its balance sheet as a liability for the entity's obligations. The way in which these liabilities become part of an entity's financial statements is governed by the applicable accounting standards for the type of entity, the type of exposure to loss and the domiciliary jurisdiction of the entity and its parent. Based upon the draft of a new American Academy of Actuaries' Practice Note, this session will examine the types of retained risk, types of entities and the accounting guidance for these corporate entities, and it will include a case study.

- Moderator: Lisa Slotznick, Managing Director, PricewaterhouseCoopers
- Speakers: Patty Smolen, Director, KPMG, LLP
Thomas Conway, Principal, EY
Mary Frances Miller, Senior Consulting Actuary, Select Actuarial Services



FR-7: Short Duration Contract Disclosures — What Did the New Requirement Look Like in Practice?

Concurrent Session 1, Monday, September 11, 10:00 a.m. - 11:15 a.m., Commonwealth Hall C

Additional short duration contract disclosures were required for the first time for 2016 financial reporting. This sessions will present some highlights of the new disclosures and what can be learned from the information contained therein.

- Moderator: Lela Patrik, Actuarial Consultant, PricewaterhouseCoopers
- Speakers: Ralph Blanchard, Vice President and Actuary, The Travelers Companies, Inc.
Timothy Landick, Principal, PricewaterhouseCoopers



FR-8: The IFRS 17 Risk Adjustment Provision for Risk & Uncertainty Explained

Concurrent Session 3, Monday, September 11, 1:45 p.m. - 3:00 p.m., Regency C2

This session will continue the discussion from the IFRS 17 Insurance Contracts session. Under IFRS 17, a risk adjustment liability will be estimated. Such a liability has never been an explicit part of financial reporting for U.S. business or for business written in many other countries. While IFRS 17 risk adjustments are similar to reserve margins currently reported in Canada and Australia, IFRS 17 adds several new twists to this concept. The International Actuarial Association commissioned Deloitte Consulting to write an educational monograph concerning IFRS 17 risk adjustments. Deloitte has been working on the monograph for many months and is now finalizing the monograph to be published in the fall of 2017. This session will explain the risk adjustment principles laid out in IFRS 17 and highlight several of the complexities involved in estimating IFRS risk adjustments. Using illustrations and case studies taken from the monograph, the presentation will address the main areas for actuaries who will be involved in estimating such risk adjustments, providing assistance to auditors, or analyzing the IFRS reports of companies who report under IFRS 17.

Moderator: Yi Jing, Senior Consultant, Willis Towers Watson
 Speakers: Bob Miccolis, Actuary, Miccolis Consulting LLC
 Brian O'Neill, Deloitte Consulting, LLP



FR-9: What's New with Stochastic BCAR

Concurrent Session 6, Tuesday, September 12, 9:45 a.m. - 11:00 a.m., Commonwealth Hall A1

A.M. Best is in the middle of a transition from a deterministic model to a stochastic-based model. Jim Gillard, a representative from A.M. Best will update us on its capital adequacy model (BCAR). Jim Gillard will give a high-level overview of the rating process with emphasis on quantitative components and share his insights on this very important transition.

Moderator: Lise Hasegawa, Vice President & Reserving Actuary, MetLife Auto & Home
 Speaker: James Gillard, Managing Director, A.M. Best

Healthcare



HC-1: Basics of Medical Professional Liability Reserving

Concurrent Session 3, Monday, September 11, 1:45 p.m. - 3:00 p.m., Commonwealth Hall D

There are several issues that are specific to medical professional liability. This session is an introduction to issues that are relevant to developing unpaid claim estimates for medical professional liability. We will discuss exposure measurement, claim data and methodology.

Moderator: Rajesh Sahasrabudde, Partner and Philadelphia Office Leader, Oliver Wyman Actuarial Consulting
 Speakers: Jacob Roe, Consulting Actuary, Willis Towers Watson
 Stephen Koca, Principal and Consulting Actuary, Milliman, Inc.



HC-2: Hospital Captives and Self-Insurance Programs

Concurrent Session 5, Tuesday, September 12, 8:00 a.m. - 9:15 a.m., Regency C2

Hospital self-insurance structures continue to become more important as the operations of the hospital system become more diverse and complicated. Panelists will discuss how hospital management evaluates the need for a captive, the potential uses for a captive and how the company evaluates the effectiveness of the program. We will also review how actuaries review the reserves across the entire self-insurance program.

Moderator/Speaker: Gregory Chrin, Senior Manager, Deloitte Consulting, LLP

Speaker: Edward Koral, Senior Manager, Deloitte Consulting, LLP



HC-3: Hot Issues in Medical Professional Liability

Concurrent Session 6, Tuesday, September 12, 9:45 a.m. - 11:00 a.m., Regency C2

The health care marketplace is in constant flux. In many ways, health care discussion cannot take place without considering the effects on the medical professional liability (MPL) arena. Our panelists will be discussing topical issues that insurers and self-insurers currently face for their MPL exposures. Topics include a state of the industry on prices, reserves, emerging risks and innovations. Our panelists will also lead an interactive discussion on actual and perceived trends in MPL costs, risk management initiatives, and the ever-popular tort reforms.

Moderator: Anthony Bustillo, R&D Actuary, Safety National

Speakers: Erik Johnson, Director & Actuary, Aon Risk Solutions

William Burns, Vice President, Conning



HC-4: Navigating Uncertainty in the Individual Health Insurance Market

Concurrent Session 4, Monday, September 11, 3:30 p.m. - 4:45 p.m., Commonwealth Hall A2

Find out how health insurers are managing the risk and uncertainty that comes with government payments, the potential for spiraling risk pools, and shifting medical and prescription drug costs. This will also be an informative session on the risks facing the U.S. health care system in general and the future of the Affordable Care Act.”

Moderator: William Miller, Managing Director, KPMG

Speakers: Brian Tajlili, Director-Actuarial, Blue Cross and Blue Shield of North Carolina

Ryan Cichy, Senior Associate, KPMG, LLP

* For an additional healthcare focused session, see “SI-3: Self-Insured Medical Plan Accruals.”

Innovation



I-1: Cluster Analysis in Loss Reserving

Concurrent Session 3, Monday, September 11, 1:45 p.m. - 3:00 p.m., Commonwealth Hall A1
Concurrent Session 7, Tuesday, September 12, 11:30 a.m. - 12:45 p.m., Commonwealth Hall A1

P&C actuaries have used cluster analysis mostly in ratemaking applications (e.g., territorial segmentation and excess loss factor clustering) but not so much in loss reserving. The traditional actuarial reserving techniques rely on the assumption that the analysis is performed on homogeneous groups of risks. Often, the reserve review will be done by line of business and contract type, with equal consideration given to the financial reporting needs and the homogeneity of risks. Once the analysis structure is established, it will be maintained for many years. The aggregation of data and the convenience of unchanged structure may mask changes in the mix of business or other factors that impact the homogeneity of the loss development patterns.

Cluster analysis is a tool that can be used by reserving actuaries to check for changes in the composition of the analyzed portfolio. Clustering techniques can group risks based on similar loss development patterns, reported loss ratios or other quantitative or qualitative attributes. It may also allow for better prediction of ultimate loss for recently written risks with limited or no historical loss development.

Moderator/Speaker: David Clark, Senior Actuary, Munich Re America, Inc.
 Speakers: Diana Rangelova, Senior Manager Actuarial, Munich Re Group
 Christina Oda, Senior Actuarial Analyst, Munich Re America, Inc.



I-2: Groundbreaking Innovations in Induced Seismic Activity

Concurrent Session 6, Tuesday, September 12, 9:45 a.m. - 11:00 a.m., Regency C1

Recent increases in induced seismic activity has produced a lot of trembling within company risk management departments. Learn about some of the groundbreaking techniques and considerations companies have been developing to “shake out the flak” as they try to develop measurements of risk in this area.

Moderator/Speaker: Jason Harland, 2VP & Actuary, The Travelers Companies, Inc.
 Speakers: Renee Lee, RMS, Inc.
 Charles Mueller, Research Geophysicist, U.S. Geological Survey



I-3: Improved Efficiencies Through Automation and Robotics Process Automation Can Lead to Innovative Solutions

Concurrent Session 5, Tuesday, September 12, 8:00 a.m. - 9:15 a.m., Commonwealth Hall A2

Actuaries' roles have evolved quickly over the last couple of years. Margin pressure has companies looking for ways to maintain or gain a competitive advantage. Management has increased expectations of the actuarial function to provide more information sooner, along with improved data and technology capabilities. Intellectual capital needed to perform deeper dives is primarily tied up with repetitive and manual tasks. Investment in transforming the actuarial process can free up current talent, through automation and actuarial robotics, and provide a structure for deeper dive reserve analyses, including claim-level actuarial reserving.

Moderator/Speaker: Ian Sterling, Actuarial Senior Manager/Insurance and Actuarial Advisory Services, EY

Speakers: Marcela Granados, Manager, EY
Jeffrey Drew, Senior Manager, EY



I-4: Recent Innovations in Fraud Detection Analytics

Concurrent Session 8, Tuesday, September 12, 1:45 p.m. - 3:00 p.m., Commonwealth Hall D

Although claims predictive analytics have become commonplace in the insurance industry, the use of analytics to identify claims with the potential for hard or soft fraud is an area that is often overlooked or misunderstood. Developing a claims analytical model that provides truly meaningful insights into potential fraud indicators has proven to be a challenge, but these challenges can be overcome with the proper approach.

This session will discuss the elements of an analytical model that can provide a meaningful identification of claims with fraud potential, and also detail how internal and external data can be used to identify key predictive variables that predict claim outcomes. Critical business implementation elements will also be shared that support the appropriate interpretation and use of the analytical model outputs so that potential fraud can be identified and managed early in the life of a claim.

Moderator/Speaker: Richard Messick, Specialist Leader, Deloitte Consulting, LLP

Speakers: Michael Hall, Manager, Deloitte Consulting, LLP
Daniel Olson, Deloitte Transactions and Business Analytics LLP
Christy Van Dyke, Federal Advisory Manager, Deloitte Consulting, LLP

Line of Business



LOB-1: Accruals for Warranty

Concurrent Session 2, Monday, September 11, 11:30 a.m. - 12:45 p.m., Commonwealth Hall A1

Actuaries establish accruals for both manufacturer warranties and extended service contracts. The panelists will first discuss the different issues and considerations for these two different types of exposure. Douglas Moses will discuss the accounting issues and analysis used to evaluate the accrual for manufacturer warranties and Christopher Holt will discuss the issues and considerations for evaluating the unearned premiums reserves for extended warranty programs.

Moderator/Speaker: R. Scott Cederburg, Director, PricewaterhouseCoopers

Speakers: Douglas Moses, Manager, PricewaterhouseCoopers
Christopher Holt, Pinnacle Actuarial Resources, Inc.



LOB-2: Watchlist — A Means of Monitoring Defined (Potential) Claim Exposures

Concurrent Session 8, Tuesday, September 12, 1:45 p.m. - 3:00 p.m., Commonwealth Hall B

This session will provide a description for a watchlist in the context of the P&C industry as well as the benefits to an insurer of an effective watchlist process. The session will also provide information on how to get started, establishing a watchlist and leveraging the output from the process.

Moderator: A. Carver Roy, Director, PricewaterhouseCoopers

Speakers: Barbara Murray, Director, PricewaterhouseCoopers
Ralph Marinello, Vice President – Claims Oversight & Client Services, Everest Insurance
Samantha Lee, Senior Associate, PricewaterhouseCoopers



LOB-3: Wheels Down: Issues Continue with Commercial Auto

Concurrent Session 7, Tuesday, September 12, 11:30 a.m. - 12:45 p.m., Commonwealth Hall A2

This session will address the continuing commercial auto issues. We will break the overall results into the latest frequency and severity trends, rate changes, pressures on increased limits factors, lengthening development factors and resulting profitability issues. Cross-line comparisons including reviewing the commercial auto component of umbrella will also be addressed. In addition, panelists will discuss tests devised to spot outlier companies early on and qualitative and quantitative features addressing the results through the underwriting cycle.

Moderator: Peter Tomopoulos, Senior Manager, Deloitte Consulting, LLP

Speakers: John Buchanan, Principal-Excess & Reinsurance, ISO
Kirsten Hernan, Senior Vice President, Swiss Re

Professional Development



PD-1: Lights! Camera! Professionalism!

Concurrent Session 1, Monday, September 11, 10:00 a.m. - 11:15 a.m., Regency A

Have you come across professional dilemmas that you wish you had seen in a skit before facing them? Could you benefit from such an exposure before you face such dilemmas? Come and see some fine acting by your fellow actuaries while they perform sketches and grapple with such issues. You will walk away from this session with a better understanding of ASOPs, codes of conduct and how to apply them when you face your own professional ethical dilemmas.

Moderator/Speaker: Patrick Gilhool, AVP & Actuary, CNA Insurance Companies

Speakers: Pat Teufel, University of Connecticut

Therese Klodnicki, Principal and Consulting Actuary, Advanced Analytics



PD-2: Who Wants To be An Actuary?

Concurrent Session 2, Monday, September 11, 11:30 a.m. - 12:45 p.m., Commonwealth Hall B

Come and refresh your knowledge of actuarial professionalism in this lively and interactive session! A fun trivia game will cover a number of topics including a code of conduct and ASOPs, affirming the areas you know and challenging you to review the rest. Who said one can't have fun while learning about professionalism?

Moderator/Speaker: David Kaye, Director, PricewaterhouseCoopers

Speakers: Peter Royek, Senior Vice President & Actuary, Toa Reinsurance Company of America

Martin Menard, Director, PricewaterhouseCoopers



PD-3: Actuarial Humor: Oxymoron or Presentation Survival Technique — Making Your Presentations More Interesting

Concurrent Session 8, Tuesday, September 12, 1:45 p.m. - 3:00 p.m., Commonwealth Hall A1

The session will provide some ideas for integrating a little humor into actuarial presentations to keep your audience awake and engaged! The session will also address the issue of translating actuarial jargon into meaningful concepts that all levels of audiences can grasp.

Moderator/Speaker: Nina Gau, Director, Property and Casualty Actuarial Services, Bickmore

Speaker: Michael Harrington, President, Actuarial Consulting, Bickmore



PD-4: Coffee Klatch for Opinion Writers

Concurrent Session 3, Monday, September 11, 1:45 p.m. - 3:00 p.m., Regency A

Find out what is needed to present your opinion or message to management. How to interact with your friendly regulator(s). What to do if you have to go to court! Bring your questions with you on how to write your opinion, what to include or not include.

Moderator: Pat Teufel, University of Connecticut

Speakers: Margaret Wendy Germani, American Actuarial Consulting Group, LLC
Kathleen Odomirok, Executive Director, EY
Michael Toothman, Retired
Julie Lederer, Property & Casualty Actuary, Missouri Department of Insurance



PD-5: Do You Need a Peer Review of Your Opinion?

Concurrent Session 5, Tuesday, September 12, 8:00 a.m. - 9:15 a.m., Regency A

You have written your opinion, before you send it to the Department of Insurance have you had another actuary do a peer review? Find out why you need a peer review. Participate in an interactive session with experts, with the viewpoints of the reviewer and the writer of the opinion. If you don't have another actuary to do a peer review, find out how to do your own review of your opinion.

Moderator: Margaret Wendy Germani, American Actuarial Consulting Group, LLC

Speakers: Kathleen Odomirok, Executive Director, EY
Joseph Herbers, Managing Principal, Pinnacle Actuarial Resources, Inc.



PD-6: ASOP 17 — “Expert Testimony by Actuaries” and Proposed Revisions

Concurrent Session 7, Tuesday, September 12, 11:30 a.m. - 12:45 p.m., Regency A

The ASB recently approved an exposure draft of a revision of ASOP No. 17, “Expert Testimony by Actuaries.” The proposed revised standard will apply to actuaries who are qualified as experts under the evidentiary rules applicable in a forum when they provide testimony in court hearings, dispute resolutions, depositions or other adversarial proceedings, and in rate hearings. This session will discuss the revision and also discuss how to present expert testimony.

Moderator: Deborah King, Divisional Vice President, Chief Actuary, AmTrust Group

Speakers: Margaret Sherwood, President, Tiller Consulting Group, Inc.
Michael Toothman, Retired
Steven Schwartz, Partner, Chaffetz Lindsey LLP



PD-7: Revised ASOPs 21 and 23 and the Impact on the Reserving Actuary (Livestreaming)

Concurrent Session 4, Monday, September 11, 3:30 p.m. - 4:45 p.m., Regency B

The ASB issued revisions to two general Actuarial Standards of Practice (ASOP) in 2016 that could impact the reserving actuary: ASOP 21, “Responding to or Assisting Auditors or Examiners in Connection with Financial Audits, Financial Reviews and Financial Examinations,” and ASOP 23, “Data Quality.” This session will discuss the revisions to these ASOPs and how they could impact casualty actuaries, with emphasis on the reserving function.

Moderator/Speaker: Beth Fitzgerald, SVP, Industry Engagement, ISO

Speakers: Margaret Sherwood, President, Tiller Consulting Group, Inc.

Mary Frances Miller, Senior Consulting Actuary, Select Actuarial Services



PD-8: Easy as ABCD

Concurrent Session 6, Tuesday, September 12, 9:45 a.m. - 11:00 a.m., Commonwealth Hall A2

This session focuses on the workings of the Actuarial Board for Counseling and Discipline (ABCD) and its role in promoting good actuarial practice.

Moderator/Speaker: Eric Hornick, Chief Claims Officer and Actuary, The Black Car Fund

Speaker: John Tierney, Retired

Reinsurance



R-1: Collateralized Reinsurance Fair Valuation

Concurrent Session 5, Tuesday, September 12, 8:00 a.m. - 9:15 a.m., Commonwealth Hall A1

Panelists will examine methods and techniques being developed in the collateralized reinsurance marketplace to produce fair values of P&C liabilities.

Moderator/Speaker: David Third, Willis Towers Watson

Speaker: Sina Thieme, Willis Towers Watson



R-2: Making Commutations Successful

Concurrent Session 4, Monday, September 11, 3:30 p.m. - 4:45 p.m., Commonwealth Hall B
Concurrent Session 6, Tuesday, September 12, 9:45 a.m. - 11:00 a.m., Regency B

The landscape regarding commutation of a reinsurance contract is changing. Third-party involvement, while not new, continues to become more prevalent due to increased portfolio transfers of cedent's prior year portfolios. The addition of another party makes the commutation more challenging. To address this challenge, a close partnership among the ceding company, third-party and the reinsurer is essential to reaching a successful conclusion. This session will describe the challenges and how actuaries and commutation leaders from all parties work together to develop, propose and finalize commutations successfully.

- Moderator:** Steve Herman, Principal, Asset Discovery Associates LLC
- Speakers:** Christopher Claus, SVP, Account Manager, Munich Re America, Inc.
 Barbara Murray, Director, PricewaterhouseCoopers
 Joseph Wallen, Chief Actuary, General Reinsurance Corporation
 Joseph Loggia, Vice President, Buxbaum, Loggia & Associates, Inc.



R-3: Recent Notable Adverse Development Covers and Transfer Pricing Considerations

Concurrent Session 3, Monday, September 11, 1:45 p.m. - 3:00 p.m., Commonwealth Hall A2

Recently, there have been many notable adverse development coverages placed by sizable insurance carriers and reinsurers. The session will describe these coverages and the impact they have on the marketplace. This session will also describe the proper pricing and transfer pricing documentation that should be implemented when insurance carriers buy reinsurance internally.

- Moderator:** Donna Chung, QBE North America
- Speakers:** Anna Lam, Senior Manager, EY
 Kenneth Kruger, Senior Vice President, Willis Towers Watson



R-4: Reinsurance Reserving Issues — Use of Benchmarks and Reflection of Individual Claims Data

Concurrent Session 8, Tuesday, September 12, 1:45 p.m. - 3:00 p.m., Regency C1

The reinsurance reserving actuary is frequently confronted with sparse and erratic data, unusual claims and, for certain lines, accumulations of claims from one underlying cause. This session will explore best practices for using external benchmarks as supplements to company experience. It will also discuss how individual claim information can be incorporated within the reserving process.

- Moderator/Speaker:** Sarah Krutov, Chief Reserving Actuary, QBE North America
- Speaker:** Christopher Bozman, Director, Willis Towers Watson

Self Insurance



SI-1: Challenges in Estimating Self-Insured Development Patterns

Concurrent Session 1, Monday, September 11, 10:00 a.m. - 11:15 a.m., Regency C2

Concurrent Session 6, Tuesday, September 12, 9:45 a.m. - 11:00 a.m., Regency A

Actuaries encounter a number of issues when developing estimates for corporate self-insureds. The self-insured may change their retention, change their third-party claim administrator (TPA), or establish their own case-basis claim reserves using practices that differ from insurance industry standards. As a result, estimates using benchmark loss development factors or factors based on historical loss development limited to the self-insured retained limits may not be very accurate. This panel will demonstrate the potential errors in the estimate using erroneous assumptions and offer tips on how to make adjustments to your estimates to account for these changes. A claims specialist will discuss TPA claims management practices for establishing proper case reserves and how working with the actuary to evaluate the claims data will ensure the validation of the case reserve adequacy.

Moderator: Nancy Arico, INS Consultants, Inc.

Speakers: Lynne Bloom, Director, PricewaterhouseCoopers

Ursula Merten, Manager, PricewaterhouseCoopers

Matthew Shockley, Experienced Associate, PricewaterhouseCoopers



SI-2: Pennsylvania Medical Professional Liability Alternative Risk Funding

Concurrent Session 4, Monday, September 11, 3:30 p.m. - 4:45 p.m., Commonwealth Hall D

This session will highlight current challenges and practices in the Pennsylvania medical malpractice area. Panelists will relate real-life application of alternate risk funding for two large Philadelphia health care systems and present two non-actuarial perspectives — a risk management executive's and a broker's. The learning objectives include the following topics:

- Medical malpractice coverage features unique to Pennsylvania and how they impact claims management, risk retention and loss reserving.
- How the ever-changing health care landscape is affecting risk management practices, funding programs and loss reserving.
- Issues and new approaches in the structure of overlying reinsurance.

Moderator/Speaker: Alice Edmondson, Principal, Complete Actuarial Solutions Company

Speakers: Roger Fell, Managing Director, Marsh

Dianne Salter, Executive Vice President, Corporate Insurance Services for Jefferson, MLH and Magee



SI-3: Self-Insured Medical Plan Accruals

Concurrent Session 8, Tuesday, September 12, 1:45 p.m. - 3:00 p.m., Commonwealth Hall A2

Because of rising health coverage costs, many employers are self-insuring their active employee medical coverage. P&C actuaries have the skills and qualifications to determine the required reserves for active employee medical plans and should offer their services. This session will describe the difference between active employee medical plans and other postemployment benefits (OPEB) plans, which usually require a pension actuary to review. Speakers will describe the different types of self-insured medical plans and the actuarial techniques commonly used to estimate the reserves for these plans.

Moderator/Speaker: Alan Hines, Managing Director, PricewaterhouseCoopers

Speaker: Kathryn Herrick, Senior Associate, PricewaterhouseCoopers

Special Topics



ST-1: Imaginator: An R Package for Claim Simulation

Concurrent Session 5, Tuesday, September 12, 8:00 a.m. - 9:15 a.m., Regency C1

For some years now, a publicly available data set of aggregate losses has existed—a boon to researchers who are able to test loss reserving methods against actual data. However, there is nothing comparable for individual claims. The R package presented in this session is a platform-independent simulation tool that is highly customizable and capable of generating data for virtually any practical scenario.

Moderator/Speaker: Brian Fannin, Captain, PirateGrunt LLC



ST-2: Reserving 2020 (or Maybe Sooner...?): A Follow-up to the Keynote Address (Livestreaming)

Concurrent Session 1, Monday, September 11, 10:00 a.m. - 11:15 a.m., Regency B

The digital evolution of the economy has been dramatic with unprecedented changes, such as cloud computing, machine learning, artificial intelligence, telematics, connected life, and industrial internet. Many of these changes will fundamentally alter the loss generating processes themselves, which traditionally have been known to actuaries only inferentially and indirectly when assessing financial impacts through the collection of claims data. Insurers, and therefore actuaries, have been operating behind an “underwriting curtain,” counting on statistical linkages between exposure and price metrics, economic trend measurements and claims history (both their own and industry).

The new technologies and analytics will drive fundamental changes in how insurers conduct business and engage with clients. Many insurers are moving “upstream in time,” beyond impact analysis to causal analysis. Causal analysis will allow feedback loops that sanction loss mitigation and prevention on an unprecedented scale. The most immediate implication for reserving function is, therefore, how to reflect fundamental changes in the loss process in our reserve estimates. If the past is no longer predictive of the future, what can we do?

The concurrent session will be a breakout of the general session with a focus on shortcomings of current methods and tools available today with scalability for the future.

Moderator/Speaker: Christopher Gross, President & CEO, Gross Consulting

Speaker: Philip Schwartz, Chief Global Architect for Insurance, IBM Watson Internet of Things



ST-3: The Actuary and IBNR and IBNYR and IBNER

Concurrent Session 2, Monday, September 11, 11:30 a.m. - 12:45 p.m., Regency C2

Concurrent Session 7, Tuesday, September 12, 11:30 a.m. - 12:45 p.m., Regency C2

Actuaries have long understood that total reserve may be decomposed between claims that have not yet been reported (IBNYR) and development on claims that have already been reported (IBNER). However, to date, no algorithms have been widely adopted that feature the separation of those elements of total IBNR. This may be due to actuaries’ tacit acceptance of how data is commonly stored and used for analysis. When aggregate loss data is divided into its IBNYR and IBNER components, standard methods may be easily used to form estimates for the individual and total components of reserve. This is a great benefit to decision makers who are able to distinguish between distinct sources of reserve uncertainty and plan accordingly.

Moderator/Speaker: Brian Fannin, Captain, PirateGrunt LLC



ST-4: What iCAS is Up To: The Certified Specialist in Predictive Analytics (CSPA) Credential

Concurrent Session 8, Tuesday, September 12, 1:45 p.m. - 3:00 p.m., Commonwealth Hall C

Leaders of The CAS Institute will share the latest information on the Certified Specialist in Predictive Analytics (CSPA) credential being offered through The CAS Institute (iCAS), a subsidiary of the CAS.

This informative and interactive session will cover:

- The five requirements for earning the new credential.
- The knowledge, competencies and applications to business needs that have been incorporated into the credential's learning objectives, and how mastery will be assessed.
- The Experienced Practitioner Pathway, which will grant credentials to those working in data science and predictive analytics who are recognized as accomplished professionals in the field.
- The formation of a specialist practice community within iCAS for those interested in data science and predictive analytics.
- Any questions you may have about The CAS Institute and any of its credential offerings.

Moderator/Speaker: Lise Hasegawa, Vice President & Reserving Actuary, MetLife Auto & Home

Speakers: Bob Miccolis, Actuary, Miccolis Consulting LLC

Louise Francis, Consulting Principal, Francis Analytics & Actuarial Data Mining, Inc.

Amy Brener, Director, The CAS Institute

Variability and Ranges



VR-1: Benchmarking Unpaid Claim Distributions

Concurrent Session 4, Monday, September 11, 3:30 p.m. - 4:45 p.m., Commonwealth Hall C

Unpaid claim distributions are a critical component of many different risk management applications. Prior research has suggested that commonly used models tend to underestimate the breadth of the distribution of possible outcomes so benchmarks to help gauge the quality of the distribution are needed. Extensive research based on over 30,000 triangles of industry data over a 10 year span has provided new insights into benchmarking all models, including deterministic ranges and correlation. These insights have important implications for all uses of reserve variability modeling, including capital modeling and enterprise risk management.

Moderator/Speaker: Mark Shapland, Principal & Consulting Actuary, Milliman, Inc.



VR-2: Distributions of Possible Losses in Each Cell of a Triangle

Concurrent Session 2, Monday, September 11, 11:30 a.m. - 12:45 p.m., Commonwealth Hall D

Most models used to fit development triangles assume distributions in each cell that imply the variance is proportional to a specific power of the mean, with only a few powers being available this way. For instance, open distributed processing (ODP) fixes the power at 1 and lognormal at 2. Often the cell variances do not conform to this assumption, creating a type of heteroscedasticity.

One practical way to address this problem is to specify the power as one more parameter to be fit. This creates greater flexibility in reserve distributions and, in particular, gives better estimates of the variability of the cells later in the triangle, whose variance can be understated by standard methods. Then the choice of distribution becomes about overall shape, not the variance relationship.

This can provide more accurate estimates of runoff distributions. Heavier-tailed distributions like the lognormal appear to better capture other shape characteristics, like the skewness, once the variance is under control. Failing to fit this part of the triangle in distribution can be a significant contributor to mis-stated runoff probabilities.

In fact, for incremental paid triangles, the power will often be less than one, due to the severity of the small cells at the end being greater and more volatile.

A related issue in distributions within the triangle is correlation. One common assumption made is that payments across a row are strongly, negatively correlated, which can make the incremental payment residuals independent. The opposite assumption is that the incremental residuals are independent, which could make the cumulative residuals positively correlated. This will be reviewed with empirical data.

Moderator/Speaker: Gary Venter, Professor-Columbia U., Univ New South Wales



VR-3: Homing in on a Range: What the ASOPs Don't Tell You About Ranges and Variability

Concurrent Session 7, Tuesday, September 12, 11:30 a.m. - 12:45 p.m., Regency C1

ASOPs appear more focused on actuarial central estimates (ACE) than ranges. Ranges are mentioned in ASOP 37, yet little guidance is given in how to formulate them. The CAS examination syllabus teaches many methods to calculate a central estimate, but barely mentions ranges. Yet in many contexts the range is more important than the ACE.

One speaker will use industry data to illustrate many different ways ranges can be selected in practice, and how they compare in large and small companies. He will further discuss his experience in reviewing over one hundred actuarial reports for state regulators.

Another speaker will explain how the courts and IRS have viewed ranges in determining whether loss reserves are "fair and reasonable" under federal tax regulations.

Moderator: Ronald Kozlowski, Consulting Actuary, RTK Actuarial & Professional Services

Speakers: Michael Solomon, Consulting Actuary, The Actuarial Advantage, LLC

Richard Riley, Partner (Attorney), Foley & Lardner LLP



VR-4: Overview of Reserve Ranges and their Practical Applications

Concurrent Session 1, Monday, September 11, 10:00 a.m. - 11:15 a.m., Commonwealth Hall A1

This practical session on ranges will cover the following topics:

- 1) Theoretical background for ranges — Range of possible outcomes versus range of reasonable estimates and sources of uncertainty that are reflected in each of them.
- 2) Practicable uses of ranges — Business application of ranges and target audience.
- 3) ASOP guidance on uses of ranges.
- 4) Deterministic approaches to setting reserve ranges — Standard percentage, range formed via a variety of methods, range formed by varying assumptions.
- 5) Diagnostics available for assessing the reasonability of range while using deterministic methods and stochastic methods.
- 6) Methods for creating aggregate ranges.

Moderator/Speaker: Sasha Wiegand, Oliver Wyman Actuarial Consulting

Speaker: Cullen Maricque, Actuarial Consultant, Oliver Wyman Actuarial Consulting
Jeremy Smith, Oliver Wyman Actuarial Consulting



VR-5: Reserve Variability in Traditional Methods

Concurrent Session 3, Monday, September 11, 1:45 p.m. - 3:00 p.m., Regency C1

The first half of the session will demonstrate the specific result that reserve risk is the sum of insurance risk and inflation risk. This example is used to demonstrate the important role of convolution equations in loss reserving. This portion of the session requires no specific knowledge of the subject. The second half of the session will discuss the role of transform analysis in loss reserving. While this subject is highly technical in nature, the session will provide an intuitive introduction.

Moderator: Alexander Alimi, Vice President, Zurich North America

Speaker: James Ely, Independent Consultant



VR-6: Stochastic Models Beyond the Bootstrap: Deploying a Stochastic Modeling Framework

Concurrent Session 1, Monday, September 11, 10:00 a.m. - 11:15 a.m., Commonwealth Hall D

This session will consist of two halves: a ground-up introduction to Bayesian stochastic models followed by a top-down view of what a stochastic reserving analysis might look like in practice.

The first half of this session will cover Bayesian stochastic models, highlighting the evolution from prior distribution assumptions to posterior distributions that employ likelihood functions calculated from the GLM model and reflect the specific characteristics of the empirical loss patterns.

The session's second half will focus on the practical deployment of stochastic analyses (regardless of the models/methods used). A case study will be presented showing what type of information can be gleaned from the analysis, and how this information may be presented.

Moderator: Chandrakant Patel, Consultant, Huggins Actuarial Services, Inc.
Speakers: Emmanuel Bardis, Senior Consultant, Willis Towers Watson
James Mackay, Willis Towers Watson

Workers' Compensation



WC-1: Market Conditions of Specific States (DE, OH, PA and WA)

Concurrent Session 5, Tuesday, September 12, 8:00 a.m. - 9:15 a.m., Commonwealth Hall B

We will have panelists from these four states, including the Coal Mine Compensation Rating Bureau of Pennsylvania, discuss their current market, differences in reserving practices and emerging trends.

Moderator: Joe Milicia, Senior Consultant, Willis Towers Watson
Speakers: John Pedrick, Vice President - Actuarial Services, PA & DE Compensation Rating Bureaus
Charles Romberger, Executive Director, Coal Mine Compensation Rating Bureau of Pennsylvania
Christopher Carlson, Chief Actuarial Officer, Ohio Bureau of Workers' Compensation
Bill Vasek, Chief Actuary, Washington Department of Labor & Industries



WC-2: MSA Updates and Trend in Lump Sum Settlement

Concurrent Session 1, Monday, September 11, 10:00 a.m. - 11:15 a.m., Commonwealth Hall B

Using proposed workers' compensation settlements whose MSAs have been reviewed by CMS, panelists will discuss:

1. Brief description, definitions and original expectations of MSAs impact on WC.
2. Demographics related to MSAs, such as:
 - a. The distributions of amounts of MSAs and total settlements that include MSAs.
 - b. The distributions of ages of claimants.
3. Aspects of the CMS review process, such as:
 - a. The length of time from submission to CMS approval.
 - b. The relation between submitted and CMS-approved MSA amounts.
4. Multistate perspective on the frequency and costs of lump-sum settlement in WC Claims, including some of the factors that influence interstate differences and trends.
5. The theoretical and practical implications in the world of increasing settlements.

Moderator: Steve Herman, Principal, Asset Discovery Associates, LLC

Speakers: Carol Telles, Senior Analyst, Workers Compensation Research Institute
 David Colon, Associate Actuary, National Council on Compensation Insurance, Inc.
 Christine Fleming, Claims Management Consultant, Milliman, Inc.
 Benjamin Witkowski, Actuary & Director, The Hartford



WC-3: Trends and Impacts of WC Attorney Involvement and Costs

Concurrent Session 3, Monday, September 11, 1:45 p.m. - 3:00 p.m., Commonwealth Hall C

The Workers Compensation Research Institute presents a multi-state perspective on recent trends in WC attorney incidence (both defense attorney and workers' attorney incidence rates) and defense attorney payments per claim. A consulting firm claims manager will provide an overview of litigation management trends and common practices utilized by carriers and third-party administrators to drive efficiencies and reduce litigation related costs. Panelists will identify the impact of attorney fees/activity on overall workers' compensation costs in Florida and New York.

Moderator: Sandra Santomenno, Director, Willis Tower Watson

Speakers: Carol Telles, Senior Analyst, Workers Compensation Research Institute
 Kevin Sanjurjo, Manager, EY
 Scott Lefkowitz, Partner, Oliver Wyman Actuarial Consulting



WC-4: Workers' Compensation Loss Development Tail Factors

Concurrent Session 4, Monday, September 11, 3:30 p.m. - 4:45 p.m., Regency C2

As a very long tailed line, workers' compensation presents a significant challenge in estimating loss development tail factors. Various qualitative properties and empirical anecdotes about WC tail development will be discussed and several methods for tail factor estimation will be demonstrated.

Moderator: Jing Liu, Consulting Actuary, Pinnacle Actuarial Resources, Inc.

Speakers: Jonathan Evans, President, Convergent Actuarial Services, Inc.

Anthony Pipia, Consulting Actuary, Actuaries, Inc.



WC-5: Workers' Compensation Research Institute Current Studies

Concurrent Session 2, Monday, September 11, 11:30 a.m. - 12:45 p.m., Regency A

Studies covered in this session include:

“Recent Trends in Workers' Compensation Claim Costs: Medical, Indemnity, and Expenses” — Benchmarking studies provide meaningful interstate comparisons for more than 60 system performance measures across 18 states, including costs per claim and cost components, timeliness of injury reporting and first indemnity payments and litigation-related expenses.

“Recent Trends in Opioid Utilization” — Frequency trends and interstate comparisons of opioid utilization across 26 states will be examined.

“Predictors of Worker Outcomes” — WCRI worker outcomes studies from 6,000 injured workers across 15 states will be presented. The body of work WCRI has accumulated from these surveys over the years and for numerous states is unique in WC research.

Moderator: Philip S. Borba, Principal, Milliman

Speakers: Vennela Thumula, Policy Analyst, Workers Compensation Research Institute

Carol Telles, Senior Analyst, Workers Compensation Research Institute

Personal Attendance Record

This activity may qualify for up to 16.5 CE Credits for the Casualty Loss Reserve Seminar for CAS members. Workshop attendees may add a maximum of 7.2 CE Credits. Those attendees who participate in a Breakfast Roundtable Discussion can add up to .9 CE Credits. Participants should claim credit commensurate with the extent of their participation in the activity. CAS members earn 1 CE Credit per 50 minutes of educational session time not to include breaks or lunch.

SESSION		DATE	LENGTH
GENERAL SESSIONS			
Keynote Address	Reserving 2020 (or maybe sooner...?)	_____	_____
GS-1	International Strategic Planning, Enterprise Risk Management, and the use of Captive Insurance Companies to Drive Corporate Value	_____	_____
GS-2	Behavioral Finance for Actuaries	_____	_____
CONCURRENT SESSIONS			
ADVANCED RESERVING			
AR-1	A Primer on Mass Tort Reserving (Livestreaming)	_____	_____
AR-2	The End of Triangles: Loss Reserves in the Digital Age	_____	_____
AR-3	Bayesian Loss Development: Creating An Informative Prior	_____	_____
AR-4	Individual Claims Reserving Made Easy	_____	_____
AR-5	Inflation Sensitive Loss Development Projections	_____	_____
AR-6	Rehabilitating Traditional Reserving Methods	_____	_____
AR-7	Strategies for Modeling Loss Development	_____	_____
ENTERPRISE RISK MANAGEMENT			
ERM-1	ORSA: Year 1 and Beyond	_____	_____
ERM-2	Integrating Reserve Variability into ERM	_____	_____
ERM-3	Linking Reserve Variability to Variability in Future Accident Year Loss Ratio Forecasts	_____	_____
ERM-4	Reserve Risk and the Economic Capital Model: Case Studies	_____	_____

SESSION		DATE	LENGTH
FINANCIAL REPORTING			
FR-1	Bermuda Economic Balance Sheet: Technical Provision	_____	_____
FR-2	Company Specific Risk Factors for SAO Users	_____	_____
FR-3	IFRS 17 Insurance Contracts - the Final Standard is Here! (Livestreaming)	_____	_____
FR-4	Reinsurance - Expected Collectability Reporting Changes and the Data Challenges in its Determination	_____	_____
FR-5	Reserving War Stories	_____	_____
FR-6	Retained Risk for Non-Insurers: Accounting Treatments and Perspectives	_____	_____
FR-7	Short Duration Contract Disclosures - What did the New Requirement Look Like in Practice?	_____	_____
FR-8	The IFRS 17 Risk Adjustment Provision for Risk & Uncertainty Explained	_____	_____
FR-9	What's New with Stochastic BCAR	_____	_____
HEALTHCARE			
HC-1	Basics of Medical Professional Liability Reserving	_____	_____
HC-2	Hospital Captives and Self-Insurance Programs	_____	_____
HC-3	Hot Issues in Medical Professional Liability	_____	_____
HC-4	Navigating Uncertainty in the Individual Health Insurance Market	_____	_____
INNOVATION			
I-1	Cluster Analysis in Loss Reserving	_____	_____
I-2	Groundbreaking Innovations in Induced Seismic Activity	_____	_____
I-3	Improved Efficiencies Through Automation and Robotics Process Automation Can Lead to Innovative Solutions	_____	_____
I-4	Recent Innovations in Fraud Detection Analytics	_____	_____
LINE OF BUSINESS			
LOB-1	Accruals for Warranty	_____	_____
LOB-2	Watchlist - A Means of Monitoring Defined (Potential) Claim Exposures	_____	_____
LOB-3	Wheels Down: Issues Continue with Commercial Auto	_____	_____

SESSION		DATE	LENGTH
PROFESSIONAL DEVELOPMENT			
PD-1	Lights! Camera! Professionalism!	_____	_____
PD-2	Who Wants To be An Actuary?	_____	_____
PD-3	Actuarial Humor: Oxymoron or Presentation Survival Technique - Making Your Presentations More Interesting	_____	_____
PD-4	Coffee Klatch for Opinion Writers	_____	_____
PD-5	Do You Need a Peer Review of Your Opinion?	_____	_____
PD-6	ASOP 17: "Expert Testimony by Actuaries" and Proposed Revisions	_____	_____
PD-7	Revised ASOPs 21 and 23 and the Impact on the Reserving Actuary (Livestreaming)	_____	_____
PD-8	Easy as ABCD	_____	_____
REINSURANCE			
R-1	Collateralized Reinsurance Fair Valuation	_____	_____
R-2	Making Commutations Successful	_____	_____
R-3	Recent Notable Adverse Development Covers and Transfer Pricing Considerations	_____	_____
R-4	Reinsurance Reserving Issues - Use of Benchmarks and Reflection of Individual Claims Data	_____	_____
ROUNDTABLE DISCUSSIONS			
RT-1	Current Events - Can We Keep Up?	_____	_____
RT-2	Florida Homeowners	_____	_____
RT-3	Reliance on Models	_____	_____
RT-4	Loss Adjusting Expenses	_____	_____
RT-5	Current Workers' Compensation Trends	_____	_____
RT-6	Challenges with Implementing FASB Short Duration Contract Disclosure	_____	_____
RT-7	Reserving for Asbestos	_____	_____
RT-8	Marijuana and General Insurance	_____	_____
SELF INSURED			
SI-1	Challenges in Estimating Self-Insured Development Patterns	_____	_____
SI-2	Pennsylvania Medical Professional Liability Alternative Risk Funding	_____	_____
SI-3	Self Insured Medical Plan Accruals	_____	_____

SESSION		DATE	LENGTH
SPECIAL TOPICS			
ST-1	Imaginator: An R Package for Claim Simulation	_____	_____
ST-2	Reserving 2020 (or maybe sooner...?): A Follow-up to the Keynote Address (Livestreaming)	_____	_____
ST-3	The Actuary and IBNR and IBNYR and IBNER	_____	_____
ST-4	What iCAS is Up To? The Certified Specialist in Predictive Analytics (CSPA) Credential	_____	_____
VARIABILITY/RANGES			
VR-1	Benchmarking Unpaid Claim Distributions	_____	_____
VR-2	Distributions of Possible Losses in Each Cell of a Triangle	_____	_____
VR-3	Homing in on a Range: What the ASOPs Don't Tell You About Ranges and Variability	_____	_____
VR-4	Overview of Reserve Ranges and their Practical Applications	_____	_____
VR-5	Reserve Variability in Traditional Methods	_____	_____
VR-6	Stochastic Models Beyond the Bootstrap: Deploying a Stochastic Modeling Framework	_____	_____
WORKERS' COMPENSATION			
WC-1	Market Conditions of Specific States (DE, OH, PA and WA)	_____	_____
WC-2	MSA Updates and Trend in Lump Sum Settlement	_____	_____
WC-3	Trends and Impacts of WC Attorney Involvement and Costs	_____	_____
WC-4	Workers' Compensation Loss Development Tail Factors	_____	_____
WC-5	Workers' Compensation Research Institute Current Studies	_____	_____
WORKSHOPS			
Workshop 1	Reserving Bootcamp	_____	_____
Workshop 2	Maximizing the Value of Your Actuarial Opinion and Reports	_____	_____
Workshop 3	Intermediate R	_____	_____

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Please indicate below which sessions that you attended at the CLRS and ensure that you sign your name for each session completed. Please return this form to the registration desk.

Signature (Print and Sign)

Company:

Session Title:

Date:

Room:

Length: ____ Minutes

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