Ratemaking, Product and Modeling

Seminar and Workshops

March 15–17, 2021
Virtual Conference

Session Descriptions

Workshops
AM Workshops, Mar 15, 8:00 AM - 12:00 PM

❑ WS1: Basic Ratemaking

Level 1: No prior knowledge of the subject is assumed

This workshop will explain the fundamental insurance equation: the foundation of the ratemaking process. This session will include techniques for adjusting historical data to estimate its various components, premiums, losses, expenses, and profit, in the relevant pricing time period. The session will conclude by briefly exploring other considerations company management should make, along with the cost-based rate indication derived from the fundamental insurance equation, to determine what rates to charge in practice.

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

Learning Objectives:

1. Understand the role and importance of each major component of the actuarial work supporting a rate change indication.

2. Understand the actuarial language used to discuss and analyze rate reviews, including rate, premium, exposure, loss, expense, trend, development, catastrophes, on-leveling, and credibility.

3. Understand the functions and features of a risk classification system by reviewing relevant ASOPs and through examples.

4. Understand rate relativities, common methods used to find them, and related issues when implementing them through examples.

Moderator:	David E. Sidney
Speakers:	Kevin Hughes, Associate Actuarial Consultant, ISO/Verisk
	Nickolas Alvarado, Milliman, Inc.

Workshops
AM Workshops, Mar 15, 8:00 AM - 12:00 PM

❑ WS2: Effective Communication in a Virtual Environment [CANCELLED]

Level 2: General knowledge of the subject is assumed

This session will allow attendees to learn methods to both create and present communications that can be used at the executive level.

Learning Objectives:

1. Demonstrate the ability develop additional communication skills thru written and oral presentations.

Moderator/Speaker:	Howard Kunst, Chief Actuary, CoreLogic
Speaker:	Stephanie Rabin, SVP, Head of Strategic Solutions, Holborn

Session Descriptions

AM Workshops, Mar 15, 8:00 AM - 12:00 PM

❑ WS3: Introduction to Machine Learning with Applications

Level 1: No prior knowledge of the subject is assumed

In this workshop, participants will learn the basics of machine learning with a focus on its application to property-casualty insurance. We will survey a variety of the more common machine learning techniques. Then we will use real-world data to construct a classification and a regression model using some of those techniques, highlighting potential pitfalls and best practices as we go. Finally, we will discuss how to implement the results of the model, including a case study of the use of a Gradient Boosting Model to generate a vehicle symbol plan.

Learning Objectives:

1. Familiarize participants with machine learning techniques appropriate for property-casualty insurance ratemaking and underwriting.

2. Gain an understanding of best practices and potential pitfalls in real-world modeling situations.

3. Identify ways to convert machine learning model results into useful action items.

Speakers: Donald Hendriks, Actuary and Data Scientist, CARFAX Banking & Insurance Group

Michael Chen, Associate Director, Willis Towers Watson

Gaetan Veilleux, Senior Consulting Actuary, Pinnacle Actuarial Resources, Inc.

Gary Wang, Associate Director, Willis Towers Watson

Session Descriptions

PM Workshops, Mar 15, 1:00 PM - 5:00 PM

❑ WS4: Advanced Ratemaking

Level 2: General knowledge of the subject is assumed

Sometimes basic actuarial ratemaking techniques are insufficient for the job at hand. Data availability, the underlying nature of the exposure, or the presence of other constraints can necessitate the use of additional or more advanced methodologies. This workshop will cover advanced ratemaking topics such as pricing for new products, competitive analysis, large account pricing, legislative costing, and incorporating the net cost of reinsurance.

Learning Objectives:

1. Understand the process for pricing new products and conducting competitor analysis.

2. Understand practical applications of large account pricing.

3. Understand how to incorporate the financial impacts of legislation changes in ratemaking.

4. Understand how to incorporate the net cost of reinsurance in ratemaking.

Moderator:	Kelly Cusick
Speakers:	Stephen Fiete
	Robert Moss, Assistant Actuary, NCCI Holdings, Inc
	Carolyn Wise, Associate Actuary, NCCI Holdings, Inc
	Eric Krafcheck, Consulting Actuary, Milliman
	Taralyn Slusarski, Manager, Deloitte Consulting, LLP
	Jennifer Beers, Ironshore Insurance

Workshops

PM Workshops, Mar 15, 1:00 PM - 5:00 PM

❑ WS5: Data Visualization and Communication

Level 2: General knowledge of the subject is assumed

This workshop will use data visualization to tell the story of a predictive model to its stakeholders. Data visualization principles and best practices will be reviewed and discussed. An interactive R exercise will then be conducted that develops a predictive model from an open dataset and communicates critical information to various stakeholders along the way by means of intentional and inventive visuals.

Learning Objectives:

1. Demonstrate how to visualize data within a presentation.

Moderator/Speaker:	James Weiss, AVP Modeling, Crum & Forster
Speaker:	Garrett Bradford, Cartographer, Milliman, Inc.

Session Descriptions

General Sessions
Keynote, Mar 16, 12:15 - 1:30 PM ET

❑ FS: Avoiding an Extinction Event: Evolution to Artificial Intelligence in the Property & Casualty Insurance Industry

Level 1: No prior knowledge of the subject is assumed

Severence M. MacLaughlin, Ph.D, Founder and Managing Partner, DeLorean Artificial Intelligence

With the evolution of Big Data and a digital awakening across the global market place the new tech buzz word is Artificial Intelligence. It is on the tip of everyone's tongue, but is there substance behind the marketing machines that have brought to market AI personas such as Watson, Amelia, Holmes & Einstein?

Different market sectors have started to evolve in the adoption of Artificial Intelligence at different speeds with financial services in terms of banking and investments as being one of the quickest to invest BUT deriving a low ROI. Why is this? Is it better to be the tortoise or the hare in the AI race? What is the right way to invest in AI as an Insurance carrier? Does it change based on the size of the portfolio insured? How should the actuarial department look to enhance its capabilities and role within the company? Does the company have the leadership capabilities to ensur

Learning Objectives:

1. Learn what artificial intelligence is and what it isn't.

2. Learn how artificial intelligence is currently being used in various industries, including the insurance industry.

3. Learn how artificial intelligence may be used in the future by the insurance industry.

Moderator:	Eric Krafcheck
Speaker:	Severence MacLaughlin, Founder and Managing Partner, DeLorean Artificial Intelligence

General Sessions
General Session, Mar 17, 12:15 - 1:30 PM ET

❑ GS: Pandemics, Politics and P/C Insurance: The Indelible Legacy of COVID-19

Level 1: No prior knowledge of the subject is assumed

The presentation will provide a comprehensive overview of the impacts of COVID-19 on the p/c insurance industry. The pandemic's impacts affected every segment of the industry and the environment in which it operates. Areas of focus will include impacts on profitability, underwriting, pricing, growth and investment income. Other influences including the economy, the regulatory environment, legislation and tort issues will also be addressed.

Learning Objectives:

1. Gain an understanding of an Economist's insight into the current economy.

2. Understand Covid's impact on the economy.

Moderator:	Jamie Mills
Speakers:	Robert Hartwig, Director, Risk and Uncertainty Management Center Clinical Associate Professor, Darla Moore School of Business - University of South Carolina

Session Descriptions

Roundtables

Roundtables 1, Mar 16, 9:30 – 10:20 AM ET

❑ RT1: Roundtable - COVID-19

Level 1: No prior knowledge of the subject is assumed

CE-Eligible interactive discussion on topic area

Learning Objectives:

1. Discourse impacts of COVID-19 on P&C ratemaking

   Facilitator: Eric Krafcheck, Consulting Actuary, Milliman

Roundtables

Roundtables 1, Mar 16, 9:30 – 10:20 AM ET

❑ RT2: Roundtable - Professionalism and Modeling

Level 1: No prior knowledge of the subject is assumed

2020 introduced potentially new modes of working for actuaries and created challenging new analyses that may have felt less than familiar. ASOP No. 56 (Modeling) became effective in October, revisions to ASOP No. 38 (Catastrophe Modeling) came in the form of another exposure draft, and the Setting Assumptions exposure draft also remains open for comments. In this CE-eligible facilitated roundtable, actuaries can drop by and discuss with their peers considerations as relates to the upcoming changes, the impacts of COVID-19 on analysis, or any other general professionalism reasonable to a lively interactive dialog.

Learning Objectives:

1. Discuss professionalism considerations related to various hypothetical scenarios.

   Facilitator: George Levine, Director, KPMG, LLP

Session Descriptions

Roundtables
Roundtables 2, Mar 16, 5:50 – 6:40 PM ET

❏ RT3: Roundtable - Industry Perspectives on Race and Insurance

Level 1: No prior knowledge of the subject is assumed

Social unrest beginning in the summer of 2020 has once again brought allegations of racial bias in insurance practices to the forefront in the industry. The NAIC Special (Ex) Committee on Race and Insurance, Workstream Three, focuses on property & casualty insurance practices, as well as affordability and availability concerns. This highlights the need for CAS actuaries to have an understanding of the relevant issues and how they intersect with our work. Participants will hear a brief overview of the NAIC discussions to-date, get a perspective on relevant standards of practice and areas of opportunity from the American Academy of Actuaries, and participate in small group discussion on topics such as:

- The actuary's professional responsibility when considering implicit racial bias in their work
- Actions individual actuaries or companies could take to move the discussion forward
- Research and other information required to address the issue of racial bias in insurance practice

Learning Objectives:

1. Enhance awareness of disparate impact considerations in areas including ratemaking.

    Facilitators: Mallika Bender, Staff Actuary, Casualty Actuarial Society
    Lauren Cavanaugh, Managing Director, FTI Consulting
    Kris DeFrain, Director, Research and Actuarial Services, National Association of Insurance Commissioners

Roundtables
Roundtables 2, Mar 16, 5:50 – 6:40 PM ET

❏ RT4: Roundtable - What Did 2020 Teach Us About Natural Catastrophes?

Level 1: No prior knowledge of the subject is assumed

2020 was an eventful year for catastrophes before one even considers the large matter of COVID-19. Between California's worst wildfire season, a record-breaking hurricane season that largely bypassed Florida, continued debate regarding the reasonability of FEMA's flood maps, and the suspected hack of the US government, catastrophes were all over the news. In this CE-eligible interactive roundtable, attendees can discuss what the industry learned from 2020, what to potentially expect in 2021, as well as how changes in modes of working may impact settlement of catastrophe claims in the future.

Learning Objectives:

1. Identify considerations for analyzing natural catastrophes.

    Facilitator: Howard Kunst, Chief Actuary, CoreLogic

Session Descriptions

Roundtables
Roundtables 3, Mar 17, 9:30 – 10:20 AM ET

❑ RT5: Roundtable - 2020 Election Predictions – What Do We Make of Them?

Level 1: No prior knowledge of the subject is assumed

The election prediction markets have become a hot button issue, especially since 2016. Polls have faced added scrutiny ever since. The 2020 elections brought mixed results for prediction markets. The actuarial community may offer unique perspective on these issues given their resemblance to our own work. Let's come together to explore the similarities.

Learning Objectives:

1. Better articulate uncertainties related to making predictions.

    Facilitator: Ralph Dweck, Senior Manager, ISO/Verisk

Roundtables
Roundtables 3, Mar 17, 9:30 – 10:20 AM ET

❑ RT6: Roundtable - InsurTech

Level 1: No prior knowledge of the subject is assumed

This roundtable discussion will focus on the InsurTech industry, an industry continuing to experience rapid growth in funding, digital transformation, and consumer awareness. Our discussion will focus on the current state of the InsurTech industry and where the industry will go next with a focus on changes to the traditional pricing model, new tech, and the overall customer experience.

Learning Objectives:

1. Remain informed on current and forthcoming disruption to the insurance industry

    Facilitator: Dominic Dillingham, Senior Actuarial Consultant, Oliver Wyman Actuarial Consulting

Modeling
Concurrent Sessions 1, Mar 16, 10:30 – 11:45 AM ET

❑ MD1: Dive in! The NC Private Flood Program

Level 2: General knowledge of the subject is assumed

In 2020, the North Carolina Department of Insurance approved a private flood program for use by the member companies of the North Carolina Rate Bureau. This session will review this new North Carolina flood program, how it was developed, and what makes it unique to other flood insurance programs across the country.

Learning Objectives:

1. Learn details of how the NCRB created a new flood program.

2. Learn how multiple sources for model and data were used to create a new program.

    Moderator/Speaker: Rebecca Williams, Actuary, North Carolina Rate Bureau

    Speaker: David Evans, Milliman, Inc.

Session Descriptions

Modeling

❑ Concurrent Sessions 2, Mar 16, 2:30 – 3:45 PM ET

MD2: Data Architecture: Do You Know Where Your Data Comes From?

Level 1: No prior knowledge of the subject is assumed

Improper assumptions about data can result in models that don't deliver the intended outcome, or models that aren't implementable. Understanding your data architecture – or how the data you use for analytics is captured, managed within the system, and transformed – is critical to properly using that data for analytics and predictive models. This interactive session will introduce key data architectural concepts and provide strategies you can use to make the most of your data.

Learning Objectives:

1. Understand data architecture.

2. Identify data architecture impacts to the implementation of predictive models.

   Moderator/Speaker: Todd Lehmann, Vice President & Chief Actuary, Quincy Mutual Fire Insurance Co.

   Speaker: Meghan Goldfarb, Technology Director, State Farm

Modeling

Concurrent Sessions 3, Mar 16, 4:30 – 5:45 PM ET

❑ MD3: NAIC White Paper Overview and Discussion

Level 1: No prior knowledge of the subject is assumed

The NAIC Casualty Actuarial and Statistical Task Force (CASTF) recently released a white paper on "Regulatory Review of Predictive Models". This session will present an overview of the white paper along with a discussion of its most important elements. In addition, this session will conclude with a Q&A section with authors of the white paper to allow back-and-forth between presenters and audience.

Learning Objectives:

1. Understand purpose and content of NAIC White Paper on Regulation of Predictive Models.

   Moderator/Speaker: Kris DeFrain, Director, Research and Actuarial Services, National Association of Insurance Commissioners

   Speakers: Gennady Stolyarov, Lead Actuary, State of Nevada Department of Business & Industry
                       Sandra Darby, Property & Casualty Actuary, Maine Bureau of Insurance
                       Eric Hintikka, Actuary III, Texas Department of Insurance

Session Descriptions

Modeling
Concurrent Sessions 4, Mar 17, 10:30 – 11:45 AM ET

❑ MD4: Emerging "Bayesian" Techniques in Application

Level 3: Working knowledge of the subject is assumed

Fitting smoothing splines instead of parametric curves across variables can give closer fits and still not use many degrees of freedom. This is done easily and efficiently by the MCMC algorithm, often termed "Bayesian." Machine learning is now being applied actuarially, and Bayesian methods have advantages there as well. In this presentation, the speakers will introduce how to take this approach to smoothing splines and machine learning and highlight its advantages.

Learning Objectives:

1. Learn how neural networks work in general and what it means to introduce Bayesian Inference to the framework.

2. Learn how to fit, use and interpret the results from a Bayesian Neural Network.

3. Learn what Bayesian smoothing splines are and their advantages for pricing and reserving regression models.

4. Learn how to fit linear and cubic smoothing splines in Excel and R.

> Speakers: Gary Venter
>
> Navarun Jain, Actuarial Analyst, Lux Actuaries & Consultants

Modeling
Concurrent Sessions 5, Mar 17, 2:30 – 3:45 PM ET

❑ MD5: Machine Learning (ML) Working Party: Practical Methods and Key Issues

Level 2: General knowledge of the subject is assumed

The Machine Learning Working Party was formed by the CAS in 2018 to address emerging issues associated with the use of machine learning (ML) techniques in actuarial practice. As part of this effort, the working party has focused on three major areas:

1. Worked examples of ML models

2. Regulatory requirements for communication of ML models (which are often seen as "black boxes")

3. Survey of ML methods currently in use in the industry

This panel focuses on machine learning applications to estimation of pure premiums in automobile liability. Discussion will be centered around an example ML model with comparisons to "traditional" GLMs and Bayesian approaches. We will describe the workings of this model, regulatory considerations in communication, and provide context for other ML models used in the same contexts.

Learning Objectives:

1. Appreciate the power of Machine Learning by understanding the benefits and challenges when applying these techniques in the actuarial domain.

2. Explore different ML models/techniques and how they can be applied to pricing/ratemaking including how certain models work, comparison to traditional approaches, and calibration and evaluation of the methods.

3. Appreciate the challenges in communicating complex black-box models to various stakeholders (eg. other actuaries, management, regulators) and explore ways to bridge this communication gap.

4. Identify potential regulatory schemes/ASOP's that might apply to ML methods.

Session Descriptions

5. Explore technical and non-technical ways to interpret ML models and gain insights into how the model "thought".

Moderator/Speaker: Liam McGrath, Data Scientist, Willis Towers Watson

Speakers: Navarun Jain, Actuarial Analyst, Lux Actuaries & Consultants

Marco De Virgilis, Allstate Insurance Company

Nathaniel Loughin, Senior Associate, KPMG, LLP

Modeling
Concurrent Sessions 6, Mar 17, 4:30 – 5:45 PM ET

❑ MD6: A Primer on Algorithmic Fairness in Insurance

Level 3: Working knowledge of the subject is assumed

Considerations of actuarial and societal fairness have always been part and parcel of actuarial work. As algorithmic decision-making spreads through ever more areas of business and society, algorithmic fairness has blossomed into a vibrant area of research. This session will set the stage by briefly discussing high-level concepts relevant to AI ethics, and then will turn to a discussion of discussion of different concepts of algorithmic fairness, tradeoffs among them, and how they apply in insurance settings.

Learning Objectives:

1. Gain an understanding of the concept of actuarial fairness in the context of a broader ethical framework.

2. Become familiar with actuarial fairness in the context of the recent machine learning work in algorithmic fairness.

3. Learn to connect actuarial and algorithmic fairness concepts with real-world scenarios.

Speakers: James Guszcza, US Chief Data Scientist, Deloitte Consulting, LLP

Daniel Bauer, Professor, University of Wisconsin - Madison

Rayid Ghani, Professor, Carnegie Mellon University

Session Descriptions

Product and Innovation
Concurrent Sessions 1, Mar 16, 10:30 – 11:45 AM ET

❏ PI1: Mining for Gold: Text Analytics in Insurance

Level 2: General knowledge of the subject is assumed

Insurers collect vast quantities of unstructured text data through normal business operations. Claim notes, loss control reports, and customer feedback are a few common examples. Language is messy and text data, in its unstructured form, is of limited use. Natural Language Processing is a quickly-growing subfield of Artificial Intelligence which aims to read, decipher, and understand language in order to gain valuable insights from text data. Actuaries can look to this field for a range of techniques, from simple to highly complex, which unlock this previously underutilized data source. Features derived through text mining add value to predictive models and other analytical efforts. Claims and underwriting are two applications where actuaries and data scientists can support decision making with text analytics.

Learning Objectives:

1. Describe techniques for processing text data.

2. Generate useful text features for predictive modeling and decision support.

3. Identify promising use cases for text analytics.

Speakers: Liam McGrath, Data Scientist, Willis Towers Watson

                    Yelena Kropivnitskaya, Manager, Analytics, The Wawanesa Mutual Insurance Company

Product and Innovation
Concurrent Sessions 2, Mar 16, 2:30 – 3:45 PM ET

❏ PI2: Everything an Actuary needs to know about the Actuarial Climate Index (ACI) and the Actuarial Climate Risk Index (ACRI)

Level 1: No prior knowledge of the subject is assumed

Steve Kolk will deliver a presentation about the Actuaries Climate Index (ACI) and the Actuaries Climate Risk Index (ACRI). This talk will begin showing the why & how these indices were built and then explain what the ACI measures and show how it works. He'll also describe the ACRI. The presentation will conclude with a sketch of the challenges and the next steps presently being worked on.

Learning Objectives:

1. Learn how the ACI uniquely measures the impacts of climate change.

2. Learn about the six components that comprise the ACI.

3. Learn about the ACI website and its key features.

Speaker: Stephen Kolk, Kolkulations LLC

Session Descriptions

Product and Innovation
Concurrent Sessions 3, Mar 16, 4:30 – 5:45 PM ET

❑ PI3: Innovation Inspired II: From Seattle To The Serengeti In Search Of Lessons In Making Change

Level 1: No prior knowledge of the subject is assumed

Can Kenya's insurance challenges learn from Cleveland? Can Melbourne's experience speak to Madagascar? How context can take us from incremental innovation to stepped change?

We will showcase examples of how developing countries came up with innovative ideas to solve their unique challenges. From these examples, we will discuss with the audience what lessons we can learn for US insurance carriers' own challenges. We will also talk about some existing challenges that the developing countries have and have a group discussion on how we can address them.

Through this session, we want to show the audience what's happening around the world and encourage them to think about innovation outside of their comfort zone.

Learning Objectives:

1. Discuss how external environments influence innovations with case studies on some current topics and what innovations there are to address these topics.

2. Focus on the idea of influencing key stakeholders to drive innovation through discussing the key barriers for taking actions and our takeaways from a joint project related to Kenyan financial diaries.

3. Talk about examples of efficient and inefficient implementations with case studies in both Uganda and the US.

> Speakers: Kiki Wang, Consultant, Willis Towers Watson
> Craig Thorburn, Lead Insurance Specialist, The World Bank

Product and Innovation
Concurrent Sessions 4, Mar 17, 10:30 – 11:45 AM ET

❑ PI4: COVID-19 Impact on Auto Ratemaking

Level 1: No prior knowledge of the subject is assumed

With both immediate consequences and longer lasting effects anticipated, COVID-19 presents challenges for Personal and Commercial Auto ratemaking. This session will examine these circumstances of the response to the pandemic. Among the topics that will be discussed: What are the implicit effects on exposure to risk? How does the risk process evolve in light of behavioral and economic shifts? And what methodological changes might we consider to reflect these developments?

Learning Objectives:

1. Provide an overview of COVID's impact on road condition and driving behaviors

2. Provide an overview of COVID's impact on type of auto accidents

3. Demonstrate how can actuaries respond to these changes in ratemaking

> Speakers: Ralph Dweck, Senior Manager, ISO/Verisk
> Ut Fong, Sr. Actuarial Manager, Lyft

Session Descriptions

Product and Innovation

Concurrent Sessions 5, Mar 17, 2:30 – 3:45 PM ET

❑ PI5: How to Build a Robust Decision-Making Framework for Personal Lines

Level 1: No prior knowledge of the subject is assumed

As personal lines carriers become more and more sophisticated in analytics, it is important to have a framework in place to understand what the models are telling you, how your underwriting strategies and pricing decisions are affecting your underlying metrics, and most importantly, how different teams - actuaries, data scientists, product managers, underwriters, etc. should work together to create a compelling product.

Speakers:	Kiki Wang, Consultant, Willis Towers Watson
	Jeffery Hay, Chief Underwriting Officer, Donegal Insurance Group

Product and Innovation

Concurrent Sessions 6, Mar 17, 4:30 – 5:45 PM ET

❑ PI6: Are MGAs the Future of Underwriting?

Level 1: No prior knowledge of the subject is assumed

This session will provide two actuarial perspectives on what MGAs are, how they work, and what the MGA space looks like in the United States. It will explore some situations where a carrier may consider delegating authority and the typesof risk typically involved. Case studies of product innovation in alternative markets, oriented towards addressing the needs of the underserved, will be covered. Operational considerations related to MGAs, including compliance and technology, will also be discussed. The session will be useful to anyone interested in tapping into alternative markets, or simply learning how approaches used in alternative markets can apply in traditional ones.

Learning Objectives:

1. Explain organization and functions of an MGA.

2. Identify situations that would lead one to consider MGAs.

3. Utilize MGAs as avenue for product innovation.

Speakers:	Lon Chang, VP Pricing Actuary, Ascot Group
	Denise Olson, Vice President, Head of New Programs, Zurich North America

Session Descriptions

Ratemaking
Concurrent Sessions 1, Mar 16, 10:30 – 11:45 AM ET

❑ RM1: A Model Based Approach to Personal Auto Geographic Risk Classification

Level 1: No prior knowledge of the subject is assumed

Geographic (territory) risk classification analyses have some unique challenges – credibility limitations, strong correlations, increased external scrutiny, and the acronym soup of geospatial terms. In this session we're going to discuss an approach that combines geospatial analysis with predictive modeling that addresses some of the unique challenges, along with observations that have proved helpful for risk classification analyses in general.

Learning Objectives:

1. Learn how to implement a model-based approach to geographic risk classification relativities and the advantages of this method over traditional credibility-based univariate methods.

2. Learn some introductory geospatial concepts, and how to apply them to develop powerful geospatial features as inputs into predictive models.

3. Learn how to apply the Lasso GLM algorithm to make the traditional iterative GLM build process more efficient while maintaining quality of the model.

Moderator:	Dustin Duncan
Speakers:	Jonathan Fesenmeyer, Technical Actuary, Allstate Insurance Company
	Matthew Berry, Associate Actuary, Allstate Insurance Company

Ratemaking
Concurrent Sessions 2, Mar 16, 2:30 – 3:45 PM ET

❑ RM2: Bayesian Loss Development Methods for Real People

Level 3: Working knowledge of the subject is assumed

This session will compare two strategies for blending loss development patterns. The strategies include curve-fitting and semi-parametric models, but are intended for general practice rather than for a technical audience. The presenters will use live examples to illustrate the methods, with the opportunity for session attendees to follow along with a hands-on example.

Learning Objectives:

1. Identify situations where blending loss development curves could be beneficial and appropriate.

2. Learn strategies for blending loss development curves.

Moderator:	Pam Sealand Reale
Speakers:	David Clark, Senior Actuary, Munich Re America Services, Inc.
	Uri Korn, Director, AIG

Session Descriptions

Ratemaking

Concurrent Sessions 3, Mar 16, 4:30 – 5:45 PM ET

❑ RM3: The Fully Automated Ratemaking Process

Level 1: No prior knowledge of the subject is assumed

In this session we will take a look at what is needed for a fully automated rate making process. This futuristic view will take us through data management, statistical modeling, rate filing, rate deployment, and performance monitoring. Using advanced scripting language in conjunction with machine learning and other modern statistical techniques, this vision may become a reality within our careers.

Learning Objectives:

1. Understand the components of a fully automated rate-making process.

   Speakers:　　　　　　Drew Lawyer, Head of Professional Services, the Americas, Earnix, Ltd.

   　　　　　　　　　　Julia Hart, Site Director, COUNTRY Financial DigitaLab

Ratemaking

Concurrent Sessions 4, Mar 17, 10:30 – 11:45 AM ET

❑ RM4: Impacts Across the Firm: Commercial Lines Pricing Systems

Level 1: No prior knowledge of the subject is assumed

Transactional pricing actuaries and underwriters often use pricing systems to collaborate on the pricing and underwriting of large accounts. The modeling and assumption setting that goes into this process, while immensely valuable for other processes across the firm, is often lost and buried in Excel spreadsheets after policy issuance. We will discuss best practices in pricing system design including the need for strong data capture, and how firms can leverage the data collected during the large account underwriting lifecycle to improve other processes across the firm. Areas of focus will include risk management, capital modeling and management, reinsurance purchasing, reserving, portfolio optimization, price monitoring, improving pricing and catastrophe accumulation management.

Learning Objectives:

1. Learn how the insights from large account pricing / underwriting analyses can be utilized to improve the modeling processes of other pillars of a firm.

2. Learn best practices in large account pricing system design.

3. Learn about the interactions between large account pricing / underwriting and risk management, capital modeling and management, reinsurance purchasing, reserving, portfolio optimization and catastrophe accumulation management.

   Moderator/Speaker:　Steven Walsh, Director, PricewaterhouseCoopers

   Speakers:　　　　　　Dustin Duncan, Director, Head of US Operations, RPC Tyche

   　　　　　　　　　　Kevin Madigan, Genuine Risk Advisors LLC and Gross Consulting Inc.

Session Descriptions

Ratemaking
Concurrent Sessions 5, Mar 17, 2:30 – 3:45 PM ET

❑ RM5: Insurtechs and the Future of Pricing Data

Level 1: No prior knowledge of the subject is assumed

For this session we will discuss with a panel of insurtech companies the non-traditional data they collect. We will focus on how this data is currently being used and how it can be used to improve pricing and underwriting across several lines of business.

Learning Objectives:

1. Provide an introduction to insurtech companies and their operations in the industry.

Moderator/Speaker: Brett Nunes, Oliver Wyman Actuarial Consulting

Speakers: David Tobias, Co-founder, Betterview

Derek Winkler, VP Product Development, Carpe Data

Ratemaking
Concurrent Sessions 6, Mar 17, 4:30 – 5:45 PM ET

❑ RM6: COVID-19 in Workers Compensation—The View Forward

Level 1: No prior knowledge of the subject is assumed

A panel of workers compensation experts will discuss the latest analytics available on the impact of the pandemic on workers compensation systems with a view to how emerging trends may affect future costs. The panel will discuss topics such as emerging COVID claim severity, COVID claim costs in reserve and rate projections, the effects of a vaccine, long-term medical issues of COVID patients, delays in medical treatment, legal presumptions, employers liability, and the impacts of the economic slowdown.

Learning Objectives:

1. Gain an understanding of COVID-19's impact on workers compensation.

Moderator/Speaker: David Bellusci, Executive Vice President, COO and Chief Actuary, W.C. Insurance Rating Bureau of California

Speakers: Rick Poulin, VP WC Product, Travelers

Neal Leibowitz, Actuarial Manager, Liberty Mutual Insurance

Session Descriptions

Ratemaking
Concurrent Sessions 6, Mar 17, 4:30 – 5:45 PM ET

❑ RM7: Ratemaking with Telematics Data

Level 1: No prior knowledge of the subject is assumed

In Pay-As-You-Drive(PAYD) automobile insurance, the premium is fixed based on the distance traveled, while in usage-based insurance (UBI) the driving patterns of the policyholder are also considered. In those schemes, drivers who drive more pay a higher premium compared to those with the same characteristics who drive only occasionally, because the former are more exposed to the risk of accident.

First of all, we analyze the simultaneous effect of the distance traveled and exposure time on the risk of accident. Semi-parametric models, using Generalized Additive Models (GAM) or Generalized Additive Model for Location, Scale and Shape (GAMLSS) will also be applied using real insurance data. We show how the expected number of claims stabilizes once a certain number of accumulated distance-driven is reached, and propose some explanations to understand this phenomena.

Second, we show that the driving experience of policyholders monitored via a mobile application or a device installed in

Learning Objectives:

1. Introduce to ratemaking with telematics data.

2. Apply Generalized Additive Model (GAM) and Generalized Additive Model for Location, Scale and Shape (GAMLSS)to longitudinal count data using classic and telematics covariates.

3. Apply classification algorithms to the claim classification problem.

   Moderator/Speaker: Victoria Marciano, Actuary, Sompo International

   Speakers: Roxane Turcotte, Université du Québec à Montréal
                      Francis Duval, MSc, Université du Québec à Montréal

Session Descriptions

Regulation and Professionalism
Concurrent Sessions 1, Mar 16, 10:30 – 11:45 AM ET

❑ RP1: Disparate Impact - The Impact of the Social Justice Movement on Insurance Rating

Level 1: No prior knowledge of the subject is assumed

Insurance rates in most jurisdictions are mandated to not be unfairly discriminatory. Historically, this has meant that protected risk characteristics were not used in rating. However, the recent focus on social justice has resulted in renewed calls from regulators and legislators to examine this issue. This session will focus on various definitions of disparate impact, the impact these definitions could have on rating plans, and what role the actuarial profession should play in resolving this issue.

Learning Objectives:

1. Understand the historical impact of disparate impact concerns on rating plans, and articulate how the landscape is shifting.
2. Articulate the various definitions of disparate impact.
3. Understand the potential impacts of these definitions on raring and underwriting of insurance.

Moderator:	Mallika Bender
Speakers:	Roosevelt Mosley, Principal & Consulting Actuary, Pinnacle Actuarial Resources, Inc.
	Birny Birnbaum, Executive Director, Center for Economic Justice

Regulation and Professionalism
Concurrent Sessions 2, Mar 16, 2:30 – 3:45 PM ET

❑ RP2: Professionalism - Recorded Skits

Level 1: No prior knowledge of the subject is assumed

The CAS Committee on Professionalism Education will present the latest format of material - recorded skits - for discussion! Come prepared to interact with the speakers!

Learning Objectives:

1. Learn how the Actuarial Standards of Practice apply to real-life situations!

Moderator/Speaker:	Melissa Huenefeldt, VP - Analytics Manager, Lockton Companies
Speakers:	John Wade
	William Burns, Western New England University

Session Descriptions

Regulation and Professionalism
Concurrent Sessions 3, Mar 16, 4:30 – 5:45 PM ET

❑ RP3: Wildfire Perspectives

Level 2: General knowledge of the subject is assumed

Wildfires have become increasingly devastating in recent years, resulting in significant losses and increasing challenges for insurers. In this session, we will provide an overview of current issues relating to wildfire, and learn how regulators and insurance companies are responding to the increasing threat of wildfire. We will also discuss catastrophe models, and how these models are applicable to wildfire.

Learning Objectives:

1. Overview of wildfire models and discussion of regulatory response to wildfires.

Moderator:	Kathleen Knudson
Speakers:	Howard Kunst, Chief Actuary, CoreLogic
	David Dahl, Casualty Actuary, Oregon Division of Financial Regulation
	Eric Xu, Actuary, Milliman, Inc.

Regulation and Professionalism
Concurrent Sessions 4, Mar 17, 10:30 – 11:45 AM ET

❑ RP4: Professionalism, Uh, Finds a Way

Level 2: General knowledge of the subject is assumed

An actuary, a paleontologist, and a chaotician walk into a park… Join us as we explore how the Actuarial Standards of Practice and Code of Professional Conduct would apply to pricing and predictive modeling at a prehistoric theme park. As we discuss several unique scenarios, you'll help us solve ethical challenges via online chat, polling, and Q&A. A session 65 million years in the making.

Learning Objectives:

1. Identify professionalism implications of new pricing and modeling practices.

2. Recommend solutions to conflicts between emerging practice and professional obligations.

3. Identify how actuarial professionalism standards can provide guidance when faced with ethical dilemmas in pricing and modeling.

Moderator/Speaker:	Rick Sutherland, 2nd Vice President, Actuarial and Analytics, Travelers
Speakers:	Shawn Balthazar, Senior Consultant, Willis Towers Watson
	Dereck Tanaka, Director, Actuarial & Analytics, Travelers
	Helen Zhao, Senior Consultant, Willis Towers Watson

Session Descriptions

Regulation and Professionalism
Concurrent Sessions 5, Mar 17, 2:30 – 3:45 PM ET

❑ RP5: ASOP 53 Trivia – and more!

Level 2: General knowledge of the subject is assumed

The Committee on Professionalism will present another round of Kahoot Trivia- this time, starting with ASOP 53! Learn professionalism, share what you know, and show off to your friends! This will qualify for CE on Professionalism.

Learning Objectives:

1. Learn more about ASOP 53 through a trivia game.

   Moderator/Speaker: John Gleba, Secretary / Treasurer, Madison Consulting Group

   Speaker: Stephen Merkey, Actuary, United Fire Group