

CAS Ratemaking, Product, and Modeling Seminar and Workshops

March 19-21, 2018

**Fairmont Chicago Millennium Park
Chicago, IL**

Accessing Wi-Fi

Wi-Fi Network: LexisNexis Risk Solutions

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Seminar Overview

The Ratemaking, Product and Modeling (RPM) Seminar provides a forum for presenting and discussing significant issues in ratemaking, product, and modeling. This seminar will consider how these areas influence each other and will include a significant focus on predictive modeling techniques. The program includes a range of topics to interest professionals and students in a number of related disciplines. Moreover, the seminar provides an opportunity to meet the continuing education needs of actuaries and other professionals whose responsibilities include ratemaking, underwriting, product management, and modeling.

This year's RPM Seminar offers more than 60 different concurrent sessions, covering ratemaking, product management, modeling, innovation, emerging trends, regulation and professionalism topics. The seminar also features optional pre-program workshops on basic and advanced predictive modeling, severe weather, an introduction to R, basic ratemaking, capital allocation and risk/reward decision-making, and product development.

This seminar is recommended for actuaries, underwriters, insurance professionals, and others who require an understanding of state-of-the-art developments. The seminar follows a format of panel sessions, many using slides and interactive formatting to augment the presentations. Illustrative numerical examples are used whenever possible. Audience participation is encouraged.

Ratemaking, Product, and Modeling Seminar Planning Committee

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Tweet about the RPM educational sessions and meeting events using the hashtag #CASRPM18.



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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 website 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 Ratemaking, Product, and Modeling Seminar 2018 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 this address on your smart phones (omit www): cas.gatherdigital.com





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The CAS appreciates the support provided by the 2018 RPM Seminar Sponsors. Attendees are encouraged to spend time visiting the exhibitors to learn about their products and services.

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General Information

Continuing Education

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.

This activity may qualify for up to 13.5* CE Credits for the Ratemaking, Product and Modeling Seminar for CAS members. Breakfast Roundtable attendees may add up to .9* CE credit per roundtable. Workshop attendees may add up to 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.*

Handouts and Evaluations

Session slides are posted on the CAS Web Site so that attendees can download, print, and bring handouts as desired. Please note that not every presenter will choose to provide a presentation handout for his or her session.

Attendees are encouraged to view the list of attendees electronically, 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.

Registration Hours

The RPM seminar registration desk (Imperial Ballroom Foyer) will be open as follows:

- Sunday, March 18, 2018..... 3:00 p.m. – 5:00 p.m. (Workshop Registration ONLY)
- Monday, March 19, 2018 8:00 a.m. – 2:00 p.m. (Workshop Registration ONLY)
- Monday, March 19, 2018 4:00 p.m. – 6:00 p.m. (Seminar Registration)
- Tuesday, March 20, 2018..... 7:00 a.m. – 6:30 p.m. (Seminar Registration)
- Wednesday, March 21, 2018..... 7:00 a.m. – 2:00 p.m. (Seminar Registration)

General Information

Hotel Information

Fairmont Chicago, Millennium Park
200 North Columbus Drive
Chicago Illinois, United States 60601
TEL + 1 312 565 8000

Checkout time is 12:00 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 Fairmont Chicago, Millennium Park can be held responsible for lost or stolen items.

Seminar Attire

Business casual attire is suggested for all sessions as well as the evening receptions on Monday and Tuesday. As meeting room temperatures and personal comfort levels may vary, it is recommended that you bring a sweater or jacket to the sessions. In Chicago, the average high temperature during March is 45 degrees and the average low is 34 degrees.

Interactive Livestreaming at RPM Seminar

Again this year, participants will join a select few of the RPM seminar sessions virtually. Viewers will participate live in a few of the seminar sessions remotely 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.

Livestream Sessions (Sponsored by Gross Consulting):

8:00 a.m. – 9:45 a.m.

Auto Insurance: 2028

10:15 a.m. – 11:30 a.m.

IET-2: Artificial Intelligence and Advanced Insurance Analytics: Techniques, Technology, and Promise

12:30 p.m. – 1:45 p.m.

PM-4: Customer Centric Pricing: Infusing Customer Lifetime-Value into your Pricing and Processes

2:15 p.m. – 3:30 p.m.

M-7: Effective Collaboration between Actuaries and Data Scientists

4:00 p.m. – 5:15 p.m.

RP-4: Price Optimization

General Information

RPM Seminar Prizes

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 \$100.00 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.

Exhibitor Raffle

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

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 12:00 pm on Wednesday, March 21 to be entered into the drawing.

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

General Sessions

📅 🎧 **General Session 1: Auto Insurance: 2028** 🎤

Opening Session/iCAS Ceremony/General Session, Tuesday, March 20, 8:00a.m. – 9:45a.m.
International Ballroom

With so many changes to auto insurance and the market, how will auto insurance look in the future? A panel of experts from across the industry will discuss the changing market.

Moderator:	Donald Mango, Principal, Innoventure Advisory Solutions LLC
Panelists:	Matthew Moore, Senior Vice President, Highway Loss Data Institute Chris Mullen, State Farm Thomas Karol, General Counsel, National Association of Mutual Insurance Companies Alexander Timm, Root Insurance Company

📅 🎧 **General Session 2: What is Real? Unlocking the Positions of Business Partners to Create Winning Conditions and Achieve Maximum Impact**

General Session/Closing, Wednesday, March 21, 1:30 p.m. – 2:45 p.m., International Ballroom

As actuaries and other professionals advance throughout their careers, they can achieve greater levels of success and faster progression by being able to identify “What is Real?” In this presentation, Christine Hofbeck will help attendees diagnose and respond to the real motivations and positions of colleagues and business partners, (both internal and external to their organizations and professional circles), for more effective communication, stronger relationships, and increased likelihood of success. Hofbeck will share personal stories drawn directly from her professional actuarial career and her participation on the reality television show *Survivor* to illustrate various considerations for optimal interactions and outcomes. We can all create winning conditions if we can learn to recognize, identify, and understand “What is Real?”



Hofbeck has been an actuary for 25 years, working across a breadth of areas including life (retirement & group insurance) and property-casualty (consumer & commercial). She specializes in building predictive analytics and advanced pricing capabilities for large global insurers. Her work has been featured in publications including *The Actuary*, *Sync* magazine, and National Geographic's documentary television series *Breakthrough*. She holds degrees from the University of Pennsylvania and MIT, and currently serves on the Society of Actuaries Executive Board of Directors.

Christine (“Chrissy”) Hofbeck also competed on season 35 of CBS’s hit reality TV show, *Survivor: Heroes vs. Healers vs. Hustlers*, which aired in the fall of 2017. Despite being the oldest player in the game, she placed second overall and tied the record for the most individual immunity wins by a woman in *Survivor* history. She also won “Player of the Season” in a landslide vote by *Survivor* fans.

Speaker:	Christine Hofbeck, Board of Directors, Society of Actuaries, Survivor Contestant
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Workshops

2018 RPM Seminar and Workshops Rating System



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



General knowledge of the subject matter is assumed, or moderate technical content.



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



Checkbox for Personal Attendance Record



Recorded Session



Livestreamed Session

Pre-registration is required to attend a workshop

Monday, March 19, 9:00 a.m. – 5:00 p.m.

Workshop 1: Severe Weather

Cuvee

This popular workshop gives the attendees an opportunity to learn more about how natural catastrophe models are developed and used within property and casualty insurance. The workshop starts with a series of sessions that will explore the science underlying three catastrophe models (hurricane, flood, and wild fire), with an opportunity for a Q&A session with representatives from catastrophe modeling firms. The afternoon will include sessions that explore how weather information is being used in the insurance industry, focusing in on current topics of interest.

Moderator: Howard Kunst, Chief Actuary, CoreLogic

Facilitators: Garrett Bradford, Cartographer, Milliman, Inc.

David Evans, Milliman, Inc.

David Smith, Senior Leader, CoreLogic

Rehan Siddique, Actuarial Analyst, Milliman, Inc.

Edward Byrns, Managing Director-Client Calibrated Solutions, Munich Re Trading

Jeff Waters, Senior Product Manager, Risk Management Solutions

Tammy Viggato, Senior Scientist, AIR Worldwide

Workshops

❑ **Workshop 2: Predictive Modeling with Generalized Linear Models**

Crystal

This popular, hands-on, interactive predictive modeling workshop has been offered at the RPM seminar now for several years. It will be conducted exclusively in the R statistical computing language, which is widely adopted by statisticians and data scientists.

The course will provide a refresher of regression theory before proceeding to a variety of practical modeling applications and case studies. The focus will be on generalized linear models (GLMs) — their specification, interpretation, and validation. A variety of distributions will be covered, including classical, Poisson, logistic, gamma, and Tweedie. Other topics will be discussed and illustrated as time permits. All datasets will be distributed to attendees prior to the seminar.

Important note: Familiarity with R is assumed. An introduction to R presentation will be distributed before the seminar which will contain a primer on basic features and statistical functions, as well as installation instructions, that will enable beginners to get up to speed. While R beginners are encouraged to attend, they should make some attempt to become comfortable with the language prior to the workshop. This workshop has been designed for beginning predictive modelers, but more experienced modelers seeking a refresher or a deeper working knowledge of R have attended past workshops and expressed satisfaction with the coverage of topics.

Facilitators: Mark Goldburd, Milliman, Inc.
Manyi Luo, Associate Actuary, Milliman, Inc.

❑ **Workshop 3: Product Development**

Gold

This workshop will explore the different stages of the product lifecycle — from ideation through design, development, and launch — with hands-on exercises for the attendee. Industry leaders will serve as facilitators to review the various stages of the product development lifecycle and to help guide the attendees through the realities of developing an insurance product. Attendees will work in teams to develop fictitious products that will be integrated into the product development lifecycle stage discussions.

Moderator: Lijuan Zhang, Home Office Auto Actuarial Head, AIG
Facilitators: Kelly Cusick, Managing Director, Deloitte Consulting, LLP
Donald Hendriks, National Actuarial Consultant, CARFAX Banking & Insurance Group
Thomas Hess, Assistant Actuary, Ohio Department of Insurance
Robin Harbage, Retired

Workshops

□ **Workshop 4: Introduction to R**

State

Are you one of the millions of actuaries around the world who wish they could draw maps showing the progress of hurricanes, fit generalized linear models to predict sporting events, create complex Monte Carlo simulations, or fit loss distributions? Or maybe you're the sort of person who wants to fit a stochastic reserving model and have a computer display stacks of pretty pictures for you. Do you want one point of access for all of your Excel, text, database and web-based data? Are you fascinated by programmers whose first names begin with the letter "R"?

If that's the sort of person you are, this is the workshop for you. And if none of those people are you, maybe all you want is to be able to get R to work for your computer. We can take care of that too.

R is the single most important technological advance for actuaries since the invention of the pocket calculator. Come see what all the fuss is about.

Moderator/Facilitator: Gary Wang, Senior Consulting Actuary, Pinnacle Actuarial Resources, Inc.

Facilitators: Brian Fannin, Research Actuary, Casualty Actuarial Society
Scott Sobel, Principal, Oliver Wyman Actuarial Consulting
Radost Wenman, Consulting Actuary, Pinnacle Actuarial Resources, Inc.

Workshops

□ **Workshop 5: Basic Ratemaking**

Ambassador

Part 1: Fundamental Insurance Equations

This session will go over the process for developing a rate indication. Participants will gain familiarity with the steps and adjustments needed. Considerations such as loss development, trend, credibility, etc will be discussed.

Part 2: Ratemaking Relativities

This session will examine the reasons and some methods that actuaries use to allocate overall average rates to various subdivisions of a line of business. Some of the methods discussed will consist of univariate, multivariate, and generalized linear modeling techniques.

Part 3: Estimating Claim Liabilities

The session will focus on estimating claim liabilities including development factor techniques, advantages and disadvantages of different methods, and diagnostics of the various methods.

Part 4: Large Account Pricing

This session will examine the differences between large accounts and small accounts, and how they can and should be treated differently from an insurance pricing perspective. Participants will be introduced to pricing methods that both utilize the increased credibility of large account experience and recognize the uniqueness of each risk. Specifically, this session will serve as an introduction to experience rating, schedule rating, and retrospective rating.

Facilitators: Christopher Cooksey, Head Actuary, Data & Analytics, Guidewire
Josh Taub, Vice President-Product & Pricing/CAS Exam 5 & 8 Instructor-Swyfft, The Infinite Actuary
Alejandro Ortega, Actuary, Gross Consulting
Patrick Stapleton, Associate Actuary, Allstate

Workshops

❑ **Workshop 6: Advanced Predictive Modeling**

Rouge

Although the Generalized Linear Model (GLM) is a natural foundation for much actuarial work, it is best viewed as a starting point, not the last word on the subject. This day-long, hands-on R workshop will discuss a variety of statistical learning methods that either refine or serve as complements to the GLM framework.

Methods for capturing potentially complex non-linear relationships, integrating credibility, tree-based modeling, and machine learning techniques will all be covered in this workshop. Core themes such as the bias-variance tradeoff and cross-validation will be woven throughout the presentation. This workshop will also include a section on feature engineering from unstructured text data that will focus on using natural language processing tools in R to extract predictive signals from noisy text data.

Attendees will develop a better understanding of more advanced modeling techniques including Generalized Additive Models (GAMs), Hierarchical Models, Penalized Regression (Ridge, Lasso, Elastic Net), CART, random forests, boosting and bagging, and natural language processing tools.

The workshop will assume a working knowledge of GLM modeling and R software.

Moderator:	Ronald Zaleski, Vice President-Insurance Analytics, Mutual Benefit Group
Facilitators:	Jason Rodriguez, Data Analytics Manager, Willis Towers Watson William Frierson, Data Scientist, Octo Telematics, Inc. Kudakwashe Chibanda, Manager, PricewaterhouseCoopers Jean-Francois Greeff, Senior Associate, PricewaterhouseCoopers Rachael McNaughton, Data Scientist, Willis Towers Watson

❑ **Workshop 7: Capital Allocation and Risk/Reward Decision-Making**

Chancellor

This workshop will discuss aspects as developed by Merton-Perold, Myers-Read, Mango's asset share model, and the RMK procedures. Also considered will be current research as it relates to how actual capital should perhaps be considered in percentile layers and/or tranches, based on the risk metrics considered.

A laptop is needed for participation in this session as we will have hands-on technical sessions where the audience will be charged with an exercise in allocating capital to lines of business considering various methods. Participants will work in groups to make strategic recommendations based on their respective results. Role playing will be involved. Attendees will have access to data in advance.

Moderator/Facilitator:	Robert Wolf, Vice President and Chief Actuary, StoneTrust Commercial Insurance Company
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Workshops

□ **Workshop 8: iCAS Community of Practice Event**

Regent

The CAS Institute (iCAS) is offering its second Predictive Analytics Community of Practice Event. This full-day event is designed for advanced practitioners working in the area of Predictive Analytics/Data Science, and will include panels, presentations, and roundtable discussions of advanced topics in predictive analytics both within and outside of the insurance fields. Modeled after last year's successful Community of Practice Event, some of the proposed topics include:

- Bringing Actuarial Science into the Data Science Fold
- Claims Analytics
- Social Implications of Using Data
- Data Preparation Tools
- New (and classic) data science books we need to know about.
- Research opportunities available to members of The CAS Institute
- CSPA continuing education requirements

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: Flood Insurance: NFIP and Privatization

Roundtable Discussions, Tuesday, March 20, 7:00 a.m. – 7:45 a.m., Cuvee

Potential topics for discussion include potential changes to the NFIP program, willingness of private insurers to enter the flood insurance market, advances in flood modeling and impacts of recent years' flood events.

Facilitator: Howard Kunst, Chief Actuary, CoreLogic

RT-2: Home Insurance Industry Loss Trends

Roundtable Discussions, Wednesday, March 21, 7:00 a.m. – 7:45 a.m., Cuvee

This year's Homeowner's Loss Trends roundtable discussion will focus on the top emerging economic trends in the home insurance industry, across time and geography, as based on peril-specific historical loss information from approximately 504 million house years over six years. The discussion will include the impact to current market conditions, how home insurance industry dynamics are evolving, what the next step of that evolution will likely be, and how to be prepared for it.

Facilitators: Tyson Horn, Director-Home Vertical, LexisNexis
Prince Kohli, LexisNexis Risk Solutions

RT-3: Medical Professional Liability: Is the Hard Market Coming?

Roundtable Discussions, Tuesday, March 20, 7:00 a.m. – 7:45 a.m., Crystal

The medical professional liability industry is known for its peaks and valleys in terms of insurer profitability. While the industry has enjoyed a long run of success, increased pricing pressure, higher jury verdicts, and changes to the healthcare delivery system could potentially lead the industry into another crisis. Are insurers better equipped to handle this volatility?

Other potential topics of discussion include hospital consolidation, telemedicine, increasing use of physician extenders, and more.

Facilitator: Joshua Youdovin, Senior Actuarial Consultant, MCIC Vermont

RT-4: Predictive Modeling Pitfalls: Challenges in Application

Roundtable Discussions, Tuesday, March 20, 7:00 a.m. – 7:45 a.m., Rouge

There are many success stories featuring Predictive Models, but there are also numerous cautionary tales in which the results of well-constructed models were misunderstood, misapplied or not adopted at all. This session will feature several short and entertaining stories illustrating common pitfalls in getting business value from Predictive Models. Participants will be also be invited to share their own hard-learned lessons.

Facilitator: Dan Root, Actuarial Analyst, XL Catlin

Roundtable Discussions

RT-5: Pricing Strategies for New Lines

Roundtable Discussions, Tuesday, March 20, 7:00 a.m. – 7:45 a.m., Regent

What do you do when faced with the task of pricing a book of business with little or no data? Our first instinct is to look at the traditional insurance industry's price for similar coverage. But what if this business is not readily available in the traditional insurance industry? In this session, we will discuss alternative methods for pricing new lines of business.

Facilitator: Brian Johnson, CEO and Consulting Actuary, Risk International Actuarial Consulting

RT-6: Current Events in Management Liability

Roundtable Discussions, Tuesday, March 20, 7:00 a.m. – 7:45 a.m., Gold

2017 was an active year for management liability. In this roundtable, we will discuss current events and trends affecting management liability coverages like Directors' & Officers' Liability, Employment Practices Liability and Fiduciary liability. Please join us for an engaging discussion.

Facilitator: David Moore, President & Consulting Actuary, Moore Actuarial Consulting, LLC

RT-7: Technological Advances in Auto Insurance

Roundtable Discussions, Wednesday, March 21, 7:00 a.m. – 7:45 a.m., State

Technical innovations such as advanced driver assistance systems, telematics in commercial auto insurance, usage-based insurance, and "smartphonisation" (or how smartphones will revolutionize data capture & risk analysis for insurers) are all changing the dynamics of the auto insurance industry. In this session, participants will discuss the impact of technology on pricing and product management for auto insurance.

Facilitator: Frederic Bruneteau, Managing Director, PTOLEMUS Consulting Group

RT-8: Future of Actuarial Work: Business Led Technology to Meet Today's and Tomorrow's Needs

Roundtable Discussions, Tuesday, March 20, 7:00 a.m. – 7:45 a.m., State

As the world becomes increasingly more analytics and data driven, insurers are embracing innovation and advanced technology to drive growth, preserve profitability, and manage risk. Actuarial leaders are under pressure to do more in less time, and thus are looking to modernize and transform their operations, toolsets, and workforces to better serve the business. Robotics process automation and other advanced business-led automation tools, which can complement a transformation and accelerate actuarial innovation, have emerged as key technology enablers. This session will allow participants to discuss the future of actuarial work and ways in which these emerging technologies can be leveraged to drive efficiency in the current processes and enable innovation to meet the needs of tomorrow.

Facilitator: Ian Sterling, Senior Actuarial Advisor, EY

Roundtable Discussions

RT-9: The CAS Institute

Roundtable Discussions, Wednesday, March 21, 7:00 a.m. – 7:45 a.m., Crystal

Come explore The CAS Institute's Certified Specialist in Predictive Analytics (CSPA) credential and find out about membership in iCAS. Find out more about the Catastrophe Risk Management credential currently under development. Learn how to achieve either credential through the Experienced Practitioner Pathway. Take advantage of the opportunity to ask questions of representatives of the Leadership Advisory Council and Subject Matter Expert groups and to meet The CAS Institute's director.

Facilitator: Todd Lehmann, Quincy Mutual Fire Insurance Co.

RT-10: Getting to the Bottom of Auto Loss Cost Trends

Roundtable Discussions, Tuesday, March 20, 7:00 a.m. – 7:45 a.m., Ambassador

Auto losses have been increasing lately due to a variety of likely factors. The CAS, PCI, and SOA have joined forces to explore and quantify the underlying causes of these changes. Please join us to hear about what variables we are attempting to consider and which data sources we have been able to tap in an effort to find these potential predictors. We also welcome your feedback and suggestions regarding your opinions about loss trend drivers.

Facilitator: Jared Smollik, Director, ISO

RT-11: Tax Reform and the P&C Industry

Roundtable Discussions, Wednesday, March 21, 7:00 a.m. – 7:45 a.m., Gold

In December 2017, the Tax Cuts and Jobs Act, otherwise known as the tax reform bill, was passed and signed into law. Certain components within the bill will have an impact on the P&C industry, such as: (1) Corporate tax rate change, (2) Discount rule changes, and (3) New international tax system, including the new base erosion anti-abuse tax (BEAT) provision. While the changes will affect each company differently, all companies should be thinking about the impact that this will have and their business strategy as a result of the change. This session will allow participants to discuss the tax reform bill, its impact on the P&C industry, what companies should be thinking about, and how actuaries may be involved.

Facilitator: Ian Sterling, Senior Actuarial Advisor, EY

RT-12: Talking to the Boss

Roundtable Discussions, Wednesday, March 21, 7:00 a.m. – 7:45 a.m., Regent

Communication is a key skill for actuaries, but some conversations are trickier than others. It's one thing communicating with fellow actuaries, underwriters, product managers and other colleagues, but it is something quite different communicating with our boss, our boss's boss and so on up to the C-suite. Here we'll share strategies that worked and have a chuckle over the ones that didn't.

Facilitator: James Lynch, Chief Actuary & Vice President of Research and Education, Insurance Information Institute

Roundtable Discussions

RT-13: The CAS Strategic Plan

Roundtable Discussions, Tuesday, March 20, 7:00 a.m. – 7:45 a.m., International Ballroom

The Casualty Actuarial Society revised its strategic long-range plan in 2017. It describes a desired vision and what will be essential to achieving that vision. It is grounded in core ideology and driven by an envisioned future that realizes the full potential of the CAS to serve its stakeholders. In order to achieve its goal of becoming recognized globally as the premier organization advancing the practice and application of casualty actuarial science and educating professionals in casualty actuarial practice, the CAS must adapt to myriad different needs of a constantly evolving membership who operate in a dynamic marketplace. In this session, we will discuss how ratemaking, product management, and modeling will evolve to help the CAS achieve its goal.

Facilitator: Brian Brown, CAS President/Consulting Actuary, Milliman, Inc.

RT-14: Update on Predictive Modeling: Usage and Applications

Roundtable Discussions, Wednesday, March 21, 7:00 a.m. – 7:45 a.m., Rouge

Predictive modeling applications have increased significantly in recent years. While continuing to explore ways to improve on the accuracy of rating structures, many carriers are now deploying predictive modeling applications across their organizations. This roundtable will explore the current usage of predictive modeling, including non-pricing applications in areas such as fraud monitoring, claims triage and target marketing. We will also explore topics such as big data and usage-based insurance.

Facilitator: Klayton Southwood, Director, Willis Towers Watson

RT-15: Workers' Compensation Game Changers

Roundtable Discussions, Tuesday, March 20, 7:00 a.m. – 7:45 a.m., Chancellor

Any significant new issue is fair game for this workers' compensation discussion. There are environmental shifts like the gig economy and tax reform, and also potential innovations like the use of wearable technology, self-driving cars, cybersecurity, and telemedicine. We also expect to hear opinions on current issues that may have intensified recently, such as opioid use.

Facilitator: Victoria Mayen, Manager and Actuary, National Council on Compensation Insurance, Inc.

Concurrent Sessions

Innovation and Emerging Trends

IET-1: Actionable Insights: How to Make Actuarial Research Come to Life

Concurrent Sessions 5, Wednesday, March 21, 8:00 a.m. – 9:15 a.m., Crystal

Actuaries provide critical research for the insurance industry. But often, that research is not easily understood by other insurance professionals. In this session, we'll explore how to transform your findings into actionable insights that are concise, compelling, and easy to understand. Using best practices and case studies, we'll show you how to describe and illustrate your technical research to a broader audience.

Moderator: Kathy Olcese, Vice President-Auto Product Management, Verisk Analytics
Insurance Solutions

Speaker: David Novich, Verisk Analytics

IET-2: Artificial Intelligence and Advanced Insurance Analytics: Techniques, Technology, and Promise

Concurrent Sessions 1, Tuesday, March 20, 10:15 a.m.–11:30 a.m., International Ballroom

The explosive growth in data science has generated considerable enthusiasm for data analysis across all industries. Exciting new tools developed in the technology industry are driving change across all industries. It is easier than ever to change the technical backbone of a company or department, but it remains difficult for insurers to understand whether they should be pursuing, monitoring, or simply ignoring some of the newest trends. In this discussion, we will recap the basic concepts in artificial intelligence and take a candid approach to filtering through these innovations. We will also discuss a framework for identifying opportunities within your own organization.

Moderator/Speaker: Jason Rodriguez, Data Analytics Manager, Willis Towers Watson

Speaker: Rachael McNaughton, Data Scientist, Willis Towers Watson

Concurrent Sessions

IET-3: Blockchain: Finding Real Opportunities Behind the Hype

Concurrent Sessions 5, Wednesday, March 21, 8:00 a.m. – 9:15 a.m., International Ballroom
Concurrent Sessions 7, Wednesday, March 21, 11:30 a.m. – 12:45 p.m., Rouge

Blockchain technology is already significantly impacting the insurance industry's business models and products. Consumer behavior has changed following new needs and expectations. The nature of risk is evolving incorporating new sources of risk and more risk interconnectedness. New ways of measuring and tracking risk in real time allow for innovative risk fragmentation. New players are exploring different ways of allocating risks and interacting with customers. The acceleration in the #insurtech space significantly increased investments in new technologies. One of those new technologies is Blockchain.

This session will navigate the blockchain hype and explore what a blockchain is and isn't, identify how blockchains can disrupt the insurance industry, and outline the threats and opportunities that players will have to navigate. It will start with a brief Blockchain 101 and then discuss the implications of the technology in more depth by delving into the latest use cases and existing insurance products based on blockchain technology. The last third of this session will be interactive and will provide food for thought to actively discuss the latest blockchain insurance protocols with the audience.

Speaker/Speaker: Magdalena Ramada Sarasola, Senior Economist, Willis Towers Watson

IET-4: Demystifying Cyber Risk Modeling

Concurrent Sessions 4, Tuesday, March 20, 4:00 p.m.–5:15 p.m., Crystal

Modeling has become an integral part of risk management but unlike natural perils like hurricanes and earthquakes, our understanding of the cyber threat is still in its early stages. This has created flawed attitudes that modeling isn't ready to be an effective tool for estimating cyber risk. While there is much progress to be achieved, modeling capabilities are being used today within decision making workflows. In session, you'll learn how the challenges in modeling cyber risk are being overcome and how risk managers are taking advantage of modeling to better manage cyber risk.

Moderator/Speaker: Scott Stransky, AVP & Principal Scientist, AIR Worldwide

Speaker: James Kaufmann, AIR Worldwide

Concurrent Sessions

IET-5: Emerging Issues – Utopia or Dystopia?

Concurrent Sessions 7, Wednesday, March 21, 11:30 a.m. – 12:45 p.m., Ambassador

Natural, technological and societal evolutions present enormous potential upside and downside for insurers. This session provides a rundown of various headline grabbers not limited to the internet of things, robotics, the gig economy, opioids, and ever more destructive catastrophes both manmade and natural. It follows with an exploration of product, process, and business model innovations associated with these developments that could take insurers to new heights. It concludes with an exploration of risks and potentially unforeseen consequences, as well as analysis of whether our industry is spiraling towards the singularity. Will tomorrow be a utopia or dystopia for P&C?

Moderator: Kathy Olcese, Vice President-Auto Product Management, Verisk Analytics Insurance Solutions

Speakers: Josh Taub, Vice President-Product & Pricing/CAS Exam 5 & 8 Instructor-Swyfft, The Infinite Actuary
Robert Weireter, Senior Underwriter, Swiss Re

IET-6: Evolution in Business Models: On-Demand and Microinsurance

Concurrent Session 2, Tuesday, March 20, 12:30 p.m. – 1:45 p.m., Gold

Microinsurance and insurance on demand seek to challenge traditional business models for insurance, leveraging advancements in technology and creative thinking to deliver new products and differentiated levels of service to customers. In this session we will hear from the CAS Working Party on Microinsurance and an executive at an on-demand startup about how these developments are shaking up the insurance landscape, tie ins to the sharing economy, and potential implications of these innovations on the actuarial community.

Moderator: Kiki Wang, Willis Towers Watson

Speakers: Michael Fitzgibbon, Chief Underwriting Officer, Slice Labs Inc.
Xiaosu Wash, Actuarial Analyst, ISO

IET-7: The Future of UBI: Analytics and Distribution

Concurrent Sessions 4, Tuesday, March 20, 4:00 p.m.–5:15 p.m., Rouge

Concurrent Sessions 6, Wednesday, March 21, 9:45 a.m. – 11:00 a.m., International Ballroom

In this session, we will discuss the landscape for the future of auto telematics in the insurance space. We will emphasize how the industry is moving beyond simple scores and discuss how the pending changes to the distribution of insurance are upon us.

Moderator/Speaker: Joseph Griffin, Director of Sales and Delivery, DriveAbility and Consulting, Octo Telematics

Concurrent Sessions

☐ **IET-8: UBI: Public and Proprietary Data Collection, Safety, and Profits**

Concurrent Sessions 6, Wednesday, March 21, 9:45 a.m. – 11:00 a.m., Regent

This session will present new research focusing on the impact of data collection through usage based insurance programs, on firm profits, the impact of competition, and fatal accidents. These issues will be considered through the lenses of private industry, academia, and public policy.

Moderator: Jared Smollik, Director, ISO

Speakers: Allen Greenberg, U.S. Department of Transportation/FHWA
Benjamin Shiller, Brandeis University

☐ **IET-9: How to Innovate and get Solutions to Market**

Concurrent Sessions 3, Tuesday, March 20, 2:15 p.m.–3:30 p.m., Crystal

We'll review what is happening in the InsurTech space and review some innovative insurance successes. We will go over a case study of what a successful innovation in the insurance market and what they are providing that the traditional insurers are missing. Then, we'll review how to develop an innovative product and digitize an existing product. Last, we'll review the path to regulatory approval in the U.S., how the U.S. regulatory process different and how to seek approval across the country in an efficient and successful manner.

Moderator/Speaker: Sheri Scott, Principal & Consulting Actuary, Milliman, Inc.

Speaker: Edward Ford, Zendrive

☐ **IET-10: The Evolving Role of User Experience in Insurance**

Concurrent Sessions 5 — Wednesday, March 21, 8:00 a.m. – 9:15 a.m., Regent

Is it possible to make insurance faster? Simpler? More personalized? More transparent? More visual? More portable? More relevant? More enjoyable? In this session two insurtech participants will share their perspectives on how new technologies and approaches are redefining the insurance experience, and how you can too.

Moderator: Jim Weiss, Director, Analytic Solutions, ISO

Speaker: Alex Mobashery, Chief of Staff, Kin Insurance

Concurrent Sessions

☐ ***IET-11: Distribution in the 21st Century***

Concurrent Sessions 1, Tuesday, March 20, 10:15 a.m.–11:30 a.m., Regent

Managing general agents (MGAs) and comparison shoppers may not seem like fast friends at first glance, but a deeper look reveals similarities in how they are changing the art of insurance distribution. Both play a substantial role in making insurance available to the global insurance buying masses, and they even present the potential for insurers to achieve efficiencies in other core functions such as policy administration and claims handling. In this session we explore successes and roadblocks in the evolution of these distribution channels, growth opportunities and relevant constraints, and how actuaries can become more involved over the entire life cycle of a policy.

Moderator/Speaker: Emily Gilde, Senior Vice-President and Chief Actuary, Ethos Specialty Insurance

Speaker: Neil Chapman, Senior Consultant, Willis Towers Watson

☐ ***IET-12: US Flood Insurance: How Modeling and Recent Events are Transforming NFIP and the Market***

Concurrent Session 2, Tuesday, March 20, 12:30 p.m. – 1:45 p.m., Crystal

The landscape of the US Flood insurance market has been changing tremendously over the last few years, and has become a very hot topic in the Insurance industry. As the NFIP begins a process of developing a newer, up-to-date flood rating manual, more flooding events have occurred, and scientifically based flood models have entered the industry to help quantify the potential losses. In this session, we will discuss the FEMA/NFIP rating enhancement project, how flood models are being utilized and how events like Hurricane Harvey are being analyzed.

Moderator/Speaker: John Kulik, Senior Vice President, Guy Carpenter & Co. LLC

Speakers: David Smith, Senior Leader, CoreLogic
Mitchell Waldner, FEMA/Department of Homeland Security
David Evans, Milliman, Inc.

Concurrent Sessions

Modeling

M-1: GLM I

Concurrent Session 2, Tuesday, March 20, 12:30 p.m. – 1:45 p.m., Cuvee

Do terms such as “link function,” “exponential family,” and “deviance” leave you puzzled? If so, this session will clarify those terms and demystify generalized linear models (GLMs). The session will provide a basic introduction to linear models and GLMs. Targeted at those who have modest experience with statistics or modeling, the session will start with a brief review of traditional linear models, particularly regression, which has been taught and widely applied for decades. Session leaders will explain how GLMs naturally arise as some of the restrictive assumptions of linear regression are relaxed. GLMs can model a wide range of phenomena, including frequencies and severities as well as the probability that a claim is fraudulent or abusive, to name just a few. The session will emphasize intuition and insight in addition to mathematical calculations. Illustrations will be presented using actual insurance data.

Moderator/Speaker: Ernesto Schirmacher, Senior Managing Actuary, Liberty Mutual Insurance

M-2: GLM-II

Concurrent Sessions 3, Tuesday, March 20, 2:15 p.m.–3:30 p.m., Cuvee

GLM I provided the case for using GLMs and some basic GLM theory. GLM II will be a practical session outlining basic modeling strategy. The discussion will cover topics such as overall modeling strategy, selecting an appropriate error structure and link function, simplifying the GLM (i.e., excluding variables, grouping levels, and fitting curves), complicating the GLM (i.e., adding interactions), and validating the final model. The session will also include a discussion on diagnostics that help test the selections made.

Moderator/Speaker: Ernesto Schirmacher, Senior Managing Actuary, Liberty Mutual Insurance

Speaker: Pong Woo, Consultant, Willis Towers Watson

Concurrent Sessions

M-3: GLM-III

Concurrent Sessions 4, Tuesday, March 20, 4:00 p.m.–5:15 p.m., Cuvee

This session will consider new techniques and refinements to the basic GLM which can add material value to the modeling process. It will specifically consider amendments which address some of the purported failings of GLMs in comparison to emerging methods such as machine learning techniques.

The session will include a discussion of:

- An innovative approach to detecting subtle and higher dimensional interactions in an efficient way, potentially eliminating the need to consider alternative, harder-to-implement model forms such as nonlinear models.
- The role of such automated methods in comparison with a more manual construction of composite explanatory variables.
- Ways to mitigate the risk of over-parameterization through the use of modifications which incorporate elements of credibility within the GLM framework.
- Simple practical modeling steps that can be used to remove distortions created by combining models across claim types.
- Innovative ways of modeling bodily injury claims and other miscellaneous refinements.

Moderator/Speaker: Brent Petzoldt, Vice President and Head of Pricing, JLT Re

M-4: Analytics Roadmap for Smaller Companies: Investing in the Right Tools and Techniques

Concurrent Sessions 5, Wednesday, March 21, 8:00 a.m. – 9:15 a.m., Gold

The analytic challenges for a \$10 billion company are very different from those of a \$100 million company. Smaller companies have always found innovative ways to compete with the larger companies through distribution channels, customer relations, and target marketing. One of the new competitive frontiers in the industry is analytics — companies that are able to effectively leverage analytics are seeing a great return on their investment. Unfortunately for smaller companies, larger carriers are at an advantage simply from the availability of resources.

In this session we will discuss what smaller companies (primarily those under \$500 million) can do to compete in the analytics arms race. Not all analytics activities provide the same return on investment; here we will outline some of the most cost effective analytics initiatives spanning across product enhancement, tools, and methodology. This session will also address the talent gap that many smaller companies face and the most effective ways to address it.

Moderator/Speaker: Drew Lawyer, Principal Consultant, Earnix

Speaker: Jennifer Fiorita, Director of Product Development and Actuarial Operations, Electric Insurance Company

Concurrent Sessions

M-5: And the Winner Is: How to Pick a Better Model

Concurrent Sessions 5, Wednesday, March 21, 8:00 a.m. – 9:15 a.m., Rouge

You have just finished running some data through a predictive modeling package. Now all you need to do is summarize the results, send them along, and you're done, right? Wrong. At the absolute minimum, you should understand and demonstrate the goodness of fit of the model. In most cases, you should also prove the constructed model provides lift over the existing rating structure. After all, what good is a new model if it cannot outperform the competition? In this session, we will explore in significant detail three often overlooked components of the modeling process: measuring goodness-of-fit, assessing lift, and internally validating a predictive model. Key topics include confusion matrices, ROC curves, Gini indices, lift charts, double-lift charts, residual plots, likelihood, penalized likelihood and deviance. Model development is usually a major investment. We should make sure our models are performing well to get the best bang for the buck.

Moderator/Speaker: Hernan Medina, Sr. Principal Data Scientist, ISO

Speaker: Hoi Leung, AIG

M-6: Data Visualizations of Auto Crashes

Concurrent Sessions 4, Tuesday, March 20, 4:00 p.m.–5:15 p.m., State

We will show how companies can take external data and combine it with their own internal information (such as loss costs) to create dynamic data visualizations that will help stakeholders make important decisions about pressing current issues such as distracted driving, marijuana usage (in states where it is legal) and crash rates, and partially automated cars (and what to charge for cars with these enhanced safety features). The focus will be on showing participants how they can apply this type of cutting-edge data visualization at their own company. We will also feature how companies can use interactive data visualization directly in presentations as opposed to static PowerPoints.

Moderator: Benjamin Williams, Senior Consultant, Willis Towers Watson

Speakers: Madeline Main, Senior Analyst, Willis Towers Watson
Klayton Southwood, Director, Willis Towers Watson

M-7: Effective Collaboration between Actuaries and Data Scientists

Concurrent Sessions 3, Tuesday, March 20, 2:15 p.m.–3:30 p.m., International Ballroom

With an increased focus on advanced modeling and machine learning, collaboration between Actuaries and Data Scientist is important for project success. In this session we will share benefits, opportunities and pitfalls learned from State Farm's collaboration on various rating model projects.

Moderator/Speaker: Jeff Kinsey, Research Manager, State Farm Insurance Companies

Speaker: Jeffrey Rambole, Senior Statistician, State Farm Insurance Companies

Concurrent Sessions

☐ **M-8: Ensembles and Combining Models**

Concurrent Sessions 6, Wednesday, March 21, 9:45 a.m. – 11:00 a.m., Ambassador

Ensembles are powerful analytical methods used commonly in the wider Predictive Analytics community outside of Insurance. We'll describe the rationale and explain the effectiveness of Ensembles in general, as well as the basic approaches of bagging and boosting Ensembles of Trees. Advantages of Ensembles on insurance data will be shown and the issues surrounding complex models discussed. Finally, strategies for combining linear regression and ensemble models will be explored through a case study.

Moderator/Speaker: Christopher Cooksey, Head Actuary-Data & Analytics, Guidewire

☐ **M-9: Getting Impact from Predictive Analytics: You have a Model. Now what?**

Concurrent Sessions 1, Tuesday, March 20, 10:15 a.m.–11:30 a.m., Gold

Getting impact from predictive modeling and analytics means effective communication, strategic thinking, and follow through. This session will discuss the predictive modeler's core messages from the perspective of senior management, as well as strategies to communicate model results effectively with senior management. We'll also discuss how to think strategically about execution and how to cross the final mile to impact.

Moderator: Jessica Leong, Zurich North America

Speaker: David Wang, Data Solution Consultant, Zurich North America

☐ **M-10: Neural Networks – Could We Actually File One?**

Concurrent Sessions 1, Tuesday, March 20, 10:15 a.m.–11:30 a.m., Crystal

Rather than dismissing Neural Networks as a technique to be used in rate filings, this session will throw caution to the wind. If we start with the assumption that they could work, acknowledge the difficulties inherent as legitimate problems, but then work to solve those problems...how far could we get?

This session will present enough theory for an unfamiliar audience to understand the workings and potential advantages of Neural Networks. The issue of model transparency will be discussed, particularly in contrast with GLMs, and options for explaining/presenting Neural Networks will be presented. In addition, a regulator will ruminate on what is actually required in a filed model. Do we make assumptions on this that may not be true?

Moderator/Speaker: Christopher Cooksey, Head Actuary-Data & Analytics, Guidewire

Speaker: Thomas Hess, Assistant Actuary, Ohio Department of Insurance

Concurrent Sessions

M-11: Nonparametric GLMs

Concurrent Session 2, Tuesday, March 20, 12:30 p.m. – 1:45 p.m., Chancellor

GLMs provide a powerful modeling framework but often their rigid structure does not allow for an optimal model. Learn how to build basic nonparametric models with a limited number of variables and how to apply nonparametric techniques to improve existing GLMs with an unlimited number of variables.

Moderator/Speaker: Ryan Morrison, CEO, True Mileage, Inc.

M-12: Overview and Practical Applications of Machine Learning Methods in Pricing – Part 1

Concurrent Sessions 6, Wednesday, March 21, 9:45 a.m. – 11:00 a.m., Gold

The term “machine learning” covers a range of methods that can be powerful, with very practical benefits, in pricing and other insurance applications. Such methods can aid in further improving GLM results or more broadly bring valuable insights to complex problems. There can also be a number of practical challenges in using these methods effectively. This is the first of two sessions reviewing a range of commonly used methods and illustrating different ways they are being applied in insurance, including some case study results. These sessions will focus on the high-level mechanics of each method and the benefits/challenges of their application — as opposed to the underlying technical details. Part 1 will focus on tree-based methods including random forests and GBMs. Part 2 will cover other popular methods including penalized regression methods and neural networks. Each part can be attended without the other.

Moderator/Speaker: Claudine Modlin, Director, Willis Towers Watson

Speaker: Graham Wright, Director, Willis Towers Watson

M-13: Overview and Practical Applications of Machine Learning Methods in Pricing – Part 2

Concurrent Sessions 7, Wednesday, March 21, 11:30 a.m. – 12:45 p.m., Gold

The term “machine learning” covers a range of methods that can be powerful, with very practical benefits, in pricing and other insurance applications. Such methods can aid in further improving GLM results or more broadly bring valuable insights to complex problems. There can also be a number of practical challenges in using these methods effectively. This is the first of two sessions reviewing a range of commonly used methods and illustrating different ways they are being applied in insurance, including some case study results. These sessions will focus on the high-level mechanics of each method and the benefits/challenges of their application — as opposed to the underlying technical details. Part 1 will focus on tree-based methods including random forests and GBMs. Part 2 will cover other popular methods including penalized regression methods and neural networks. Each part can be attended without the other.

Moderator/Speaker: Claudine Modlin, Director, Willis Towers Watson

Speaker: Graham Wright, Director, Willis Towers Watson

Concurrent Sessions

M-14: Predictive Analytics in Strategy and Decisions – A Tour Around the Globe

Concurrent Session 4, Tuesday, March 20, 4:00 p.m. – 5:15 p.m., Chancellor

Predictive analytics can shape key aspects of insurers' business strategies and thus is gaining popularity world-wide. Regional diversity in practice, market conditions and regulation is influencing the way analytics is being implemented around the globe. The availability of data, analytical sophistication and the maturity level of customer-centric views can also influence many business problems. These problems can be addressed by predictive analytics, and the efficiency and precision of actuarial decisions. We can learn from the global differences as well as from the commonalities.

This session will discuss various analytical challenges around pricing, underwriting, retention management, customer life time value, etc. and provide real life examples acquired through numerous projects in over 20 countries around the globe.

Moderator/Speaker: Reuvan Shnaps Ph.D., Chief Analytics Officer, Earnix Ltd.

M-15: Predictive Modeling Loss Assumptions: What's the Impact?

Concurrent Sessions 4, Tuesday, March 20, 4:00 p.m.–5:15 p.m., Regent

Differences in the maturity of losses and historical cost levels are inherent issues of any analysis involving insurance losses, and predictive modeling analyses are no exception. However, traditional actuarial adjustment methods, which are usually applied at an aggregate level, tend to break down theoretically when applied at the individual claim level in a predictive modeling dataset.

In this session, we'll discuss several different techniques in which insurance losses can be adjusted to account for time-related differences as well as their merits from a theoretical perspective. Additionally, we will present results of a research project which evaluate these different adjustment methods across a variety of lines of business and the impact that they may have on modeling results as well as the predictive modeling process.

Moderator/Speaker: Eric Krafcheck, Consulting Actuary, Milliman

Speaker: Katie Pipkorn, Associate Actuary, Milliman

M-16: Python for Actuaries

Concurrent Sessions 3, Tuesday, March 20, 2:15 p.m.–3:30 p.m., Regent

This session will introduce the Python programming language. We will review some of the significant libraries that are relevant to actuaries. The session will walk through a machine learning exercise using the scikit-learn package.

Moderator/Speaker: Brian Fannin, Research Actuary, Casualty Actuarial Society

Speaker: John Bogaardt, WCF Mutual Insurance Company

Concurrent Sessions

M-17: Sparsity Blues: How to Improve Your Predictive Model with Categorical Data

Concurrent Sessions 7, Wednesday, March 21, 11:30 a.m. – 12:45 p.m., Chancellor

Linear models don't always handle categorical data well. And yet, categorical predictors are common in classification rating plans. Credibility has long been a tool which can smooth predictions across segments. This presentation will illustrate decision trees and naive Bayes as alternatives to a strict credibility-focused modeling approach.

Moderator/Speaker: Brian Fannin, Research Actuary, Casualty Actuarial Society

M-18: Using Predictive Analytics to Decompose Workers' Compensation Loss Triangle Anomalies

Concurrent Sessions 1, Tuesday, March 20, 10:15 a.m.–11:30 a.m., Cuvee

Loss triangles often produce reserve estimates that are unusual for a particular evaluation. For example, where the previous three years might indicate a 1.25 change in reserves at a particular evaluation, the latest indication is a 1.40 change. Often such an anomaly requires checking with underwriters, claim adjusters, case managers, and other operations specialists to understand the unusual adverse loss experience. By contrast, advances in predictive analytics are allowing for much more granular decompositions of claim experience that permit isolating changes in claim frequency and severity for narrow subgroups of claims or claim characteristics. For example, a Segmentation Analysis might identify an unusually large number of claims for a high-cost segment, an unusually large increase in severity for a moderately-severe segment, or some combination of both. Segmentation analysis can tease-out changing associations between specific claim characteristics (increasing or decreasing opioid utilization, cumulative trauma and attorney involvement) and their associated outcomes.

The panelists will describe a general framework for the predictive analytics and provide a detailed example of a segmentation analysis, which uses claim characteristics to segment (or to some, cluster) claims into mutually exclusive subgroups, and then they will analyze frequency and severity changes for these subgroups across different evaluations in the loss triangle. The panelists will also describe information the actuary should consult to determine whether the changes to the subgroups is systemic to the book of business or due to external changes. The external changes may include public policy changes, change in adjudication practices or changes in market claims trends.

Moderator/Speaker: Philip Borba, Senior Consultant, Milliman, Inc

Speaker: Alex Swedlow, President, CWCI

Concurrent Sessions

Product Management

PM-1: Bridging The Transparency Gap with Geospatial Intelligence

Concurrent Sessions 5, Wednesday, March 21, 8:00 a.m. – 9:15 a.m., Embassy

Rewrite the analytical rules by utilizing real-time geospatial data with time-tested profit strategies. Are actuaries, underwriters, claims adjusters, product managers and marketing reps all working from the same roadmap? Why personal lines insurance is behind the times using data in a more meaningful way.

Moderator: Donald Hendriks, National Actuarial Consultant, CARFAX Banking & Insurance Group

Speaker: David Jowell, CEO, GIA Map

PM-2: Census Data and Geography in P&C Insurance

Concurrent Sessions 3, Tuesday, March 20, 2:15 p.m.–3:30 p.m., Gold

Concurrent Sessions 7, Wednesday, March 21, 11:30 a.m. – 12:45 p.m., International Ballroom

The U.S. Census Bureau produces a wealth of data products including demographic and economic data as well as geographic reference and boundary information. This session will provide an introduction into census data (where to get it and how to map it) and then present a variety of case studies focusing on GIS application of census products for P&C Insurance.

Moderator/Speaker: David Evans, Milliman, Inc.

Speaker: Garrett Bradford, Cartographer, Milliman, Inc

PM-3: Data Driven Opportunities in the Smart Home and Implications for Insurers

Concurrent Sessions 7, Wednesday, March 21, 11:30 a.m. – 12:45 p.m., Crystal

The continual harvest of data from everyday devices, combined with shifts in consumer preferences, is pushing synergies for those in the smart-home market and the insurance industry. Gain an understanding of the definition of a smart home and learn how these two industries can leverage successful collaborations.

Moderator/Speaker: Sandra Maples, Director of IoT Product Management, Verisk Analytics

Concurrent Sessions

PM-4: Customer Centric Pricing: Infusing Customer Lifetime-Value into your Pricing and Processes

Concurrent Session 2, Tuesday, March 20, 12:30 p.m. – 1:45 p.m., International Ballroom

The idea of customer centricity has been getting a lot of coverage lately; however, most of the content is focused around the strategic importance of customer centricity. One learning from this strategy — not all policyholders are created equal. This can be a controversial concept in many companies, and for some companies, the days of treating all customers equal is ending. Having the right metrics in place is critical for the “customer centric” company of the future. While many companies talk about Lifetime-Value, very few have successfully managed to develop, deploy, and act upon such a highly praised metric.

In this session, we will focus what companies are practically doing to integrate the concepts of customer centricity into their pricing practices. We will cover the evolution from cost based pricing through lifetime-value pricing. This session will help demystify the elusive CLTV metric by exploring the advantages and disadvantages of different calculation methods, and glimpse into how the most successful companies are leveraging these metrics to drive change and improve business results. Attendees will learn new insights into what initiatives they should pursue today to prepare for the future of customer centric pricing.

Moderator/Speaker: Drew Lawyer, Principal Consultant, Earnix

Speaker: Reuven Shnaps Ph.D., Chief Analytics Officer, Earnix Ltd.

PM-5: Insurance Disruption – How to Modernize your Insurance Product and Roll out Changes in Six Months

Concurrent Sessions 6, Wednesday, March 21, 9:45 a.m. – 11:00 a.m., Crystal

We will start with success stories of companies modernizing their existing products. We will review how to identify and incorporate modern coverage design, service, and digitization. Then we will discuss how to prepare your filing support to support an efficient regulatory approval across 50 states in the US. If done right, you can launch product changes across all 50 states within six months of starting the product evolution process.

Moderator: Kathleen Knudson, Actuary, Milliman, Inc

Speaker: Sheri Scott, Principal & Consulting Actuary, Milliman, Inc.

Concurrent Sessions

PM-6: Recent Trends in Mileage: An Insurance Industry Perspective

Concurrent Sessions 1, Tuesday, March 20, 10:15 a.m.–11:30 a.m., State

Over the last several decades, the number of miles people drive on a daily basis has changed dramatically. At the end of the 20th century, more and more people took on long commutes, pushing average mileage up. Factors like the Great Recession of 2007, ridesharing, and a resurgence of the inner cities have had the opposite effect. Because mileage is a direct reflection of exposure to loss, insurers need to understand how vehicles are used in order to properly rate and underwrite them. This session discusses recent trends in mileage and ways insurers can use mileage to better understand the pricing and underwriting exposures they face.

- Moderator: Donald Hendriks, National Actuarial Consultant, CARFAX Banking & Insurance Group
- Speakers: Matthew Moore, Senior Vice President, Highway Loss Data Institute
David Grove, Vice President-Product Management, Ohio Mutual Insurance Group
Daniel Hill, National Sales Director, CARFAX

PM-7: The Future of Auto Insurance

Concurrent Sessions 1, Tuesday, March 20, 10:15 a.m.–11:30 a.m., Rouge

How will the future of auto insurance look? This session will demystify the Original Equipment Manufacturer (OEM) threat to the insurance sector, discuss how insurance carriers can stay relevant, and debate on the future insurance rating in the age of connected cars.

- Moderator/Speaker: Matteo Carbone, Director, IoT insurance Observatory

PM-8: The Impact of Autonomous Vehicles on Risks

Concurrent Sessions 4, Tuesday, March 20, 4:00 p.m.–5:15 p.m., Gold

What is the impact of autonomous vehicles on insurance risks? This session will discuss effects of AV on crash frequency and severity, how it will change how the risks are transferred (e.g. will Original Equipment Manufacturers (OEM)s become insurance carriers in the future), and the macro-impact for the whole auto insurance industry.

- Moderator/Speaker: Frederic Bruneteau, Managing Director, PTOLEMUS Consulting Group

Concurrent Sessions

PM-9: PTBA: Risk Selection in Cyber Insurance Underwriting

Concurrent Sessions 6, Wednesday, March 21, 9:45 a.m. – 11:00 a.m., Chancellor

Cyber is an emerging line of insurance that has demonstrated tremendous growth, with even more potential for growth over the next decade. Since it is an anthropogenic peril with rapidly evolving threat landscape and coverages, it poses a unique challenge to underwriting. Here, we propose a simple to calculate new measure, Propensity to be Attacked, or PTBA, which is driven by the interplay between attacker motivation and cybersecurity defense. Producing a single number as an output, PTBA can serve as a practical, quantitative risk score easily applied to individual risk underwriting.

Moderator: Caryn Carmean, Horace Mann Companies

Speakers: Aritra Chatterjee, Actuarial Underwriter, Hannover Re
Raveem Ismail, Director-(Re)Insurance, Fractal Industries

PM-10: Underwriting's New Reality – A Case Study of Automated Integration of Analytics and Rules

Concurrent Sessions 5, Wednesday, March 21, 8:00 a.m. – 9:15 a.m., Cuvee

With increasing competitive pressure and higher consumer expectations, the leading insurance companies are leveraging advanced technology, adopting complex predictive models used in pricing and simultaneously automating underwriting rule execution to minimize the required underwriter touch and decisionmaking time. This is especially true in the small commercial insurance landscape where straight through processing (STP) is expected to lower operational costs while maintaining or improving profitability and enhancing the customers' experience. To achieve this, a well-defined process for integration of analytical solutions and rules architecture in the underwriting process that leverages the latest technology and data platform is critical.

In our session, we will discuss typical challenges with models and underwriting rules integration such as misalignment, dispersion, and lack of feedback loop. We will present a holistic approach that will help overcome these challenges. This will include a discussion on a portfolio management framework and a well-defined feedback loop. To illustrate how one can operationalize the approach, we will demonstrate a working tool that extracts data from the policy administration system, executes an integrated predictive models/underwriting rules platform and delivers recommended underwriting actions.

The session is designed to feature a moderated dialog with the participation of an industry-leading executive who is wrestling first-hand with the challenges of commercial lines modernization. Audience participation and active question & answer are encouraged.

Moderator/Speaker: Gary Ciardiello, Principal, EY

Speakers: Benny Yuen, Senior Actuarial Advisor, EY
Rebecca Freeman, EY

Concurrent Sessions

Ratemaking

R-1: Aims and Advances in Personal Lines Risk Classification

Concurrent Session 2, Tuesday, March 20, 12:30 p.m. – 1:45 p.m., State

Insurance risk classification continues to become more sophisticated and refined, fueled by enhancements in data, analytical techniques and computing power. This session will open with a brief discussion of the aims of risk classification, including how this topic is addressed in actuarial standards of practice and insurance rate regulation and some recent anecdotes of where it's been covered in the press. We will focus on personal lines insurance and discuss real examples of novel risk classification used in pricing and what issues the classifications aim to address, what data and techniques are used to develop these classifications, and what implementation challenges they may present. We will then examine how telematics, as well as advances in autonomous safety features, has and will continue to change risk classification.

Moderator: Steven D. Armstrong, Vice President, Allstate Insurance Company

Speakers: Claudine Modlin, Director, Willis Towers Watson
Katie DeGraaf, Insurance Solutions Director, Arity

R-2: Cluster Analysis in Loss Development

Concurrent Sessions 6, Wednesday, March 21, 9:45 a.m. – 11:00 a.m., State

Cluster analysis is a collection of statistical tools designed to group similar data objects. In this session, we will look at these tools applied to grouping of similar loss development patterns.

In ratemaking, loss experience is typically aggregated into development triangles according to the needs of state-by-state rate filings. In loss reserving, losses are typically aggregated based on financial reporting categories. Cluster analysis can help to investigate more optimal ways of grouping the data. This session will discuss some useful ways to visualize the clusters and share some practical successes and challenges in applying clustering on loss development triangles. Topics include “hard” clustering such as k-means and “soft” or “fuzzy” clustering with similarities to traditional credibility theory.

Moderator: Richard Haines, Principal-Commercial Property Actuarial Products, Verisk/ISO

Speakers: David Clark, Munich Re America, Inc.
Diana Rangelova, Actuary Senior, Munich Reinsurance America Inc.

Concurrent Sessions

R-3: Commercial Auto: Reading the Terrain

Concurrent Sessions 4, Tuesday, March 20, 4:00 p.m.–5:15 p.m., Ambassador

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 being experienced by much of the industry in this line of business. We will discuss the importance of accurate underwriting and predictive analytics. The role premium leakage plays today will be discussed, as well as how new developments like ISO's Optional Class Plan will affect the market in years to come.

Moderator: Pam Sealand Reale, Assistant Vice President & Actuary, The Hartford
Speakers: Kevin Hughes, Associate Actuarial Consultant, Verisk Analytics
Kirsten Hernan, Swiss Re

R-4: Crime Data with Applications to Ratemaking

Concurrent Sessions 7, Wednesday, March 21, 11:30 a.m. – 12:45 p.m., Regent

A discussion of geography specific crime data, including common sources of raw data, difficulties associated with data consistency across space, and tradeoffs between generalization and high-resolution data. Session will discuss current crime rating algorithms and applications in ratemaking methodologies as well as potential refinements for future uses.

Moderator/Speaker: Bjorn Markeson, Location, Inc.
Speaker: Ajay Marathe, Associate Actuarial Consultant, Verisk Analytics

Concurrent Sessions

R-5: Economic and Technological Changes Drive Frequency and Severity Growth for Auto Insurers – Moving Forward

Concurrent Sessions 6, Wednesday, March 21, 9:45 a.m. – 11:00 a.m., Cuvee

The U.S. automotive insurance market will face numerous challenges in 2018 and beyond. As the auto industry responds to changing vehicle technology, changing notions of personal mobility, and growth of digital technologies, the internet of things (IoT), artificial intelligence (AI), and analytics, the type of insurance product carriers will underwrite and the way claims are resolved is changing. As the industry works to meet the demands of an increasingly digital customer base, they are dealing not only with changing consumer expectations; simultaneously the vehicles being driven by their customers are also becoming ever more complex. As automakers have responded to government regulation on fuel economy, emissions reductions, safety, and other factors, new products and technologies have been developed that have led to a much more technologically sophisticated vehicle fleet.

This session will focus on the key drivers behind growing frequency and severity within the auto insurance sector, and what the trend for the future may look like, as the marketplace responds to the ever-increasing rate of change.

Moderator: Tyler Wykoff, Pricing Analyst, National General Insurance

Speakers: James Lynch, Chief Actuary & Vice President of Research and Education, Insurance Information Institute
Susanna Gotsch, Director and Industry Analyst, CCC Information Services Inc.

R-6: Insurance-Linked Securities (ILS) Market's Reaction to Losses in 2017

Concurrent Sessions 5, Wednesday, March 21, 8:00 a.m. – 9:15 a.m., Chancellor

ILS markets were founded to provide property coverages against natural catastrophes. ILS markets have historically provided market leadership and stability around catastrophe events — how has the market responded to losses in 2017? As we look forward to future opportunities, what lies ahead? ILS managers and investors have matured significantly since the founding days and what opportunities are available to take the market to the next level? The nearest answer seems to be specialty lines; ILS funds have demonstrated an appetite for specialty and there's a clear market opportunity for larger capacity. Join us for a lively discussion of how ILS capital can complement current capacity to help clients achieve target ROEs and investors achieve attractive financial returns.

Moderator: Beth Fitzgerald, Senior Vice President-Industry Engagement, ISO

Speakers: Tom Johansmeyer, AVP-Co-Head PCS, ISO
Sean McCarty, Managing Director, Aon Risk Solutions

Concurrent Sessions

R-7: Introduction to Profit and Contingency Loading in Ratemaking

Concurrent Sessions 3, Tuesday, March 20, 2:15 p.m.–3:30 p.m., Ambassador

The Standard Ratemaking Formula is $R=(P+F)/(1-V-Q)$, where:

- R= Rate per unit Exposure
- P= Loss Cost (or Pure Premium) per unit exposure
- F= Fixed Expense per Unit Exposure
- V= Variable Expense Costs (% premium)
- Q= Profit and Contingency Load (as % Premium)

This session is intended to be an introductory session on how to derive your “Q”. There are many methodologies. Some methodologies are mandated by regulation. Some are subject to the actuary’s discretion and rationale. Multiple answers can occur given the approaches and considerations in how to best reflect the cost of capital. This session is intended to provide discussions on advantages and disadvantages of alternative approaches.

Moderator/Speaker: Robert Wolf, Vice President and Chief Actuary, StoneTrust Commercial Insurance Company

Speaker: Ira Robbin, Transatlantic Reinsurance

R-8: Loss Sensitive Large Accounts Pricing: Approaches and Challenges

Concurrent Sessions 1 — Tuesday, March 20, 10:15 a.m.–11:30 a.m., Ambassador

This session will delve into the challenges and decision points associated with loss sensitive large account pricing. Topics will include potential information available to support this process along with the decision points associated with available parameters and methodologies, including an update regarding NCCI’s new Aggregate Loss Factors (formerly known as Table M) and Aggregate Loss Factors On Demand application for retrospectively rated policies. This is intended as an open discussion of ideas, so please prepare for an interactive session.

Moderator/Speaker: Russ Buckley, Vice President and Actuary-Specialty Lines, The Hartford

Speaker: Kirk Bitu, Actuary, National Council on Compensation Insurance, Inc.

R-9: Severe Weather — Lessons Learned from 2017

Concurrent Sessions 3, Tuesday, March 20, 2:15 p.m.–3:30 p.m., State

This session will be a discussion of the 2017 hurricane, severe weather and wildfire events, with a particular focus on catastrophe modeling and personal lines pricing issues related to these events.

Moderator: Tyler Wykoff, Pricing Analyst, National General Insurance

Speakers: Kellen Miller, Actuarial Assistant, Allstate Insurance Company
Jeff Waters, Senior Product Manager, Risk Management Solutions

Concurrent Sessions

R-10: Vehicle History: Insurance Scoring for Your Car

Concurrent Sessions 7, Wednesday, March 21, 11:30 a.m. – 12:45 p.m., State

To evaluate the risk associated with personal auto coverage, insurers have traditionally primarily used information about the driver, such as age, gender, marital status and location; the intended use of the vehicle, such as business or pleasure; and information about the vehicle when new, such as original cost new. Insurers then added detail to driver information using sophisticated credit scoring and demographic models. They added detail to vehicle use information with telematics and usage-based insurance pricing. Now, insurers have begun to add detail about the vehicle itself using vehicle history.

This session will discuss how carriers use the specific vehicle history to more accurately price and underwrite risks. We will discuss obvious data elements, such as salvage title brands, verified average annual mileage, and severe damage. We will also discuss data that may not be as obvious but has proven predictive of loss in the past. Finally, we will discuss using vehicle history as an entry point for UBI programs.

Moderator/Speaker: Donald Hendriks, National Actuarial Consultant, CARFAX Banking & Insurance Group

Speaker: Michael Chen, Consulting Actuary, Pinnacle Actuarial Resources, Inc.

R-11: Workers' Compensation – State of the Market

Concurrent Sessions 5, Wednesday, March 21, 8:00 a.m. – 9:15 a.m., Ambassador

An overview of the current state of the workers' compensation line will be presented, including a review of financial results, recent trends, and a discussion of where the line might be headed.

Moderator/Speaker: Jay Rosen, Director and Senior Actuary, National Council on Compensation Insurance, Inc.

Speaker: Brent Otto, Vice President & Top Actuarial Officer, Amerisure Insurance Company

Concurrent Sessions

Regulation and Professionalism

☐  **RP-1: ASOP on Estimating Future Costs for Prospective Property/Casualty Risk Transfer and Risk Funding** 

Concurrent Session 2, Tuesday, March 20, 12:30 p.m. – 1:45 p.m., Regent

As part of the traditional ratemaking and other projections of the cost of future fortuitous events, many actuaries are involved in the development of the estimates of the underlying future costs of many risk transfer or risk retention programs — insurance, re-insurance, excess insurance, captives, self-insurance, etc. These estimates serve as the preliminary basis for the development of the filed rates, negotiated contracts or charges to operating costs.

This panel will provide a summary of the recently approved ASOP covering the area of estimating future costs prospectively whether they are transferred or retained.

Moderator/Speaker: Christopher Carlson, Chief Actuarial Officer, Ohio Bureau of Workers' Compensation

Speaker: Patrick Woods, Retired

☐  **RP-2: Lights! Camera! Professionalism!** 

Concurrent Sessions 3, Tuesday, March 20, 2:15 p.m.–3:30 p.m., Rouge

Join us as we “act” out various real-world examples that might just require a review of the Actuarial Standards of Practice! This session will be eligible for Professionalism Continuing Education Credits, and is hosted by the Committee on Professionalism Education.

Moderator/Speaker: Kelly McKeethan, Senior Actuary, American Home Shield

Speakers: Michael Chen, Consulting Actuary, Pinnacle Actuarial Resources, Inc.
Peter Royek, Senior Vice President and Actuary, The Toa Reinsurance Company of America

Concurrent Sessions

RP-3: Predictive Modeling – A Regulator's Perspective

Concurrent Sessions 7, Wednesday, March 21, 11:30 a.m. – 12:45 p.m., Cuvee

This session has three parts. First, we will give attendees insight into the Regulator's perspective regarding the increasing use of GLM models and other Predictive Analytic tools. It includes a brief review of relevant GLM theory and a list of common regulatory concerns and complaints. These shared concerns and complaints include sloppy filings, incomplete filings, and filings where it appears the filers assumes the requested information won't be read. We talk about how regulators are talking and working together to address their shared challenges and concerns.

The second part focuses on the concerns in Nevada and we will conclude with a question and answer section.

Moderator/Speaker: Thomas Hess, Assistant Actuary, Ohio Department of Insurance
Speakers: Daniel Davis, Actuary, Alabama Department of Insurance
Gennady Stolyarov, Lead Actuary-Property and Casualty Insurance, Nevada Division of Insurance

RP-4: Price Optimization

Concurrent Sessions 4, Tuesday, March 20, 4:00 p.m.–5:15 p.m., International Ballroom

As Price Optimization has gained more traction in the insurance industry, there has been a divergence of opinions regarding the legitimacy of its use ranging from acceptance to outright banning of the practice. This session will cover the different perspectives of the conversation including a historical view, a consumer advocacy perspective and the current regulatory environment.

Moderator/Speaker: Serhat Guven, Willis Towers Watson
Speakers: Wanchin Chou, Chief Actuary, Connecticut Department of Insurance
Birny Birnbaum, Executive Director, Center for Economic Justice

RP-5: Professionalism and the 2016 Presidential Election Cycle

Concurrent Sessions 2, Tuesday, March 20, 12:30 p.m. – 1:45 p.m., Ambassador

Great effort has been expended in politics analyzing what went right and wrong in predicting outcomes of recent votes such as the 'Brexit referendum' and the 2016 US presidential election. If similar effort had been spent perusing professional guidance such as the Actuarial Standards of Practice (ASOPs) before the votes, could political pollsters have potentially improved their prediction accuracy? And are actuaries subject to the similar risks of prediction error as many pollsters were? At the heart of these questions are issues such as validity and transparency of assumptions, quality of data, and relevance of the past in predicting the future, many of which are addressed in the ASOPs. In this interactive session we analyze political prediction processes, draw insurance analogies, and debate appropriate professional considerations for actuaries as contained in the standards.

Moderator/Speaker: Jim Weiss, Director, Analytic Solutions, ISO
Speaker: Daniel Moskala, Capital Insurance Group

Concurrent Sessions

RP-6: Professionalism Trivia

Concurrent Sessions 1, Tuesday, March 20, 10:15 a.m.–11:30 a.m., Chancellor
Concurrent Sessions 6, Wednesday, March 21, 9:45 a.m. – 11:00 a.m., Rogue

Join the Committee on Professionalism Education as they roll out the next generation of Trivia games! This session will present Actuarial professionalism topics in a new, fun way!

Speakers: Peter Royek, Senior Vice President and Actuary, The Toa Reinsurance Company of America
Elizabeth Bart, Consulting Actuary, Milliman, Inc
Rebecca Williams, Actuary, North Carolina Rate Bureau
Amy Green, Vice President, Willis Towers Watson
Kelly McKeethan, Senior Actuary, American Home Shield

RP-7: Recent Developments and Common Pitfalls in Property and Casualty Rate Filings

Concurrent Sessions 5, Wednesday, March 21, 8:00 a.m. – 9:15 a.m., State

Regulators will discuss common pitfalls in property and casualty rate filings and in insurer supporting information for predictive models. Regulators will also describe the recent evolution of credit-based insurance scoring and use of consumer behavioral characteristics in predictive models, commenting on both helpful aspects of these recent developments and aspects that raise significant concerns.

Moderator/Speaker: Kris DeFrain, Director, Research and Actuarial Services, NAIC, NAIC
Speakers: Daniel Davis, Actuary, Alabama Department of Insurance
Gennady Stolyarov, Lead Actuary, Property and Casualty Insurance, Nevada Division of Insurance
Richard Piazza, Chief Actuary, Louisiana Department of Insurance
Wanchin Chou, Chief Actuary, Connecticut Department of Insurance

Concurrent Sessions

RP-8: The Three P's and The J – Professionalism, Pricing, Predictive Modeling, and...

Concurrent Session 2 — Tuesday, March 20, 12:30 p.m. – 1:45 p.m., Rouge

Predictive modeling has increasingly become a part of many actuaries' job descriptions. Whether building predictive models, inserting them as inputs to the pricing decision-making and implementation process with business partners, or supporting them in rate filings, actuaries are often asked for their opinions on issues that relate to the ethics of the profession. This session has been given at several previous RPM seminars and the interactive format will remain the same, although the scenarios have been refreshed. We'll look to the future of predictive modeling and pricing as we discuss scenarios that touch on common issues, including how those issues relate to the Code of Conduct, Statement of Principles, and Standard of Practice. Audience participation is highly encouraged. Come to see if you can guess what the "J" in the session title stands for!

Moderator/Speaker: Madeline Main, Senior Analyst, Willis Towers Watson

Speaker: Rick Sutherland, Second Vice President and Actuary, Travelers

RP-9: What Makes a Good Rate Filing?

Concurrent Sessions 3 — Tuesday, March 20, 2:15 p.m.–3:30 p.m., Chancellor

What makes a good rate filing? It depends on whom you ask. Now is your opportunity to hear from individuals who have extensive experience with the filing process at companies, bureaus, and insurance departments. Here is your chance to find the commonalities and differences in their perspectives.

Moderator/Speaker: Thomas Hess, Assistant Actuary, Ohio Department of Insurance

Speakers: Christopher Cooksey, Head Actuary, Data & Analytics, Guidewire
Lawrence Steinert, Senior Actuary, Louisiana Department of Insurance

