RPM

Ratemaking, Product and Modeling Seminar and Workshops

NEW ORLEANS

March 17–20, 2024

Table of Contents

Ratemaking, Product and Modeling Seminar and Workshops

March 17–20, 2024

New Orleans, LA

Overview 3

Schedule at a Glance 4

Sponsors and Exhibitors 6

Session Descriptions 8

Personal Attendance Record 46

Hotel Map 50

General Information

For more information on the following, please consult the RPM website, rpm.casact.org or the RPM app on your smartphone.

Consent to Use of Photographic Images

Participation at RPM constitutes an agreement by the registrant for the CAS to use photographic images and other images. Please see the RPM website (rpm.casact.org) for details.

Antitrust Notice

The Casualty Actuarial Society is committed to adhering strictly to the letter and spirit of the antitrust laws. The full CAS Antitrust Compliance Policy (http://bit.ly/20UMw6Z) clarifies prohibited activities and responsibility of all attendees.

Code of Conduct

The CAS is dedicated to providing a harassment-free conference experience for everyone. Registration and attendance at CAS meetings, seminars, webinars and other activities constitutes an agreement to our Code of Conduct. The full Code of Conduct (rpm.casact.org/attend) clarifies prohibited activities and responsibility of all attendees.

Speaker Opinions

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

Wireless Access

Attendees of the RPM Seminar have access to complimentary Wi-Fi throughout the hotel.

Network: CASRPM2024
Password: pinnacle

Download the CAS Meeting App

More detail about the sessions and speakers is found on the CAS Meeting app. All sessions will be recorded (simultaneously audio, slides), except where indicated.

GET IT ON Google Play

Download on the App Store

Key to Complexity of Sessions

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

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

Advanced
Working knowledge of the subject matter is assumed. Moderate to highly technical content.

❑ **Checkbox for Personal Attendance Record**

Non-Recorded Session

Livestreamed Session

Tracks by Code

Ratemaking	R
Product/Innovation	PI
Modeling	M
Professionalism and Regulation	PR
Special Topics	ST
General Session	GS
Roundtable	RT
Workshops	WS

Schedule at a Glance

Please note all times are Central Time

Sunday, March 17 — Happy St. Patrick's Day (Wear Green)

3:00 PM - 6:30 PM	Seminar Registration	Napoleon Registration Desk
4:00 PM - 4:45 PM	Speed Networking	Borgne
5:00 PM - 6:30 PM	Welcome Reception (Sponsored by Akur8) and Exhibitors	Napoleon AB

Monday, March 18 (Wear Purple)

6:50 AM - 4:45 PM	Seminar Registration	Napoleon Registration Desk
7:00 AM - 7:50 AM	Morning Roundtables	
7:00 AM - 8:00 AM	Continental Breakfast (Sponsored by hyperexponential) and Exhibitors (Seminar Attendees)	Napoleon AB
8:00 AM - 4:30 PM	Quiet Room	Nottaway
8:00 AM - 9:30 AM	Keynote General Session	Napoleon CD
9:30 AM - 10:00 AM	Networking Break (Sponsored by WTW) and Exhibitors	Napoleon AB
10:00 AM - 11:00 AM	**Concurrent Sessions 1**	
11:00 AM - 11:30 AM	Networking Break and Exhibitors	Napoleon AB
11:30 AM - 12:30 PM	**Concurrent Sessions 2**	
12:30 PM - 2:00 PM	Luncheon (Sponsored by Cognalysis)	Armstrong/Orpheus
2:00 PM - 3:00 PM	**Concurrent Sessions 3**	
3:00 PM - 3:30 PM	Networking Break (Sponsored by Guidewire Software, Inc.) and Exhibitors	Napoleon AB
3:30 PM - 4:30 PM	**Concurrent Sessions 4**	
5:00 PM - 6:00 PM	RPM Reception and Exhibitors	Napoleon AB
6:00 PM - 7:00 PM	Sponsor Demonstration: Cognalysis CLCM (Claim Life Cycle Model) and MultiRate	Maurepas

Tuesday, March 19 (Wear Gold)

6:50 AM - 3:45 PM	Seminar Registration	Napoleon Registration Desk
7:00 AM - 7:50 AM	Morning Roundtables	
7:00 AM - 8:00 AM	Continental Breakfast (Sponsored by Travelers) and Exhibitors	Napoleon AB
8:00 AM - 4:30 PM	Quiet Room	Nottaway
8:00 AM - 9:00 AM	**Concurrent Sessions 5**	
9:00 AM - 9:30 AM	Networking Break and Exhibitors	Napoleon AB
9:30 AM - 10:30 AM	**Concurrent Sessions 6**	
10:30 AM - 11:00 AM	Networking Break and Exhibitors	Napoleon AB
11:00 AM - 12:00 PM	**Concurrent Sessions 7**	
12:00 PM - 1:00 PM	Box Lunch, Exhibitors, and Roundtables	Napoleon AB
1:00 PM - 2:15 PM	Closing General Session	Napoleon CD
2:15 PM - 2:45 PM	Networking Break and Exhibitors	Napoleon AB
2:45 PM - 3:45 PM	**Concurrent Sessions 8**	
4:00 PM - 5:00 PM	Workshop Registration	Napoleon Registration Desk

Schedule at a Glance

Wednesday, March 20 Workshop Day

7:00 AM - 1:30 PM	Workshop Registration	Napoleon Registration Desk
7:00 AM - 8:00 AM	Workshop Continental Breakfast	Napoleon C
8:00 AM - 5:00 PM	Full-Day Workshop*	Napoleon D1-2/Napoleon D3
8:00 AM - 12:00 PM	Half-Day AM (Morning) Workshops*	Nottaway/Oak Alley
8:00 AM - 5:00 PM	iCAS Data Science & Analytics Forum*	Borgne
8:00 AM - 5:00 PM	Quiet Room	Nottaway
10:00 AM - 10:30 AM	Workshop Refreshment Break	Napoleon C
12:00 PM - 1:00 PM	Workshop Luncheon	Napoleon C
1:00 PM - 5:00 PM	Half-Day PM (Afternoon) Workshops*	Nottaway/Oak Alley
3:00 PM - 3:30 PM	Workshop Refreshment Break	Napoleon C

** Separate Workshop Registration Required*

Sponsors and Exhibitors

Thank you to the 2024 Ratemaking, Product and Modeling Seminar sponsors.

Platinum Sponsor

AKUR8	**Akur8** Akur8 is revolutionizing non-life insurance pricing with Transparent Machine Learning, boosting insurers' pricing capabilities with unprecedented speed and accuracy across the pricing process without compromising on auditability or control. Our modular pricing platform automates technical and commercial premium modeling.

Gold Sponsors

GALECKI SEARCH ASSOCIATES	**Galecki Search Associates** Galecki Search Associates is a boutique search firm offering bespoke recruitment experiences to Actuarial, Insurance, and Insurtech professionals, and to those that hire them.
GUIDEWIRE	**Guidewire Software, Inc.** Guidewire is the platform P&C insurers trust to engage, innovate, and grow efficiently. We combine digital, core, analytics, and machine learning to deliver our platform as a cloud service. More than 500 insurers in 38 countries, from new ventures to the largest and most complex in the world, run on Guidewire. For more information, please visit www.guidewire.com.
hyperexponential	**hyperexponential** hyperexponential's hx Renew is the world's first insurance pricing decision intelligence platform. It reimagines the flow from broker submission and rating through to decision, creating a feedback loop that continuously strengthens insurers' data assets, insights, and decisions— and ultimately, their bottom line. Trusted by many leading insurance companies, more than $37bn of premium is written annually in hx Renew.
PINNACLE ACTUARIAL RESOURCES	**Pinnacle Actuarial Resources** Pinnacle is an independent, full-service actuarial firm focused on the property/casualty insurance industry. With a home office in Bloomington, Ill., the firm also has offices in Atlanta, Chicago, and San Francisco. Pinnacle is owned by its professional staff and ranks among the largest property/casualty actuarial firms in the United States. To learn about Pinnacle's Commitment Beyond Numbers, please visit www.pinnacleactuaries.com.
Verisk	**Verisk** Verisk's Core Lines Services is a leading provider of advanced tools and analytics for the property and casualty insurance industries. Drawing on unique data assets and deep domain expertise, our ISO products and services help insurers develop programs, stay ahead of regulatory changes, price risks, and underwrite with greater precision and efficiency.
wtw	**WTW** WTW's Insurance Consulting and Technology experts offer a powerful combination of advisory services for insurance companies, integrated with technology solutions and market-leading software that is underpinned by unparalleled analytical capabilities. Our award-winning Radar technology is an end-to-end pricing and analytics decision tool that increases speed to market. Visit wtwco.com/ICT.

Sponsors and Exhibitors

Silver Sponsors

CARFAX

More information yields better decisions. That's why 80 percent of the combined personal and commercial insurance market choose CARFAX vehicle history data to help mitigate future risk and improve the bottom line. Our predictive information helps auto insurers attract and retain the best customers while avoiding losses. Learn how integrating CARFAX data into pricing models can benefit carriers at CarfaxForInsurers.com.

Cognalysis

Through its cutting-edge MultiRate and Claim Life Cycle Model software, Cognalysis provides the practicing actuary with unique insight into Property-Casualty insurance data. Trusted by top P&C carriers, consultants, brokers, and governmental entities, its software and consulting solutions address a wide range of industry challenges and reveal information that traditional actuarial methods miss.

DW Simpson – Global Actuarial & Analytics Recruitment

DW Simpson is the premier executive recruiting firm specializing in the placement of actuaries and analytics experts. For 34 years, our recruiters have helped professionals connect with top employers. Additionally, our specific expertise allows us to support our clients with the resources they need to find the perfect candidate.

Ezra Penland Actuarial Recruitment

Ezra Penland Actuarial Recruitment is the leader in actuarial recruitment, connecting countless actuarial professionals with top employers nationwide. We serve the needs of actuaries. Our educated, knowledgeable, and highly trained staff will always exhibit business ethics, integrity, empathy, and strong listening skills to help you reach your goals.

Pryor Associates Executive Search

"It Takes One To Know One…An Actuary Placing Actuaries (and Related Professionals)"

Pryor has 5 decades of insurance placement experience.

Pauline Reimer, ASA, MAAA, CAS & IFoA affiliate member, and CAS Executive Partner, directs its Actuarial, Modeling & Risk Division. Her placement records of 99% retention rate & retained search success confirm her status as a preeminent recruiter.

Red Mountain Technologies

Red Mountain Technologies (RMT) provides critical data to automotive insurers to identify risk and promote transparency, resulting in better pricing decisions. We thoroughly understand our customers' individual business needs for timely and accurate data. RMT cultivates long-standing relationships with our customers by providing highly relevant and useful automotive data.

TNEDICCA

TNEDICCA® [ti-NED-i-kuh] is an insurtech company that provides auto insurers with proven solutions for next-level territory rating, pricing and underwriting using crash location data models. Our mission is to reduce future road accidents using location-based data and predictive analytics. Learn more about TNEDICCA Road Risk Intelligence at www.tnedicca.com.

Bronze Sponsor

Travelers

The Travelers Companies, Inc. (NYSE: TRV) is a leading provider of property casualty insurance for auto, home and business. A component of the Dow Jones Industrial Average, Travelers has approximately 30,000 employees and generated revenues of approximately $35 billion in 2021.

For more information, visit travelers.com.

Session Descriptions

Roundtable, 3/18/2024, 7:00AM–7:50AM

❑ RT-1: Achieving Homeowner Profitability

Room: Maurepas

Grab breakfast and join in on this facilitated discussion! This is an informal opportunity to connect with fellow attendees for an engaging, relevant discussion on this topic. Our Roundtable discussions are eligible for 1 Continuing Education credit.

Roundtable Facilitator: Brian Stoll

Roundtable, 3/18/2024, 7:00AM–7:50AM

❑ RT-2: Natural Catastrophe Current Issues

Room: Bayside C

This roundtable will provide attendees an opportunity to discuss issues like rate adequacy, capital management, regulation and other matters around the impacts of natural catastrophes within the insurance life cycle.

Roundtable Facilitator: Howard Kunst

Roundtable, 3/18/2024, 7:00AM–7:50AM

❑ RT-3: Bias and Insurance - How Regulation is Evolving

Room: Borgne

We'll talk about what regulators have been doing around unfair discrimination in Colorado, Washington D.C. and beyond. Then, we'll discuss the implications for insurance companies, some danger areas they need to watch for, and how they can be prepared. Come for a very practical discussion around this meaty topic.

Roundtable Facilitator: Jessica Leong

Roundtable, 3/18/2024, 7:00AM–7:50AM

❑ RT-4: Training the Next Generation of Actuarial Modelers

Room: Bayside AB

Grab breakfast and join in on this facilitated discussion! This is an informal opportunity to connect with fellow attendees for an engaging, relevant discussion on this topic. Our Roundtable discussions are eligible for 1 Continuing Education credit.

Roundtable Facilitator: Joey Sveda

Session Descriptions

Roundtable, 3/18/2024, 7:00AM–7:50AM

Capability Model Tags: C:PC:L1,C:MM:L3,C:FE:L1,C:AS:L1,S:DA:L1

❑ RT-5: Expected Profit Curves: Portfolio Management and Optimization with Fairness Constraints

Room: Oak Alley

In this roundtable, we open two lines of discussion. The first: how feasible is to incorporate expected profit and expected conversion/retention to (re)design rating strategies? The second: how possible is to promote profit optimization practices where fair discrimination and mutualization are formally quantified and measured?

Roundtable Facilitator: Juan Ignacio de Oyarbide

General Session, 3/18/2024, 8:00AM–9:30AM

Capability Model Tags: C:RM:L3,S:CT:L1,S:BA:L3,S:LT:L3,T:AN:L3,T:IC:L3

❑ GS-1: Adventure and Risk Collide: An Aquanaut's Perspective

Room: Napoleon CD

Aquanaut Fabien Cousteau, with a background in environmental economics from Harvard, will provide an entertaining account of his "life under the water", and relate his adventures to risk management. He will touch on Climate Change from the unique perspective of the Ocean. Cousteau invites us to consider how we can balance the realities of market economies with the imperative of protecting the planet and human lives.

Learning Objectives:

1. Learn how rising sea-levels and dramatic meteorological events are evidence of climate change.
2. Learn how risk assessment plays a role in exploration.
3. Learn how adventure and risk collide.

Moderator: Rebecca Williams, Actuary, North Carolina Rate Bureau

Keynote Speaker: Fabien Cousteau

Modeling, 3/18/2024, 10:00AM–11:00AM

Capability Model Tags: C:PC:L1,C:PC:L2,C:PC:L3,C:MM:L1,C:MM:L2,C:FE:L1,C:FE:L2,C:AS:L1,C:AS:L2,C:AS:L3,S:CT:L1,S:CT:L2,S:CT:L1,S:DA:L1,S:DA:L2,S:DA:L3,S:BT:L1,S:BT:L2,S:BT:L3,S:PR:L1,S:BA:L1,S:BA:L2,S:LT:L2,S:LT:L3,T:AN:L1,T:AN:L2,T:AN:L3,T:IC:L1,T:IC:L2,T:IC:L3,T:CO:L1,T:CO:L2,T:CO:L3,T:CR:L1,T:PR:L1,T:PR:L2

❑ M-6: Model Documentation for Non-GLM Models

Room: Borgne

Session Description: The NAIC CASTF has produced a white paper on "Regulatory Review of Predictive Models". The original white paper was focused on GLMs. New appendices to the paper have been created which address other model types such as GAMs and GBMs. This session will cover some of the more common Non-GLM model types and include some general guidance that could apply to any model.

Learning Objectives:

1. Locate the NAIC CASTF white paper on GLM documentation and the new appendices describing model support for other model types
2. Describe additional model documentation that may be useful for explaining and supporting Generalized Additive Models
3. Describe additional model documentation that may be useful for explaining and supporting Gradient Boosting Machines and Random Forests

Moderator:	Betty Zhu, Associate Director, AON
Speakers:	Sam Kloese, P&C Rate Modeling Actuary and Data Scientist, National Association of Insurance Commissioners
	April Yu, Property & Casualty Rate Modeling Actuary and Data Scientist, National Association of Insurance Commissioners
	Roberto Perez, P/C Rate Modeling Actuary and Data Scientist, NAIC

Session Descriptions

Product/Innovation, 3/18/2024, 10:00AM–11:00AM

Capability Model Tags: C:MM:L1,S:DA:L1,S:DA:L3,T:AN:L1

❑ PI-7: Using Hyper-Personalized Vehicle Data in Pricing

Room: Bayside AB

VIN level data has been used in ratemaking for decades. As vehicles get less homogeneous at the make and model level, there is more opportunity to add precision to rating not just using the first 8 digits of the VIN, but the entire 17. In this session we will look at how vehicle data has been used over time, as well as give an example using insurance loss data showing how using changes in used car prices can enhance pricing algorithms.

Learning Objectives:

1. Summarize how the use of VIN data in personal auto insurance pricing algorithms has changed over time.
2. Explain how changes in used car prices can be used to get ahead of changing loss trends.
3. Describe how used car prices are typically considered in personal auto insurance pricing algorithms and how that could be improved.

Moderator:	Klayton Southwood, Senior Director, WTW
Speakers:	Martin Ellingsworth, President, Salt Creek Analytics
	James Vecchio, Head of VIN Products, J.D. Power
	Liam McGrath, Associate Director, WTW

Professionalism/Regulation, 3/18/2024, 10:00AM–11:00AM

Capability Model Tags: C:AS:L1,S:PR:L1,T:PR:L1

❑ PR-1: Professionalism Standards and Code: Applied!

Room: Oak Alley

Have you ever wanted to pick-apart a rate filing that someone else prepared? Now is your chance! This is a "hands on" session, where we have you work with a small group and a fictitious rate filing to discuss where it falls short – and how actuaries can use the Code of Conduct and the Standards of Practice to explore "best practices" for rate filings.

Learning Objectives:

1. Improve your knowledge of professionalism documents including the Code of Conduct and ASOPs.
2. Identify how the Code of Conduct and ASOPs apply to rate filings.
3. Discuss best practices for rate filings with colleagues.

Moderator:	Rebecca Williams, Actuary, North Carolina Rate Bureau
Speakers:	Josh Taub, Director of CAS Exams, The Infinite Actuary
	Rebecca Williams, Actuary, North Carolina Rate Bureau

Ratemaking, 3/18/2024, 10:00AM–11:00AM

Capability Model Tags: C:PC:L3,C:MM:L1,C:FE:L1,C:FE:L2,C:FE:L3,C:AS:L1,S:CT:L1,S:CT:L2,S:CT:L1,S:DA:L1,S:DA:L2, S:BA:L1,S:LT:L1,S:LT:L2,T:CR:L2

❑ R-7: Streamlining vs Automating your Rate Change Process: What's the Difference and How Can You Make It Work for You?

Room: Napoleon CD

The rate change process can be a complex and time-intensive undertaking, often involving numerous mechanical steps across multiple applications. The need to update state-level indications regularly, to have a countrywide view of rate need and to deliver rate changes quickly to the market is imperative, especially during the recent period of inflation. We will discuss potential ways to reduce the time needed for the overall rate change process and some of the components, including Rate Level Indications. This will allow the actuary to carve out additional time to work on analytics rather than manual data processes, all while adhering to the Actuarial Standards of Practice and without sacrificing accuracy.

Learning Objectives:

1. Understand the Distinctions: Participants will learn to differentiate between streamlining and automating the rate change process, gaining a clear understanding of the nuances and benefits of each approach.
2. Identify Efficiency Opportunities: Attendees will discover practical strategies for reducing the time and complexity of the rate change process, with a focus on streamlining procedures and leveraging automation tools. Emphasis will be placed on maintaining accuracy and compliance with ASOPs.
3. Implement Actionable Insights: The session will provide actionable insights on incorporating automated elements into the rate change process, empowering actuaries to enhance efficiency without compromising accuracy

Moderator:	Jamie Mills, Sr. Actuary, Allstate Insurance Company
Speakers:	Jamie Mills, Sr. Actuary, Allstate Insurance Company
	Erik Yost, Senior Consultant, WTW

Session Descriptions

Special Topics, 3/18/2024, 10:00AM–11:00AM

❑ ST-7: Quantifying Risk Loads for Property Catastrophe Exposure: Using Cat Bonds to Infer Risk Premiums or Reinsurance Costs

Room: Maurepas

The use of insurance-linked securities (ILS) has become commonplace among P&C insurance companies during the last 10 to 15 years, and a variety of ILS data is readily available from the capital markets. Catastrophe bonds are one form of ILS. In this session, catastrophe bond data available from the capital markets will be used to quantify the cost of catastrophe risk for property insurance. Several applications will be presented, including quantifying risk loads and evaluating the cost of catastrophe reinsurance. The presenters will also examine ways to allocate risk loads and reinsurance costs by geographic area. Additional implementation and practical considerations will be discussed by an insurance carrier that has relied on a similar methodology for several years.

Learning Objectives:

1. Develop an understanding of how catastrophe bonds work and the various metrics associated with catastrophe bonds that can be used to quantify risk
2. Learn how catastrophe bond metrics can be applied to property losses to estimate a provision that quantifies the cost of exposing capital to large catastrophic events
3. Discuss the benefits, potential challenges, or other considerations when implementing an independent methodology of quantifying risk loads for catastrophe exposure

Moderator:	Howard Kunst, Chief Actuary, Science & Analytics, CoreLogic
Speakers:	Paul Anderson, Principal & Consulting Actuary, Milliman, Inc.
	Ben Woods, Actuary, Allstate

Modeling, 3/18/2024, 11:30AM–12:30PM

Capability Model Tags: C:MM:L1,C:MM:L2,S:CT:L1,S:CT:L1,S:DA:L1,S:DA:L2,S:DA:L3,T:AN:L1

❑ M-8: Stepping into the Actuarial Modeling Wonderland

Room: Borgne

Session Description: Actuaries need to keep basic principles in mind when using predictive models to solve business problems. Considerations such as sampling bias, segmentation, and proper framing of the question are crucial in order to find the optimal solution. This session will give an overview of common modeling concepts, told in the framework of famous mathematical paradoxes. Learn how Sleeping Beauty, Simpson, and Berkson relate to insurance modeling, and how understanding these statistical phenomena can enhance the analytic process and enable actuaries to overcome common modeling hurdles.

Learning Objectives:

1. Become familiar with statistical paradoxes in evaluating data of which every modeler should be mindful.
2. Learn how statistical paradoxes may come up as phenomenon in actuarial modeling, specific to insurance problems.
3. Develop strategies for how to handle statistical paradoxes and navigate potential solutions.

Moderator:	Gary Wang, Senior Consulting Actuary, Pinnacle Actuarial Resources
Speakers:	Megan Camanocha, Consulting Actuary, Pinnacle Actuarial Resources, Inc.
	Gary Wang, Senior Consulting Actuary, Pinnacle Actuarial Resources

Product/Innovation, 3/18/2024, 11:30AM–12:30PM

❑ PI-6: Rethinking Territory Risk with Crash Data Insights

Room: Maurepas

Session Description: The U.S. auto insurance industry is facing multi-year profitability challenges. Skyrocketing car repair costs have become our new normal. Post-COVID driving patterns, riskier driving behaviors and the growing impact of climate change are increasing severity. Meanwhile, inflation and auto industry supply chain shortages are upping claim costs with no end in sight. This session will explore how these macro trends are impacting the P&C auto industry and show how you can respond to these challenges with better rating and pricing. We'll take a deep dive into U.S. crash data and how this new powerful data source can be used to augment or even replace traditional territory rating. We'll also discuss emerging opportunities to apply these concepts to telematics data as the data exchange model continues to expand.

Learning Objectives:

1. Attendees will be able to understand road design in the context of crash risk as well as auto insurance claims risk.
2. Attendees will be able to describe the traditional approach to territory rate making, its limitations, and improvements envisioned by R. Brubaker.
3. Attendees will be able to conceptualize applications of road risk infomation for both non-telematics and telematics risk assessment.

Moderator:	Pong Woo, AVP, Actuarial, Palomar Insurance
Speaker:	Yiem Sunbhanich, Co-Founder and CEO, TNEDICCA

Professionalism/Regulation, 3/18/2024, 11:30AM–12:30PM

Capability Model Tags: S:CT:L1,S:BT:L1,S:BT:L2,S:BT:L3,S:PR:L1,T:IC:L1,T:IC:L2,T:IC:L3,T:CO:L1,T:CO:L2,T:PR:L1,T:PR:L2,T:PR:L3

❑ PR-6: Unlock Your Potential: Elevate Soft Skills and Master Self-Leadership

Room: Bayside AB

Join us for an immersive experience tailored for actuarial, insurance, and risk management professionals ready to take their career to new heights. In this dynamic session, we will delve into key aspects that empower you to thrive in your career by elevating your soft skills, mastering self-leadership, and crafting a compelling professional brand. We will dive into practical exercises and insights that enable you to navigate diverse workplace dynamics with poise. Learn to recognize and manage your emotions effectively, fostering a positive and influential presence within your team and across the organization. This session is exclusively designed to help you enhance your skill set and show up as an impactful, authentic, and self-assured leader.

Learning Objectives:

1. Upon completion, participants will be able to Demonstrate Effective Emotional Intelligence by identifying and applying strategies for recognizing and managing their emotions, fostering a positive and influential presence within their teams and across the organization.
2. Upon completion, participants will be able to Execute Self-Leadership Practices by acquiring actionable self-leadership techniques, enabling them to take control of their professional development and navigate diverse workplace dynamics. They will also learn how to implement self-leadership strategies to enhance their decision-making and adaptability.
3. Upon completion, participants will be able to Craft and Communicate a Compelling Professional Brand. Participants will learn to articulate and showcase their unique strengths, values, and skills to create a compelling professional brand that reflects authenticity and self-assurance, enabling them to stand out as impactful leaders in their respective fields.

Moderator:	Reese Mularz, Actuary, Milliman
Speakers:	Chris Cooper, CEO, Executive, Peak Performance & Business Results Coach, 2 Time #1 Best Selling Author, Speaker & Trainer, Execute Your Passion
	Dalesa Bady, Actuary, GuideOne Insurance

Ratemaking, 3/18/2024, 11:30AM–12:30PM

Capability Model Tags: C:PC:L1,C:MM:L1,C:FE:L1,C:FE:L3,S:CT:L1,S:DA:L1,T:AN:L1,T:CR:L1

❑ R-2: Credibility in Experience Rating

Room: Oak Alley

Session Description: Experience rating is widely used in many lines of insurance. Actuarial credibility is a key component of experience rating and has always been a topic of great interest. This presentation will deepen the audience's understanding of actuarial credibility theory by sharing the findings from the paper "D-Ratios and Credibility in Experience Rating" by Yuchen Su, Brian H. Stein, and John P. Robertson, published online in January 2023 by the Variance journal. The American Academy of Actuaries defines credibility as a measure of the predictive value that the actuary attaches to a particular set of data in a given application. In currently common notation and terminology used for workers compensation experience rating, Zp and Ze denote primary and excess credibilities. In this presentation we will show that in NCCI's Experience Rating Plan, the weight given to the reported primary loss ratio is D*Zp, where D is the insured's average D-ratio, and the weight given to the reported excess loss ratio is (1-D)*Ze . We use this viewpoint to show an underlying similarity between NCCI's and California's workers compensation experience rating plans and to explain recent state-level performance of NCCI's Experience Rating Plan. Additionally, the impact of this theory on recent changes to NCCI's experience rating plan will be discussed. This article is at https://variancejournal.org/article/57686-d-ratios-and-credibility-in-experience-rating.

Learning Objectives:

1. Define the effective primary and excess credibilities in an experience rating plan with a split point.
2. Demonstrate the connection and compatibility between an experience rating plan with a fixed split point and one with a split point that varies by risk size.
3. Diagnose potential areas of improvement in experience rating.

Moderator:	Yuchen Su, Actuary II, NCCI Holdings, Inc.
Speakers:	Yuchen Su, Actuary II, NCCI Holdings, Inc.
	Brian Stein, Assistant Actuary, NCCI Holdings, Inc.

Session Descriptions

Special Topics, 3/18/2024, 11:30AM–12:30PM

Capability Model Tags: C:PC:L3,C:MM:L3,S:CT:L1,S:DA:L3,S:BT:L1,S:BA:L3,S:LT:L2,T:AN:L3,T:CO:L2,T:CR:L3

❑ ST-2: Navigating Climate and Migratory Pattern Changes in Home Insurance

Room: Napoleon CD

Over the past several years, climate-related trends have had a significant impact on insurance companies and consumers alike. As different climate patterns have emerged over the past several years, the evidence is compelling: the warmest six years on record have occurred since 2015; eight of the 10 largest wildfires in California history have occurred since 2017;The number of strong storms is increasing; and Hurricane Ian—with damages worth an estimated $113 billion—was the third costliest hurricane in U.S. history and just one of the 18 separate billion-dollar disasters in 2022. Exacerbating the risks brought about by climate-related trends is a recent demographic trend: migration within the U.S. More consumers are migrating to areas with higher weather-related risks. When one considers all the new dynamics in play, there is little doubt that climate change insurance risk is intensifying, and the insurance industry must understand these changes in order to adapt. This discussion will highlight the migratory and climate changes affecting the U.S. and quantify the impact to insurance carriers.

Learning Objectives:

1 Learn about the climate and migratory trends impacting the industry

2. Understand what the potential long-term impact could be based on these trends

3. Understand the techniques and products carriers can use to mitigate the growing risk

Moderator:	Annie Chunyang Fan, Actuary, Gore Mutual
Speakers:	James Handley, Director - Data Science, LexisNexis Risk Solutions
	Zishen Wei, Manager Data Science, LexisNexis Risk Solutions

Modeling, 3/18/2024, 2:00PM–3:00PM

Capability Model Tags: C:PC:L2,S:CT:L1,S:LT:L3

❑ M-1: Achieve Profit and Equity using Deep Learning

Room: Borgne

Session Description: Balancing fairness and equity with insurance profitability and solvency is an emerging challenge to the industry. In this session you will learn about Deep Learning and see a process for obtaining an optimal rating plan structure which maximizes long term profitability while being constrained by an equity requirement. This session focuses on the concepts and outcomes more than technical details of deep learning.

Learning Objectives:

1. Participant will be able to utilize a method for measuring insurance fairness and equity

2. Participant will be able to understand how deep learning can solve optimization problems with many inputs

3. Participant will be able to help improve decision making frameworks within their organization for complex problems

Moderator:	Joey Sveda, Consulting Actuary, Pinnacle Actuarial Resources
Speakers:	Marcus Deckert, Actuary & Data Scientist, CARFAX
	Peggy Brinkmann, Actuary, Milliman

Session Descriptions

Product/Innovation, 3/18/2024, 2:00PM–3:00PM

Capability Model Tags: S:CT:L1,S:BT:L3,S:LT:L3,T:CR:L2

❑ PI-3: Let's Talk Transformation!!!

Room: Oak Alley

Don't miss the opportunity to hear from transformation practitioners on why you should think differently about your modernization roadmap. Explore the dimensions of people, process and technology and how to elevate your game.

Learning Objectives:

1. Define transformation and recognize variations in its definition to different audiences
2. Describe what transformation opportunities generally exist in the people, process, and technology spaces
3. Identify valuable adjustments to how you and your organization have approached various transformation initiatives

Moderator:	Seth Goodchild, Product Development Director, Allstate Insurance Company
Speakers:	Liz Casazza McGrew, Director, PwC
	Jen Jabben, Actuary / Senior Manager, EY
	Robert Justice, Director, Aon

Professionalism/Regulation, 3/18/2024, 2:00PM–3:00PM

Capability Model Tags: C:PC:L2,C:FI:L1,C:FI:L3

❑ PR-5: Issues for the Canadian Pricing Actuary: IFRS 17 and the Introduction of No-Fault Insurance in British Columbia

Room: Maurepas

Session Description: A discussion of the responsibilities of the pricing actuary in implementing IFRS17.

Learning Objectives:

1. After this session, attendees will understand the role of the pricing actuary in implementing IFRS17.
2. Attendees will understand the no-fault and tort regimes in the various provinces in Canada.

Moderator:	Rajesh Sahasrabuddhe, Partner, Oliver Wyman
Speakers:	Andrew Duhancioglu, Principal, Oliver Wyman
	Rajesh Sahasrabuddhe, Partner, Oliver Wyman

Session Descriptions

Ratemaking, 3/18/2024, 2:00PM–3:00PM

Capability Model Tags: C:FE:L1,C:FE:L3,S:CT:L1,S:CT:L2,S:CT:L1,S:BA:L3,T:AN:L1

❑ R-5: How to Price to Win the Best Risks

Room: Napoleon CD

How do you price to win the best risks, identify the highest risks, and grow profitably? The typical goal of a project to build a pricing model is to do just that - build a pricing model. What if instead, your goal was to help the business grow profitably, through a pricing model rebuild? How would that change the work that you do? That's what we'll discuss and share in this presentation. We'll take you through 5 steps to transform a pricing model into profit.

Learning Objectives:

1. Understand the 5 steps to generate profitable growth through a pricing model build
2. Understand what steps you can take after the pricing model build to make profitable growth happen

Moderator:	Jessica Leong, CEO, Octogram
Speaker:	Alexander Alimi, Chief Pricing Actuary, Everest Insurance

Special Topics, 3/18/2024, 2:00PM–3:00PM

Capability Model Tags: C:MM:L1,C:FE:L1,C:RM:L1,C:AS:L1,S:CT:L1,S:DA:L1,S:BT:L1,S:PR:L1,S:LT:L1,T:AN:L1,T:IC:L1,T:IA:L1

❑ ST-1: 99 Problems but Bias Ain't One??

Room: Bayside AB

There has been a significant amount of discussion, debate, and research around the examination of rates and actuarial models for potential bias against protected classes. This has led to several potential approaches to measuring and mitigating potential bias. As with any emerging area, moving from a theoretical construct to practical implementation can be a challenge, and often results in unexpected implications. This session will cover the practical considerations around the implementation of several methods for measuring potential bias. This session will explore examples of these practical considerations, with a discussion of insights gained from applying them through various mini simulation scenarios.

Learning Objectives:

1. Explain the challenges and implications of moving towards practical implementation
2. Explain the challenges measuring potential bias and why it's important
3. Demonstrate and explain the possible impact of bias mitigation approaches through mini simulations

Moderator:	Zhao Zhou
Speakers:	Michael Chen, Senior Consulting Actuary, Pinnacle Actuarial Resources
	Gary Wang, Senior Consulting Actuary, Pinnacle Actuarial Resources

Session Descriptions

Modeling, 3/18/2024, 3:30PM–4:30PM

Capability Model Tags: C:PC:L3,S:DA:L3,S:LT:L3

❑ M-4: From Conventional Neural Networks to Large Language Models

Room: Bayside AB

In an era defined by unprecedented technological advancements, actuaries are constantly seeking innovative approaches to leverage data and analytics for more accurate risk assessments and informed decision-making. Join us for a thought-provoking session titled "From Conventional Neural Networks to Large Language Models" at this year's RPM, where we will unravel the intricate world of cutting-edge artificial intelligence and deep learning. This session will guide you through a comprehensive journey from the fundamentals of the neural networks to the latest breakthroughs in large language models. Our expert speakers will provide a clear and accessible overview, bridging the gap between actuarial science and the exciting world of AI.

Learning Objectives:

1. Apply Neural Networks in practice
2. Identify specific opportunities within their own actuarial work where AI can be leveraged to improve efficiency, and decision-making.
3. Communicate AI Value Effectively

Moderator:	Betty Zhu, Associate Director, AON
Speakers:	Betty Zhu, Associate Director, AON
	Eric Jung, Data Scientist, Aon

Product/Innovation, 3/18/2024, 3:30PM–4:30PM

❑ PI-2: Navigating the Generative AI Era: Opportunities for Actuaries and Insurers

Room: Borgne

In this session, we will dive into the rise of Generative AI (GenAI) and its impact on the actuarial landscape. We will recap the key insights over the past year, discuss the latest innovations in the realm of large language models, and shed light on new opportunities and practical applications that have arisen for actuaries and insurers in this GenAI-driven era.

Learning Objectives:

1. Become informed on advancements and developments in Generative AI over the past year.
2. Discover how insurers and actuaries are currently leveraging large language models for improved efficiency and decision-making.
3. Uncover potential opportunities for insurers and actuaries harnessing the most recent innovations in Generative AI.

Moderator:	Pong Woo, AVP, Actuarial, Palomar Insurance
Speakers:	Olivier Brown, Principal, Oliver Wyman Actuarial Consulting
	Sabrina Tan, Actuarial Consultant, Oliver Wyman
	Hugo Latendresse, Senior Manager, Oliver Wyman

Session Descriptions

Professionalism/Regulation, 3/18/2024, 3:30PM–4:30PM

Capability Model Tags: C:PC:L1, C:PC:L2, C:PC:L3, T:CO:L1, T:PR:L1

❑ PR-2: Governing for Ethical AI

Room: Maurepas

Session Description: In this session we'll discuss governance options for establishing trusted AI in insurance analytics. Topics will include why governance should be seen as a potential competitive advantage and not just a burden, where existing governance may have AI gaps, and controls that can be put in place to address risks posed by advanced analytics. Attendees will leave with an understanding of how to spot and address AI governance issues, whether you are responsible for informing a trusted AI governance assessment or need to operate effectively within a changing structure.

Learning Objectives:

1. Articulate regulatory expectations around analytics.
2. Describe different options for analytics governance.
3. Spot and address AI governance issues.

Moderator:	David Elkins, Vice President & Chief Actuary, PC, Country Financial
Speakers:	Christopher Cooksey, Sr. Director of Advanced Analytics, Guidewire
	Erin Kenneally, Chief Strategy & Innovation Officer; Principal , Preamble; Elchemy

Ratemaking, 3/18/2024, 3:30PM–4:30PM

Capability Model Tags: S:CT:L1, S:DA:L1, T:AN:L1, T:CR:L1

❑ R-3: Credibility-weighted Territorial Rating

Room: Oak Alley

Session Description: Creating and implementing new rating territories is a complex and time-consuming process that requires agreement among pricing actuaries, underwriters, and decision-makers. In the actuarial literature, various advanced methodologies exist to develop tailored geographical segmentations. However, translating the insurer's strategy into the math and explaining the reasoning behind smoothing or clustering decisions are challenging tasks. Credibility theory, with its simple interpretation, offers a bridge between parameters and concepts such as risk mutualization. Remarkably, there are clear connections between credibility parameters and the degree of smoothing, which, in turn, controls territorial cross-subsidies. Some practical tools are valuable to ensure sound geographical pricing decisions. Disclosing credibility parameters, lift, Gini, or consistency measures are some tools that can be helpful both within and outside the organization. In this session, I will explain how these could be implemented in order to achieve more fair and transparent rating strategies.

Learning Objectives:

1. Upon completion, attendees will be able to better understand the notions behind credibility-weighted smoothing.
2. To understand the role of smoothing parameters in the creation of rating territories and risk-sharing levels.
3. To account for a wider actuarial toolkit to explain territorial ratemaking decisions.

Moderator:	Klayton Southwood, Senior Director, WTW
Speakers:	Juan Ignacio de Oyarbide, Business Development Representative and Pricing Actuary, Addactis
	Daniel Post, Chief Actuary, Mutual Capital Analytics

Session Descriptions

Special Topics, 3/18/2024, 3:30PM–4:30PM

❑ ST-8: What the Hail Can We Do About Weather Risk?!

Room: Napoleon CD

Hail is a major driver of underwriting results. In this presentation, we will dig into the trends in severe convective storm over the past 20 years, and discuss ways to prepare for and manage that risk.

Learning Objectives:

1. Understand key drivers leading to an increase in Severe Convective Storm losses for homeowners
2. Examine the evolving dynamics of the property reinsurance market, highlighting the growing significance of addressing SCS risk
3. Explore methods to quantify SCS risk and applications of those methods

Moderator:	Katie Pipkorn, Consulting Actuary, Milliman
Speakers:	Amy Green, Executive Vice President, Gallagher Re
	Brendan Coker, Senior Vice President, Gallagher Re

Roundtable, 3/19/2024, 7:00AM–7:50AM

❑ RT-10: Modeling Trends for Coastal States for Homeowners and Commercial Property

Room: Maurepas

Grab breakfast and join in on this facilitated discussion! This is an informal opportunity to connect with fellow attendees for an engaging, relevant discussion on this topic. We will have an open discussion relative to current modeling trends that affect the pricing of property coverage for residential and commercial properties in coastal states. Our Roundtable discussions are eligible for 1 Continuing Education credit.

Roundtable Facilitator:	Charles Hansberry

Roundtable, 3/19/2024, 7:00AM–7:50AM

❑ RT-6: Considerations for Bias Analyses

Room: Bayside C

This roundtable will allow for the discussion of a myriad of topics relevant when conducting a bias analysis, such as the collection of protected class data, designing a testing framework, data security considerations, governance frameworks, as well as potential limitations of such an analysis. This is an informal opportunity to connect with fellow attendees for an engaging, relevant discussion on this topic with no prior experience required.

Roundtable Facilitator:	Eric Krafcheck

Roundtable, 3/19/2024, 7:00AM–7:50AM

Capability Model Tags: C:AS:L1,C:AS:L2,S:PR:L1,S:PR:L2,T:PR:L1,T:PR:L2

❑ RT-7: Professionalism - Changes to ASOP 20 Discounting and ASOP 29 Expense Provisions

Room: Borgne

Grab breakfast and join in on this facilitated discussion! This is an informal opportunity to discuss recently revised ASOPs and how they might apply to your actuarial work. Our Roundtable discussions are eligible for 50 minutes of Continuing Education credit.

Roundtable Facilitator: Ken Williams

Roundtable, 3/19/2024, 7:00AM–7:50AM

❑ RT-8: Getting More Value from Pricing Models

Room: Bayside AB

How do you price to win the best risks, identify the highest risks, and grow profitably? The typical goal of a project to build a pricing model is to do just that - build a pricing model. What if instead, your goal was to help the business grow profitably, through a pricing model rebuild? How would that change the work that you do? Join this round table to discuss and learn how others approach their pricing model builds to maximize impact.

Roundtable Facilitator: Jessica Leong

Roundtable, 3/19/2024, 7:00AM–7:50AM

❑ RT-9: Bayesian vs. Frequentist Methods: What are the Tradeoffs?

Room: Oak Alley

Grab breakfast and join in on this facilitated discussion! This is an informal opportunity to connect with fellow attendees for an engaging, relevant discussion on this topic. Our Roundtable discussions are eligible for 1 Continuing Education credit.

Roundtable Facilitator: Rajesh Sahasrabuddhe

Session Descriptions

Modeling, 3/19/2024, 8:00AM–9:00AM

Capability Model Tags: C:MM:L2,S:CT:L1,S:DA:L2,S:LT:L2,T:AN:L3,T:IC:L2,T:CR:L2,T:IA:L2

❑ M-3: Building Machine Learning Algorithms for Insurance

Room: Napoleon CD

Much of the development of machine learning algorithms has been focused on improvements to predictive power. However, insurance practitioners know they need to balance other priorities, such as transparency and stability. This session will discuss alterations to traditional machine learning algorithms that more appropriately meet the needs of those in the insurance space. For example, GBMs suffer from both poor transparency – it is impossible to discern which factors are main effects and what interactions may exist – and instability – small changes in the predictors can lead to surprisingly significant changes in model predictions. We will demonstrate how adjustments can be made to the GBM algorithm to address both of these issues and others. In addition to discussing existing approaches, the session will challenge attendees to think about future innovations.

Learning Objectives:

1. Identify shortcomings of existing machine learning algorithms
2. Explain how algorithms can be modified to better fit insurance use cases
3. Discover new ways to improve on the existing machine learning landscape

Moderator:	Betty Zhu, Associate Director, AON
Speakers:	Liam McGrath, Associate Director, WTW
	Madeline Main, Director, WTW

Product/Innovation, 3/19/2024, 8:00AM–9:00AM

Capability Model Tags: C:PC:L3,C:FE:L1,C:RM:L2,S:DA:L1,S:BA:L1,S:BA:L2,T:AN:L1,T:AN:L2,T:CO:L1,T:CR:L3

❑ PI-1: Advancing Cyber Underwriting Through Security Signals

Room: Oak Alley

Underwriting cyber risks in today's environment can be challenging due to the uncertainty in claims occurrence. Leveraging predictive analytics and security signals can provide guidelines to cyber underwriting and pricing for optimal risk selection.

Learning Objectives:

1. Identify key uses for cybersecurity controls in cyber underwriting strategies and ratemaking
2. List the most impactful cybersecurity controls in predicting claims and in turn price policies
3. Describe how cyber controls can push the industry towards more certainty in underwriting and pricing cyber risks

Moderator:	Mou Jian (MJ) Teo, Vice President, Guy Carpenter
Speakers:	Jess Fung, Managing Director, North American Cyber Analytics Lead, Guy Carpenter
	Mou Jian (MJ) Teo, Vice President, Guy Carpenter
	Carol Aplin, Principal Cyber Modeler, Marsh McLennan

Session Descriptions

Professionalism/Regulation, 3/19/2024, 8:00AM–9:00AM

Capability Model Tags: C:AS:L1,S:PR:L1,T:PR:L1

❑ PR-4: Professionalism Considerations of Using Large Language Models in Actuarial Applications

Room: Bayside AB

In the last year, an explosion in the usage of large language models (LLMs) has produced widespread excitement but also anxiety about the potential of AI to simplify or perhaps replace human work. In this session we'll briefly review these models and how they might be used for actuarial work, and then focus on the professionalism considerations for any actuaries relying on these models.

Learning Objectives:

1. Identify how the Code of Conduct and ASOPs apply to Large Language Models.
2. Discuss responsibilities and considerations when using Large Language Models for actuarial work.
3. Explore potential problems with using Large Language Models for actuarial work.

Moderator:	David Elkins, Vice President & Chief Actuary, PC, Country Financial
Speakers:	Josh Taub, Director of CAS Exams, The Infinite Actuary
	Ken Williams, Staff Actuary - Chief of Advocacy, Casualty Actuarial Society

Ratemaking, 3/19/2024, 8:00AM–9:00AM

Capability Model Tags: C:MM:L2,S:LT:L2,S:LT:L3,T:AN:L1

❑ R-1: Collaborative Modeling without Sharing Data

Room: Borgne

Traditional model building typically relies on centralized, local data sources. Federated machine learning is designed to facilitate information sharing without the need to transfer proprietary data. This collaborative framework allows an insurance company to combine data with other parties (insurance companies, InsurTechs, government entities) to build better models. Each private "data owner" independently trains a model using their specific data then these individual models are shared with a central "aggregation server" which consolidates the knowledge from all "data owners" to generate a consensus model. This process enhances the overall effectiveness and efficiency of modeling for a more comprehensive understanding of the targeted population.

Learning Objectives:

1. Facilitate collaboration within the industry or across industries.
2. Discover more opportunities to improve current practice using Federated Learning.
3. Learn more about confidential computing.

Moderator:	Mary Jo Kannon, Vice President – Actuarial Analytics, EverestRe
Speaker:	Zhiyu Quan, Assistant Professor, University of Illinois Urbana-Champaign

Special Topics, 3/19/2024, 8:00AM–9:00AM

Capability Model Tags: C:PC:L2,C:PC:L3,C:MM:L2,C:MM:L3,C:FI:L1,C:FE:L3,C:RM:L2,C:RM:L3,C:AS:L3,S:CT:L1,S:DA:L1,S:DA:L2,S:BT:L1,S:PR:L1,S:PR:L2,S:PR:L3,S:BA:L1,S:LT:L1,S:LT:L2,T:AN:L2,T:AN:L3,T:IC:L1,T:CO:L1,T:CO:L2,T:CO:L3,T:CR:L1,T:CR:L2,T:IA:L1,T:IA:L2,T:IA:L3,T:PR:L1,T:PR:L2,T:PR:L3

❑ ST-6: How Recent Hurricanes and Legislation Impacted the Florida Homeowners Market

Room: Maurepas

The Florida homeowners market, fragile in the best of times, has been in tumult over the past few years. A combination of devastating and surprisingly long-tailed hurricanes, particularly Irma in 2017 and Michael in 2018, abuses of Florida-specific legal practices, and dramatically hardening reinsurance markets led to numerous insolvencies and pullouts, as well as significant rate increases and exposure changes for those companies that remained. While the Florida legislature had passed bills to respond to this crisis following Irma and Michael, the landfall of Hurricane Ian in 2022- a storm anticipated to be costlier than either Irma or Michael- occasioned the passage of Senate Bill 2A, a sweeping reform package aimed at stabilizing the Florida market. This presentation examines the ratemaking pressures in the Florida market leading up to SB 2A, explores the immediate impacts of this legislation in the first year-plus following its passage, and examines how Florida hurricane catastrophe modeling is accounting for this new and ever-changing landscape.

Learning Objectives:

1. Understand the causes of Florida homeowners market dysfunction leading up to SB 2A (and other recent reforms)
2. Understand the impact of SB 2A (and other recent reforms) on primary and reinsurance markets
3. Understand how catastrophe modeling firms are monitoring the Florida market reforms, and the extent to which they are reflected within hurricane catastrophe models

Moderator:	Annie Chunyang Fan, Actuary, Gore Mutual
Speakers:	David Blake, Associate Actuary, Milliman
	Tianzi Xie
	Jeffrey Waters, Staff Product Manager, Product Management, Moody's RMS

Modeling, 3/19/2024, 9:30AM–10:30AM

Capability Model Tags: C:PC:L3,S:CT:L1,S:CT:L2,S:CT:L1,S:BT:L3,T:AN:L3,T:CO:L3,T:CR:L2,T:CR:L3,T:IA:L2

❑ M-2: Actuarial Modernization

Room: Napoleon CD

This session addresses the timely transition of small or traditional actuarial teams into the realm of predictive modeling. It explores the unique obstacles these teams face, such as resource limitations, juggling multiple roles, and the scarcity of experienced predictive modelers. The focus then shifts to solutions to transform these constraints into opportunities. The presentation underscores the importance of intuitive tech solutions, effective governance, partnerships, and strategic stakeholder engagement in facilitating this transformative journey, ultimately aiming to empower every actuary in this digital age.

Learning Objectives:

1. Define an actuarial modernization project and differentiate it from actuarial transformation
2. Anticipate frictions in the actuarial modernization process when incorporating advanced analytics concepts, by understanding stakeholders
3. Avoid common pitfalls of an actuarial modernization initiative, specifically when transitioning from traditional techniques to leveraging advanced analytics

Moderator:	Steven Phillips, Senior Manager, Deloitte
Speakers:	Thomas Holmes, Chief Actuary - US Region, Akur8
	Jen Jabben, Actuary / Senior Manager, EY

Session Descriptions

Product/Innovation, 3/19/2024, 9:30AM–10:30AM

Capability Model Tags: C:MM:L2,C:MM:L3,C:FE:L1,C:FE:L2,C:FE:L3,C:RM:L2,S:CT:L1,S:CT:L2,S:CT:L1,S:DA:L2,S:DA:L3,S:BT:L1,S:BT:L2,S:BT:L3,S:BA:L1,S:BA:L2,S:BA:L3,S:LT:L1,S:LT:L2,S:LT:L3,T:AN:L1,T:AN:L2,T:AN:L3,T:IC:L3,T:CO:L1,T:CO:L2,T:CO:L3,T:CR:L2,T:CR:L3,T:IA:L3

❑ PI-5: Reduce Cycle Time in an Inflationary Market

Room: Bayside AB

Recent inflation and changes in mobility patterns, work habits and the footprint of catastrophic risks have resulted in ever-changing loss costs, making speed to market of rate changes and underwriting rules increasingly important to catch up. In this session, we will explore optimal ways to reduce cycle time in identifying issues, decision-making on how to respond, and deployment of solutions, which starts with putting decisions and timelines into the hands of the business users and using machine learning in practical ways to speed up these decisions.

Learning Objectives:

1. Identify methods for increasing speed to market for pricing and underwriting rules
2. List practical use cases of machine learning algorithms for business monitoring and decision-making
3. Describe how to collaborate more effectively with other teams in the organization

Moderator:	Pong Woo, AVP, Actuarial, Palomar Insurance
Speakers:	Melissa Bagley, Senior Actuarial Consultant, WTW
	Madeline Main, Director, WTW
	Tyler Eberly, AVP & Actuary, Chubb

Professionalism/Regulation, 3/19/2024, 9:30AM–10:30AM

Capability Model Tags: C:PC:L2,C:PC:L3,C:FI:L1,C:FE:L1,C:RM:L3,C:AS:L3,S:BT:L1,S:PR:L1,S:BA:L1,T:IC:L1,T:PR:L1

❑ PR-8: Professionalism When Working With DOIs

Room: Maurepas

Please join us for this session which will include an actuary, a compliance professional, and a state regulator. Topics covered will include pre-filing calls with departments of insurance (DOIs), required materials for filing with DOIs, key components of a filing, and interacting with DOIs through objections. A state regulator will share their thoughts and perspectives on interacting with insurance companies during the filing process.

Learning Objectives:

1. Hold calls with departments of insurance in a professional manner
2. Submit complete filings in accordance with department of insurance and statutory requirements
3. Better understand how a state regulator reviews filings

Moderator:	Reese Mularz, Actuary, Milliman
Speakers:	Reese Mularz, Actuary, Milliman
	Charles Hansberry, Assistant Deputy Commissioner, Louisiana Department of Insurance
	Ryan Haynes, AINS, Compliance Analyst, Milliman

Ratemaking, 3/19/2024, 9:30AM–10:30AM

Capability Model Tags: C:PC:L3,C:MM:L3,T:AN:L1

❑ R-6: Incorporating Road Context Data into Auto Rating

Room: Oak Alley

Session Description: When analyzing geographical risk for auto rating, the focus is primarily on company experience, which can lack credibility and be slow to react to changing conditions. To address this, companies typically incorporate a complement of credibility, such as data from a statistical organization or competitors. Even though this helps address the credibility issue, it still suffers from only providing a limited view of the complete geographical picture and remains slow to respond to changing conditions. This session will describe how the use of insurance claims data combined with detailed road segment usage data can address these limitations.

Learning Objectives:

1. Describe the limitations of the historical territory definition process
2. Describe data available from accident reports and historical road segment usage
3. Understand how this data can be used to complete a more holistic and dynamic analysis of geographic risk

Moderator:	Brian Stoll
Speakers:	Joey Sveda, Consulting Actuary, Pinnacle Actuarial Resources
	Roosevelt Mosley, Principal and Consulting Actuary, Pinnacle Actuarial Resources

Professionalism/Regulation, 3/19/2024, 9:30AM–10:30AM

Capability Model Tags: C:PC:L1,C:PC:L2,C:PC:L3,C:AS:L1,C:AS:L2,C:AS:L3,S:CT:L1,S:CT:L2,S:BT:L3,S:PR:L1,S:PR:L2,S:PR:L3,S:BA:L3,T:IC:L1,T:IC:L2,T:CO:L3,T:PR:L1,T:PR:L2,T:PR:L3

❑ ST-3: Bias & Discrimination - What should Actuaries Do?

Room: Borgne

Session Description: This session will discuss various actuarial roles and influences that actuaries can have regarding the impact of their work with regard to bias and discrimination in the offering, pricing and delivery of insurance protection. Actuarial work can affect how insurance protection is viewed by society, particularly where insurance is required or needed for consumers, businesses or other entities. The session will discuss examples of how actuarial roles and actuarial work could result in a detrimental effect from bias and discrimination in insurance and could be regarded as unlawful, unacceptable or adverse to benefiting society. The work of the CAS, American Academy of Actuaries and the Actuarial Standards Board will be highlighted. The session will focus on critical questions, many for which there are no clear or concise answers. Audience interactions using live polling and other tools will be included.

Learning Objectives:

1. Define how actuaries can think about the impact of what they do and the influence with respect to bias and discrimination
2. Describe how bias and discrimination can affecting insurance (or no insurance) and does not fit neatly into models, tests or pass/fail criteria.
3. Address their Code of Conduct responsibilities with respect to "the public, to their clients and employers, and to the actuarial profession."

Moderator:	Mary Jo Kannon, Vice President – Actuarial Analytics, EverestRe
Speakers:	Bob Miccolis, Principal, Miccolis Consulting LLC
	Jay Angoff

Session Descriptions

Modeling, 3/19/2024, 11:00AM–12:00PM

Capability Model Tags: C:PC:L2,C:PC:L3,C:MM:L1,C:MM:L2,C:FI:L1,C:FE:L1,C:FE:L2,C:RM:L1,C:RM:L2,C:AS:L1,S:CT:L1,S:DA:L1,S:DA:L2,S:DA:L3,S:BT:L1,S:BT:L2,S:PR:L1,S:BA:L1,S:LT:L1,S:LT:L2,T:AN:L1,T:AN:L2,T:IC:L1,T:IC:L2,T:CO:L1,T:CR:L1,T:CR:L2,T:IA:L1,T:PR:L1

❑ M-5: Improved Segmentation and Profitability for Auto

Room: Borgne

Session Description: In an industry that is challenged for profitability due to macroeconomic conditions, it is important to find ways to streamline underwriting practices to provide accurate segmentation, rate adequacy and to generate positive return on investment in rating products. In this session, we will cover how credit and public records can be combined in new ways to generate new risk segmentation opportunities for carriers. We explain how scores and attributes are used from FCRA regulated data sources to find lift and separation across different risk segments.

Learning Objectives:

1. Demonstrate the ability to improve risk segmentation using trended credit data and public records.
2. Expand the scorable population (improve no hits) by using multiple sources and increase coverage in specific states where credit is banned or restricted.
3. Identify key attributes that provide the best segmentation and to collaborate with us to develop an implementation playbook for filings.

Moderator:	Prasanth Kambhatla, AVP, Data Science, LexisNexis Risk Solutions
Speakers:	Prasanth Kambhatla, AVP, Data Science, LexisNexis Risk Solutions
	Trevis Litherland, Manager, Data Science II, LexisNexis Risk Solutions

Product/Innovation, 3/19/2024, 11:00AM–12:00PM

Capability Model Tags: C:PC:L1,C:PC:L3,S:BT:L2

❑ PI-4: How Actuaries Can Equip Underwriters of the Future

Room: Bayside AB

As robotic process automation and straight through processing in underwriting continue to advance, the role of the underwriter is advancing with it. In this session we will discuss how and why the role of an underwriter is changing, the technology that is enabling that change, and how these changes will directly impact the support underwriters will require from actuaries.

Learning Objectives:

1. Explain how the role of the underwriter will change in the future
2. Describe how an actuary's role will change to support the underwriter of the future
3. Summarize the role technology is playing in the collaboration required between actuaries and the underwriter of the future

Moderator:	Seth Goodchild, Product Development Director, Allstate Insurance Company
Speakers:	Justin Milam, Head of Pricing, Ategrity
	Lauren Finnis, North America Proposition Leader – Commercial Lines, WTW

Professionalism/Regulation, 3/19/2024, 11:00AM–12:00PM

Capability Model Tags: C:PC:L3,C:FE:L1,S:DA:L2,S:BT:L2,S:PR:L3,S:BA:L3,S:LT:L1,T:IC:L3,T:CO:L3,T:CR:L2,T:IA:L2,T:PR:L3

❑ PR-3: Impacts of HB 837 on the Florida Auto Insurance Market

Room: Maurepas

This session will be discussing the impacts of the 2023 Florida House Bill 837, which comprehensively reformed the insurance landscape of one of the most difficult states in the country. The focus of this session will be commercial auto liability. Topics discussed will include an overview of the legislation and potential effects from the perspective of a claims team, how the legislation could affect data that actuaries use, and how actuaries should react to these changes.

Learning Objectives:

1. Describe the main qualitative changes brought on by Florida HB 837 tort reform
2. Understand how the tort reform will impact the data that actuaries use, and how to adjust analyses for those impacts
3. Adjust and assess their strategies on both the Claims and Actuarial side in response to HB 837

Moderator:	Jackson Myers, Actuarial Manager, Lyft
Speakers:	Jackson Myers, Actuarial Manager, Lyft
	Scott Ivey, Senior Manager, Claims Advocacy, Lyft

Ratemaking, 3/19/2024, 11:00AM–12:00PM

Capability Model Tags: C:PC:L3,C:MM:L2,C:MM:L3,C:FE:L1,S:CT:L2,S:BA:L1,S:BA:L3,T:AN:L1,T:CR:L3

❑ R-8: Staying Ahead in a High-Inflation Era

Room: Napoleon CD

As the dust settles on the initial surge of inflation and its impact persists, how can insurance professionals keep up with the changing trends and preemptively address these challenges? What are the ripple effects of enduring inflation and how does it redefine our strategies? How does inflation drive frequency? Join us as we dissect the intricate landscape of persistent inflation, focusing on the unique hurdles it poses for insurers and innovative strategies to navigate them.

Learning Objectives:

1. Evaluate the impact of persistent inflation on various aspects of insurance, including claim frequency and pricing.
2. Identify innovative strategies to mitigate the challenges posed by high inflation in the insurance industry.
3. Plan for future trends in the insurance landscape influenced by ongoing inflation and formulate actionable plans to address them.

Moderator:	Max Martinelli, Actuarial Data Scientist, Akur8
Speakers:	Max Martinelli, Actuarial Data Scientist, Akur8
	Sang Suk Cho, Manager, EY

Session Descriptions

Special Topics, 3/19/2024, 11:00AM–12:00PM

❑ ST-4: Bias and Insurance: A Preview of CAS Phase 2 Race and Insurance Pricing Research

Room: Oak Alley

In this session, researchers from the CAS's Race and Insurance Pricing Task Force will share a preview of their upcoming paper detailing practical application of bias measurement and mitigation techniques, and how to apply these techniques when information on race/ethnicity is not readily available. While research on bias measurement and mitigation predominantly focuses on classification models, the speakers will explore how these concepts can be adapted to apply to pricing models. The speakers will also introduce the Bayesian Improved (First Name) Surname Geocoding method for imputing information on race, and will explain its limitations and challenges. The speakers will also provide a sneak peek of other research projects underway as part of Phase 2 of the CAS Approach to Race and Insurance Pricing.

Learning Objectives:

1. Apply, when appropriate, the BISG/BIFSG method to impute race as part of a model bias analysis.
2. Quantify racial bias in a pricing model using statistical techniques, and evaluate tradeoffs between different techniques.
3. Develop strategies to address and reduce racial bias in pricing models.

Moderator:	Mallika Bender, Diversity, Equity & Inclusion Staff Actuary, Casualty Actuarial Society
Speakers:	Eric Krafcheck, Principal & Consulting Actuary, Milliman
	Gary Wang, Senior Consulting Actuary, Pinnacle Actuarial Resources
	Craig Sloss, Technical Consultant and Lead Data Scientist, Definity Financial Corporation

Roundtable, 3/19/2024, 12:10PM–1:00PM

Capability Model Tags: C:AS:L1,S:PR:L1,T:PR:L1

❑ RT-11: Professionalism Code of Conduct Case Studies

Room: Bayside AB

In this interactive session, we will discuss the CAS Code of Conduct and apply it to several different business scenarios. Discussion will include which parts of the Code of Conduct would apply to the situations, and what steps to take if you feel you or another CAS member is having trouble interpreting the Code of Conduct.

Roundtable Facilitator: Ken Williams

Roundtable, 3/19/2024, 12:10PM–1:00PM

❑ RT-12: Achieving Homeowner Profitability

Room: Borgne

Grab lunch and join in on this facilitated discussion! This is an informal opportunity to connect with fellow attendees for an engaging, relevant discussion on this topic. Our Roundtable discussions are eligible for 1 Continuing Education credit.

Roundtable Facilitator: Brian Stoll

Session Descriptions

Roundtable, 3/19/2024, 12:10PM–1:00PM

❑ RT-13: Expected Profit Curves: Portfolio Management and Optimization with Fairness Constraints

Room: Oak Alley

In this roundtable, we open two lines of discussion. The first: how feasible is to incorporate expected profit and expected conversion/retention to (re)design rating strategies? The second: how possible is to promote profit optimization practices where fair discrimination and mutualization are formally quantified and measured?

Roundtable Facilitator: Juan Ignacio de Oyarbide

Roundtable, 3/19/2024, 12:10PM–1:00PM

❑ RT-14: Training the Next Generation of Actuarial Modelers

Room: Maurepas

Grab lunch and join in on this facilitated discussion! This is an informal opportunity to connect with fellow attendees for an engaging, relevant discussion on this topic. Our Roundtable discussions are eligible for 1 Continuing Education credit.

Roundtable Facilitator: Joey Sveda

Roundtable, 3/19/2024, 12:10PM–1:00PM

❑ RT-15: Considerations for Bias Analyses

Room: Bayside C

This roundtable will allow for the discussion of a myriad of topics relevant when conducting a bias analysis, such as the collection of protected class data, designing a testing framework, data security considerations, governance frameworks, as well as potential limitations of such an analysis. This is an informal opportunity to connect with fellow attendees for an engaging, relevant discussion on this topic with no prior experience required.

Roundtable Facilitator: Eric Krafcheck

General Session, 3/19/2024, 1:00PM–2:15PM

Capability Model Tags: C:PC:L3,C:FI:L3,S:CT:L1,S:BT:L1,S:BA:L2,T:IC:L3

❑ GS-2: Everything, Everywhere, All at Once: Navigating Challenging Headwinds in Property Insurance

Room: Napoleon CD

The industry is currently experiencing the hardest market for property insurance in a generation. Growth in exposures (i.e., population and building trends), higher reconstruction costs (i.e., inflation and supply chain) and increasing climate impacts (i.e., natural disasters) are resulting in more frequent and severe losses, impacting property markets across the U.S. As the impact of elevated loss costs ripples through the industry, different stakeholders are experiencing and working to address unique challenges. For example, reinsurers must manage investment capital and associated downside risk, primary insurers must keep rating plans current with rapidly changing reinsurance and loss costs, regulators must process a bevy of product filings, and purchasers may need to seek new ways to mitigate risk on their properties while faced with more challenging terms. Additionally, non-admitted/E&S markets and alternative structures are seeing growth as admitted markets work to bring the price to transfer risk into better alignment with the cost to transfer risk. In this session, three experts share perspectives on the present state; the industry's response (across different stakeholder groups); what the future may look like; and how stakeholders can positively influence the future.

Learning Objectives:

1. Describe underlying drivers of hard market for property insurance.
2. Develop approaches for managing impacts of present market conditions.
3. Project direction market may take in the future under different scenarios.

Moderator:	Jim Weiss, Vice President, Predictive Modeling, Crum & Forster
Speakers:	Karen Collins, Vice President, Property & Environmental, American Property Casualty Insurance Association
	Stephanie Rabin, SVP & Chief Strategy Officer, Holborn Corporation

Session Descriptions

Modeling, 3/19/2024, 2:45PM–3:45PM

Capability Model Tags: C:MM:L1,C:MM:L2,C:MM:L3,S:CT:L1,S:BT:L2,T:IC:L3,T:CR:L3

❑ M-7: Penalized Regression and Lasso Credibility

Room: Bayside AB

Penalized regression is a powerful tool to enhance traditional GLM modeling. This session will explore the nature of this enhancement both in theory and in practice. We will briefly review GLMs before discussing the benefits of penalized regression and its deep connections to credibility. Then, we will take this one step further and describe the application of penalized regression directly as a credibility procedure: lasso credibility. By following the evolution of modeling from GLMs to lasso credibility, attendees will be able to identify practical applications of these techniques in their own work. The code for many examples from this presentation will be available on the CAS GitHub.

Learning Objectives:

1. Compare and contrast the underlying assumptions and review process of GLMs, penalized regression, and lasso credibility models
2. Understand the minimum-bias tradeoff in GLM and penalized regression and its relevance to credibility and out-of-sample predictive accuracy
3. Generate potential use cases of lasso credibility beyond the normal scope of GLM and penalized regression

Moderator:	Steven Phillips, Senior Manager, Deloitte
Speakers:	Thomas Holmes, Chief Actuary - US Region, Akur8
	Brandon Smith, Head of Portfolio Pricing, Markel Specialty

Professionalism/Regulation, 3/19/2024, 2:45PM–3:45PM

Capability Model Tags: C:PC:L1,C:PC:L2,C:PC:L3,C:RM:L1,S:CT:L1,S:BT:L1,S:BT:L2,S:BT:L3,S:BA:L2,T:CO:L1,T:CO:L2,T:CO:L3

❑ PR-7: State of the P&C Insurance Industry

Room: Borgne

Presentation begins with an overview of the Insurance Information Institute's (Triple-I) insurance economics outlook and underwriting projections, updated quarterly by their economists and actuaries. The presentation then transitions to Triple-I's perspective on key risks and opportunities facing the insurance industry, including climate risk, legal system abuse, cyber, and risk-based pricing.

Learning Objectives:

1. Understand Insurance Economics Outlook through 2025
2. Understand Industry Underwriting Projections by Key Product Lines through 2025
3. Understand Key Risks & Opportunities, including Economics, Climate, Legal System Abuse, Cyber, Risk-Based Pricing, and AI

Moderator:	Brian Stoll
Speaker:	Dale Porfilio, Chief Insurance Officer, Insurance Information Institute

Ratemaking, 3/19/2024, 2:45PM–3:45PM

Capability Model Tags: C:PC:L1,C:MM:L2,C:FE:L1,S:DA:L1,S:DA:L2,S:LT:L1,T:CO:L2,T:CR:L2

❑ R-4: GLM for Dummies (and Actuaries)

Room: Oak Alley

Session Description: Generalized Linear Models (GLM) have become an insurance industry standard for classification ratemaking. However, some of the technical language used in explaining what a GLM is doing in its calculation can be obscure and intimidating to those not familiar with the tool. This session will approach GLM in terms of the estimating equations used in the fitting, explaining the concept as an optimal weighted-average strategy. A numerical example will be used to illustrate the use of GLM in classification ratemaking. The example will be included in Excel for those who would like to follow along the details.

Learning Objectives:

1. Illustrate ratemaking as a "textbook example" of a Generalized Linear Model (GLM)
2. Understand GLM as a system of weighted averages based on the Estimating Equations being solved to find the best parameters.
3. Show how credibility (or regularization) is incorporated into GLM.

Moderator:	Louise Francis
Speakers:	David Clark, Senior Actuary, Munich Reinsurance
	Josh Brady, Vice President, Key Accounts - Commercial Pricing Analytics, The Cincinnati Insurance Companies

Ratemaking, 3/19/2024, 2:45PM–3:45PM

Capability Model Tags: C:PC:L1,C:FE:L2,S:CT:L1,T:IA:L2

❑ R-9: Why We Should Be Talking More About Exposure Bases

Room: Napoleon CD

This session will deal with exposure bases which are an important part of actuarial ratemaking work and have not always been focused on at CAS seminars. We will provide a brief history of exposure bases, how they have evolved, and discuss what makes a good exposure base today. Following that, we will discuss some of the applications of exposure bases. We will also discuss modern challenges and opportunities with exposure bases including the impact of technological improvements and a heightened inflation environment.

Learning Objectives:

1. Discuss why exposure bases are important and what makes a good exposure base
2. Compare the benefits/drawbacks of the use of inflation sensitive exposure bases (sales, payroll) versus purely activity-based exposure bases (gallons, admissions, store visitors).
3. Discuss the modern challenges and opportunities with respect to exposure bases

Moderator:	Stuart Gelbwasser, Director, Verisk
Speakers:	Tim McCarthy, Senior Actuarial Director, Verisk Underwriting Solutions
	Elie Bochner, Actuarial Manager, Munich Re Specialty

Session Descriptions

Special Topics, 3/19/2024, 2:45PM–3:45PM

Capability Model Tags: C:PC:L3,C:MM:L1,C:MM:L2,C:MM:L3,C:RM:L1

❑ ST-5: Catastrophe Model Lessons Learned from Hurricane Katrina

Room: Maurepas

This session will focus on modeling lessons learned from Hurricane Katrina, which had implications both for Wind and Flood (including storm surge) models going forward. This discussion will include both a science view, and the financial and actuarial implications as of result of Katrina and accompanying changes in catastrophe models.

Learning Objectives:

1. Identify the key aspects of hurricane models that were tested by Hurricane Katrina.
2. Understand how flooding (inland and storm surge) impacted modeling and an increase in flood mitigation standards.
3. Translate catastrophe model changes into financial/actuarial metrics.

Moderator:	Katie Pipkorn, Consulting Actuary, Milliman
Speakers:	Howard Kunst, Chief Actuary, Science & Analytics, CoreLogic
	David Smith, Senior Director, Science & Analytics, CoreLogic

Workshops, 3/20/2024, 8:00AM–5:00PM

❑ WS-1: Dangerous in a Day: Models with Python

Room: Napoleon D1-2

Dangerous in a Day; Models with Python will take you from complete novice to being functional as a predictive modeler with Python. This workshop will cover Python basics, data preparation, parallel processing, model building & analysis (GLM & GBM), deployment, and model interpretation using SHAP. All notebooks & code will be take-home ready for you to work on your own after the session. No prior Python experience necessary. Assumed understanding of predictive modeling basics for the workshop.

Learning Objectives:

1. Use Python for data & visualization
2. Build, analyze, and deploy GLM models using Python
3. Build, analyze, and deploy GBM models using Python

Speakers:	Marcus Deckert, ACAS, Actuary & Data Scientist, CARFAX
	Sarah McCracken, ACAS – Consulting Actuary, CARFAX

Workshops, 3/20/2024, 8:00AM–5:00PM

Capability Model Tags: C:MM:L1,C:MM:L2,C:MM:L3,S:DA:L1,S:DA:L2,S:DA:L3,S:BT:L1,T:AN:L1,T:AN:L2,T:AN:L3

❑ WS-2: From GLMs to Explainable Machine Learning

Room: Napoleon D3

In this interactive workshop, we will embark on an insightful trek through the evolution of actuarial predictive modeling. Using a real-life insurance dataset, we'll traverse from the foundational Generalized Linear Models (GLMs) to advanced techniques, including regularized GLMs and Gradient Boosting Machines (GBMs). Participants will roll up their sleeves and delve into exploratory data analysis, data partitioning, iterative model selection, specification, hyperparameter optimization, and validation. Our emphasis? Drawing rich interpretations and gaining insights from the heart of the model outputs. While we'll touch upon the intricate gears that drive these models, our compass is set firmly on comprehending the 'why' and 'how' behind each technique and understanding its tangible implications. As a highlight, we'll dive deep into cutting-edge explainability tools like SHAP and partial dependence plots, ensuring our models are not just high performers but also crystal-clear in their revelations. Our workshop will be conducted exclusively in the R language. Attendees will receive all datasets and R code snippets in advance to ensure a smooth and engaging workshop experience.

Learning Objectives:

1. Demonstrate proficiency in using GLMs and advanced methods like regularized GLMs and GBMs
2. Apply explainability tools like SHAP and partial dependence plots for model transparency
3. Conduct a full predictive modeling pipeline, from data analysis to model validation

Speakers: Dan Mottola, ACAS – Associate Actuary, Milliman
Mark Goldburd, FCAS – Consulting Actuary, Milliman

Workshops, 3/20/2024, 8:00AM–12:00PM

Capability Model Tags: C:MM:L1,C:FE:L1

❑ WS-3: Natural Catastrophe Modeling

Room: Nottaway

Loss histories from infrequent but severe Natural catastrophes are not sufficient to warrant using traditional actuarial experience rating to price and/or manage potential risk accumulation. As such, catastrophe models attempt to mirror the scientific nature of the underlying natural phenomena and simulate more robust event possibilities in order to better reflect the uncertainty in the natural catastrophe phenomena. When mirroring the natural phenomena, one of the outcomes is to estimate the tail distribution, i.e. extreme events that are crucial in understanding how best to use the models in real life situations like pricing. This workshop will look at how catastrophe models work, how we might use them in conjunction with extreme value theory, and put it all together where the attendees will work through some examples of using catastrophe model information in pricing.

Learning Objectives:

1. Gain insights around the variation and uncertainty surrounding natural catastrophes and the science used to estimate those risks.
2. Understand the relationship between catastrophes and Extreme value theory.
3. Explore how to use catastrophe tail loss distributions to compare CAT XOL reinsurance pricing to initial, primary portfolio rate adequacy of retained risk after reinsurance.

Speakers: Howard Kunst, FCAS MAAA CCRMP – Chief Actuary, Science & Analytics, CoreLogic
David Keeton, CCRMP – Chief Pricing & Modeling Officer, Avoncale Insurance Associates
Matt Chamberlain, FCAS, MAAA, CSPA – Principal and Consulting Actuary, Milliman

Workshops, 3/20/2024, 8:00AM–12:00PM

Capability Model Tags: S:CT:L1,S:BA:L1,S:BA:L2,S:BA:L3,T:AN:L2,T:AN:L3,T:IC:L1,T:IC:L3,T:CO:L1,T:CO:L2,T:CO:L3,T:CR:L1,T:CR:L2,T:CR:L3

❑ WS-4: Product Management/Development Workshop

Room: Oak Alley

Participants of this workshop will learn how functional areas within an insurance company work together to make the best decisions for the organization. We will take a hands-on approach to the insurance product life cycle, focusing on three different scenarios - building a new product, expanding a product into a new market, and overhauling an existing product. The workshop will be led by industry professionals with decades of experience developing, implementing, and improving products.

Learning Objectives:

1. Understand the role of the Product Manager.
2. Appreciate the lifecycle of a product, focusing on identifying opportunities and designing a product.
3. Develop a monitoring framework for continuous improvement of a product once in market.

Speakers: Paul Anderson, FCAS, MAAA, CSPA – Principal & Consulting Actuary, Milliman, Inc.
Dan Post, FCAS – Chief Actuary, Mutual Capital Analytics
Seth Goodchild, FCAS – Product Development Director, Allstate Insurance Company

Workshops, 3/20/2024, 1:00PM–5:00PM

Capability Model Tags: C:PC:L1,C:FE:L2,C:RM:L1,S:CT:L1,S:CT:L2,S:DA:L1,S:BT:L1,S:BT:L2,S:BA:L1,S:BA:L2,S:BA:L3,T:IC:L1,T:CO:L1,T:CO:L2,T:CO:L3

❑ WS-5: Advanced Ratemaking

Room: Nottaway

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 applicable to different size and type of insured such as pricing for new products, competitor analysis, portfolio shifts, and large account pricing. This session will be structured as three modules. During the first module, we will provide an interactive case study challenging participants to use their creativity in setting the rates for a new product, and we will walk through an example of how to perform a competitive analysis (in the U.S. market). The second module will discuss the impact of portfolio shifts and underwriting enhancements on indications and how to leverage the extension of exposure method to more accurately assess rate needs. The third module will introduce the basic mechanics and common challenges of employing loss rating techniques to determine pricing for a risk based on the insured's own experience. Armed with the basics, we will challenge ourselves to make practical decisions about account pricing from different perspectives (e.g. actuarial, underwriting, broker etc.).

Learning Objectives:

1. Understand the process for pricing new products and conducting competitor analysis
2. Understand the impact of portfolio shifts on on-leveling and rate adequacy
3. Understand practical applications of large account pricing and explore implications of the actuary's role as a strategic business partner

Speakers:
Katie Pipkorn, FCAS – Consulting Actuary, Milliman
Brekk Hayward, Actuarial Analyst, Milliman
Jennifer Beers, FCAS – VP & Actuary, Chubb
Taralyn Slusarski, Senior Manager, Deloitte Consulting
Charles Zhu, FCAS – Senior Director of Actuarial and Underwriting, Roamly

Session Descriptions

iCAS Data Science & Analytics Forum, 3/20/2024, 8:00AM–9:00AM

iCAS Registration Required

❑ iCAS-1: A Journey to Build an Automated Predictive Modeling System: WA L&I Claim Auto Adjudication Use Case

Room: Borgne

WA L&I claim auto-adjudication predictive modeling system is a 100% automated system using both predictive modeling models (around 100 machine learning models) and 70 business rules to adjudicate simple, predicted, inexpensive new claims. The daily output tables and over 40 control charts can be accessed by webpage (R Shiny). Since 2013, it has been rewritten four times. The successful system consists of four parts: i) stable data input, ii) predictive models, iii) business rules, and iv) deploying the automated system with flexible output. Some of the significant challenges, e.g., killing and filling the database, bias, and trade-off with uncertainties, modeling ICD10 code, how to fill in missing values, transforming categorical variable to real continuous variable and vice versa, choice of predictive models, modeling closure time, model selection and validation, and suggested solutions are provided with examples. Key takeaways and future developments will be discussed.

Learning Objectives:

1. Understand the pros and cons of automation in building predictive modeling systems.
2. Transform predictor variables from categorical to real continuous, or vice versa.
3. Explore automated auto-adjudicated claim results displayed in R shiny package.

Community Speaker: Henry Cheng – Actuary, WA L&I

iCAS Data Science & Analytics Forum, 3/20/2024, 9:00AM–10:00AM

iCAS Registration Required

❑ iCAS-2: Professionalism for Data Science and Analytics Professionals - Participant Roundtable Discussion

Room: Borgne

This session will highlight some of the major challenges encountered by CSPAs, actuaries and insurance business managers. Participants will discuss the problems they face with ethical dilemmas and user expectations concerning the work and advice from data scientists, predictive modelers, algorithm creators and others who rely on advanced technologies and artificial intelligence. Actuaries must comply with a code of professional conduct, including standards of practice. Insurers must contend with government regulations and regulatory oversight. The data science and analytics professionals, including non-actuaries, who support insurers are potentially vulnerable to a lack of clear safe harbor practices. The session leader will challenge the participants with examples of ethical and professional issues. The session will focus less on the technology and more on navigating the implications of how professionals' work can be relied upon. The session will also touch upon the potential need for professional education or qualifications for auditing algorithms for issues such as bias and unfair discrimination.

Community Speaker: Bob Miccolis, FCAS, MAAA, FCA – Principal, Miccolis Consulting LLC

iCAS Data Science & Analytics Forum, 3/20/2024, 10:30AM–11:45AM

iCAS Registration Required

❑ iCAS-3: How Much Data Do You Really Have?

Room: Borgne

This presentation is designed to inspire actuaries to broaden their perspectives on data usage and reimagine the datasets they rely upon. We challenge the conventional notion that data volume is solely about row counts, and demonstrate the profound impact of overlooked variables outside the rating plan, quote data, competitive intelligence, and more. Our exploration ventures into powerful tools and techniques, including unsupervised learning, synthetic datasets, and text mining, offering a fresh lens to view and leverage data. Balancing innovation with integrity, we also tackle data privacy and ethical considerations. This talk is a call to action for insurance professionals to prepare for the future of data-driven insurance, fully capitalizing on their data resources.

Learning Objectives:

1. Discuss the trade off in row count and the machine learning considerations for small data sets
2. Evaluate the various datasets at the actuary's disposal in insurance outside of traditional pricing data sets
3. Evaluate the benefits of machine learning methods on various data sets alongside the benefits of domain knowledge

Community Speakers: Max Martinelli – Actuarial Data Scientist, Akur8
Edward Lee, FCAS, FIA, MSc – Actuary, EY

iCAS Data Science & Analytics Forum, 3/20/2024, 11:45AM–12:00PM

iCAS Registration Required

❑ iCAS-4: iCAS Update

Room: Borgne

This brief update will highlight the work of iCAS staff and volunteers over the past 2 years and plans for the near future. This will include an interactive discussion and Q&A with attendees.

Learning Objectives:

1. Upon completion, attendees will be able to list recent iCAS initiatives.
2. Upon completion, attendees will be able to describe iCAS plans for the future.
3. Upon completion, attendees will know how to share additional thoughts and feedback regarding iCAS activities and opportunities.

Community Speaker: Alicia Burke, MBA – iCAS Director of Portfolio & Product Development, Casualty Actuarial Society

iCAS Data Science & Analytics Forum, 3/20/2024, 1:00PM–2:00PM

iCAS Registration Required

❑ iCAS-5: Model Selection

Room: Borgne

Model selection is essential to both CAS FCAS and ICAS CSPA examinations. This talk will provide the basic concept of over- and under-fitting models. I will introduce commonly used parametric, semi-, and non-parametric models. Penalties and validation would be demonstrated through the fitting of generalized linear models, classification and tree-based regression, and random forest models. Pros and cons of one and two-stage modeling will be discussed. This talk will also provide common problems and suggest improvement of model selection in various examination papers from the author's past five-year examiner experience. It will also help candidates taking the new CAS PCPA examination in 2025.

Learning Objectives:

1. Summarize the pros and cons of one and two-stage modeling.
2. Explore different steps in identifying sub-optimal models in GLM.
3. Benchmark the baseline line result in classification modeling and other modeling results in both training and testing phases.

Community Speaker: Henry Cheng – Actuary, WA L&I

iCAS Data Science & Analytics Forum, 3/20/2024, 2:00PM–3:15PM

iCAS Registration Required

❑ iCAS-6: Bias, Fairness, and the Modeling Lifecycle

Room: Borgne

In this session, we will describe one insurer's experience with integrating bias and fairness considerations into its predictive modelling plans. Our objective is to educate the audience on the practical considerations of operationalizing the bias and fairness concepts that have been the subject of presentations and research papers by the CAS and other organizations. We are members of a Working Group that has been spearheading efforts to increase adoption of bias and fairness checks by our company's predictive modelling teams. We will share some practices to achieve this goal and demonstrate their use through a case study. Examples of these practices include developing qualitative guidance on when and how to incorporate fairness considerations into a modelling project plan, ensuring that analysts have access to guidance to assist with selecting technical methodologies for detecting bias, and developing supplementary in-house content to facilitate adoption of these tests throughout the model lifecycle.

Learning Objectives:

1. Modify a predictive modeling project plan to ensure that bias and fairness are considered at all stages of the model lifecycle.
2. Recommend approaches to selecting relevant bias detection tests for a predictive model.
3. Develop a plan to address barriers to adoption of bias and fairness checks.

Community Speakers: Craig A. Sloss, PhD, FCAS, FCIA – Technical Consultant and Lead Data Scientist, Definity Financial Corporation

Elizabeth Bellefleur-MacCaul – Senior Actuarial Analyst, Advanced Analytics, Definity Financial Corporation

iCAS Data Science & Analytics Forum, 3/20/2024, 3:45PM–5:00PM

iCAS Registration Required

❑ iCAS-7: Derivative Lasso: Credibility-based GLM fitting

Room: Borgne

Derivative Lasso is a cutting edge machine learning technique that seamlessly merges actuarial credibility, robustness and interpretability into a transformative actuarial pricing tool.Where traditional GLMs are viewed as highly manual due to feature engineering being an overly iterative process, Derivative Lasso advances the field, embedding this process directly within its core. Using real-world data, this session will spotlight the challenges in current GLM modeling and unveil the power and precision of the Derivative Lasso framework. Attendees will discover how it automates feature engineering, fortifies model robustness, and elevates interpretability, marking a significant leap in penalized regression modeling that keeps GLMs on par with newer modeling frameworks.

Learning Objectives:

1. Describe the purpose of regularization in actuarial pricing mdoels
2. Outline the complications with feature engineering and p-values in traditional pricing models
3. Describe the derivative lasso technique and its benefits

Community Speakers: Mattia Casotto – Head of Product, Akur8
Max Martinelli – Actuarial Data Scientist, Akur8

Personal Attendance Record

Morning Roundtables

Monday, March 18, 7:00 AM – 7:50 AM (1 CE)

❑	RT-1		Achieving Homeowner Profitability	Maurepas
❑	RT-2		Natural Catastrophe Current Issues	Bayside C
❑	RT-3		Bias and Insurance — How Regulation is Evolving	Borgne
❑	RT-4		Training the Next Generation of Actuarial Modelers	Bayside AB
❑	RT-5		Expected Profit Curves: Portfolio Management and Optimization with Fairness Constraints	Oak Alley

Featured Speaker

Monday, March 18, 8:00 AM – 9:30 AM (1.8 CE)

❑	GS-1		Adventure and Risk Collide: An Aquanaut's Perspective	Napoleon CD

Concurrent Sessions 1

Monday, March 18, 10:00 AM – 11:00 AM (1.2 CE)

❑	M-6		Model Documentation for Non-GLM Models	Borgne
❑	PI-7		Using Hyper-Personalized Vehicle Data in Pricing	Bayside AB
❑	PR-1		Professionalism Standards and Code: Applied!	Oak Alley
❑	R-7		Streamlining vs Automating your Rate Change Process: What's the Difference and How Can You Make It Work for You?	Napoleon CD
❑	ST-7		Quantifying Risk Loads for Property Catastrophe Exposure: Using Cat Bonds to Infer Risk Premiums or Reinsurance Costs	Maurepas

Concurrent Sessions 2

Monday, March 18, 11:30 AM – 12:30 PM (1.2 CE)

❑	M-8		Stepping into the Actuarial Modeling Wonderland	Borgne
❑	PI-6		Rethinking Territory Risk with Crash Data Insights	Maurepas
❑	PR-6		Unlock Your Potential: Elevate Soft Skills and Master Self-Leadership	Bayside AB
❑	R-2		Credibility in Experience Rating	Oak Alley
❑	ST-2		Navigating Climate and Migratory Pattern Changes in Home Insurance	Napoleon CD

Personal Attendance Record

Concurrent Sessions 3

Monday, March 18, 2:00 PM – 3:00 PM (1.2 CE)

❑	M-1		Achieve Profit and Equity Using Deep Learning	Borgne
❑	PI-3		Let's Talk Transformation!!!	Oak Alley
❑	PR-5		Issues for the Canadian Pricing Actuary: IFRS 17 and the Introduction of No-Fault Insurance in British Columbia	Maurepas
❑	R-5		How to Price to Win the Best Risks	Napoleon CD
❑	ST-1		99 Problems but Bias Ain't One??	Bayside AB

Concurrent Sessions 4

Monday, March 18, 3:30 PM – 4:30 PM (1.2 CE)

❑	M-4		From Conventional Neural Networks to Large Language Model	Bayside AB
❑	PI-2		Navigating the Generative AI Era: Opportunities for Actuaries and Insurers	Borgne
❑	PR-2		Governance for Ethical AI	Maurepas
❑	R-3		Credibility-weighted Territorial Rating	Oak Alley
❑	ST-8		What the Hail Can We Do About Weather Risk?!	Napoleon CD

Breakfast Roundtables

Tuesday, March 19, 7:00 AM – 7:50 AM (1 CE)

❑	RT-10		Modeling Trends for Coastal States for Homeowners and Commercial Property	Maurepas
❑	RT-6		Considerations for Bias Analyses	Bayside C
❑	RT-7		Professionalism — Changes to ASOP 20 Discounting and ASOP 29 Expense Provisions	Borgne
❑	RT-8		Getting More Value from Pricing Models	Bayside AB
❑	RT-9		Bayesian vs. Frequentist Methods: What are the Tradeoffs?	Oak Alley

Personal Attendance Record

Concurrent Sessions 5

Tuesday, March 19, 8:00 AM — 9:00 AM (1.2 CE)

❑	M-3		Building Machine Learning Algorithms for Insurance	Napoleon CD
❑	PI-1		Advancing Cyber Underwriting Through Security Signals	Oak Alley
❑	PR-4		Professionalism Considerations of Using LLM in Actuarial Applications	Bayside AB
❑	R-1		Collaborative Modeling Without Sharing Data	Borgne
❑	ST-6		How Recent Hurricanes and Legislation Have Impacted the Florida Homeowners Market	Maurepas

Concurrent Sessions 6

Tuesday, March 19, 9:30 AM — 10:30 AM (1.2 CE)

❑	M-2		Actuarial Modernization	Napoleon CD
❑	PI-5		Reduce Cycle Time in an Inflationary Market	Bayside AB
❑	PR-8		Professionalism When Working With DOIs	Maurepas
❑	R-6		Incorporating Road Context Data into Auto Rating	Oak Alley
❑	ST-3		Bias & Discrimination — What Should Actuaries Do?	Borgne

Concurrent Sessions 7

Tuesday, March 19, 11:00 AM – 12:00 PM (1.2 CE)

❑	M-5		Improved Segmentation and Profitability for Auto	Borgne
❑	PI-4		How Actuaries Can Equip Underwriters of the Future	Bayside AB
❑	PR-3		Impacts of HB 837 on the Florida Auto Insurance Market	Maurepas
❑	R-8		Staying Ahead in a High-Inflation Era	Napoleon CD
❑	ST-4		Bias and Insurance: A Preview of CAS Phase 2 Race and Insurance Pricing Research	Oak Alley

Lunch Roundtables

Tuesday, March 19, 12:10 PM – 1:00 PM (1 CE)

❑	RT-11		Professionalism Code of Conduct Case Studies	Bayside AB
❑	RT-12		Achieving Homeowner Profitability	Borgne
❑	RT-13		Expected Profit Curves: Portfolio Management and Optimization with Fairness Constraints	Oak Alley
❑	RT-14		Training the Next Generation of Actuarial Modelers	Maurepas
❑	RT-15		Considerations for Bias Analyses	Bayside C

Personal Attendance Record

Closing General Session

Tuesday, March 19, 1:00 PM – 2:15 PM (1.5 CE)

❑	GS-2		Everything, Everywhere, All at Once: Navigating Challenging Headwinds in Property Insurance	Napoleon CD

Concurrent Sessions 8

Tuesday, March 19, 2:45 PM – 3:45 PM (1.2 CE)

❑	M-7		Penalized Regression and Lasso Credibility	Bayside AB
❑	PR-7		State of the P&C Insurance Industry	Borgne
❑	R-4		GLM for Dummies (and Actuaries)	Oak Alley
❑	R-9		Why We Should Be Talking More About Exposure Bases	Napoleon CD
❑	ST-5		Catastrophe Model Lessons Learned from Hurricane Katrina	Maurepas

Full-Day Workshops

Wednesday, March 20, 8:00 AM – 5:00 PM (8.4 CE)

❑	WS-1		Dangerous in a Day: Models with Python	Napoleon D1-2
❑	WS-2		From GLMs to Explainable Machine Learning	Napoleon D3

Half-Day Morning Workshops

Wednesday, March 20, 8:00 AM – 12:00 PM (4.2 CE)

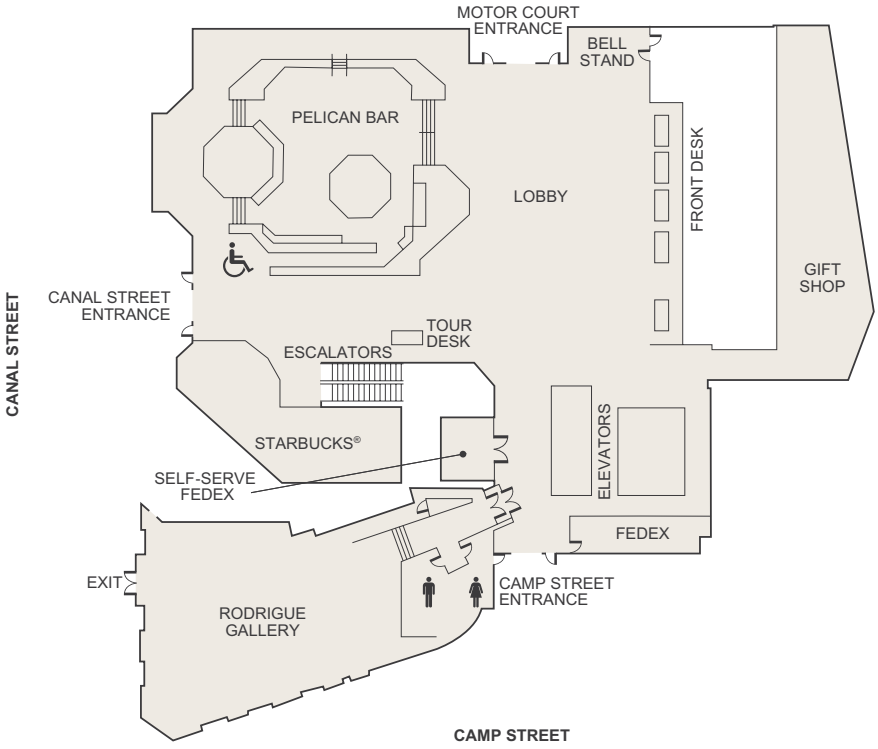
❑	WS-3		Natural Catastrophe Modeling	Nottaway
❑	WS-4		Product Management/Development	Oak Alley

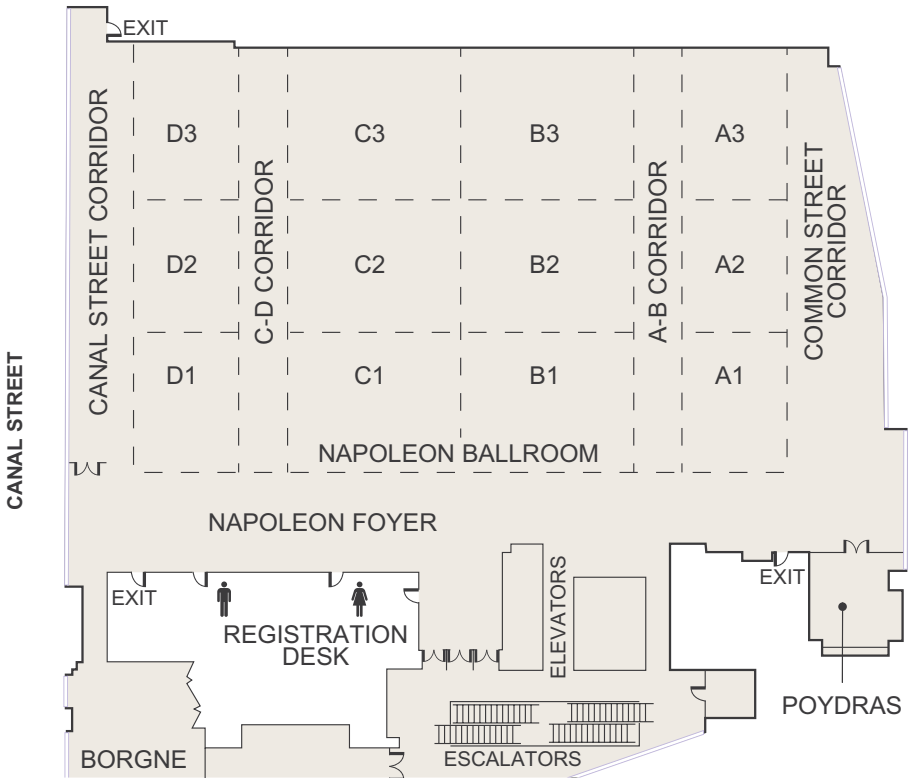
Half-Day Afternoon Workshops

Wednesday, March 20, 12:00 PM – 5:00 PM (4.2 CE)

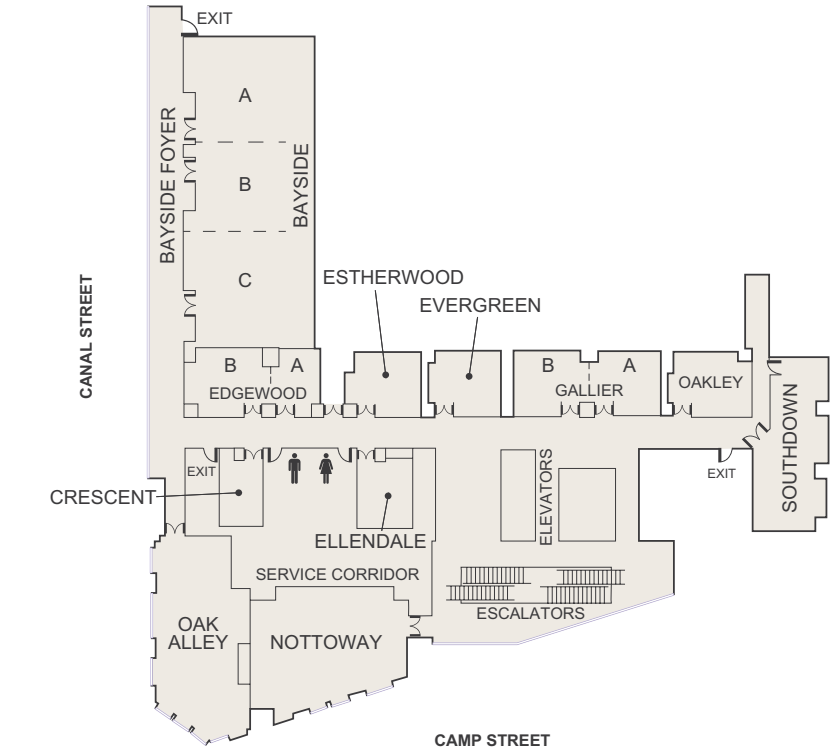
❑	WS-5		Advanced Ratemaking	Nottaway

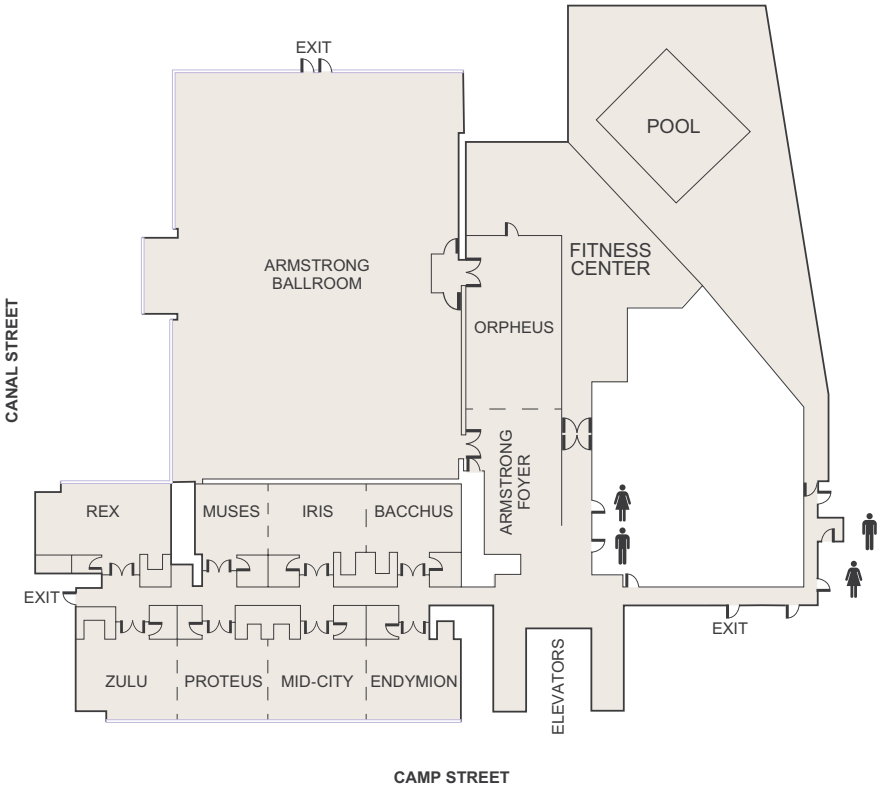
Hotel Map


MOTOR COURT ENTRANCE
BELL STAND
PELICAN BAR
LOBBY
FRONT DESK
GIFT SHOP
CANAL STREET ENTRANCE
CANAL STREET
TOUR DESK
ESCALATORS
STARBUCKS®
SELF-SERVE FEDEX
ELEVATORS
FEDEX
EXIT
RODRIGUE GALLERY
CAMP STREET ENTRANCE
CAMP STREET


EXIT
CANAL STREET
CANAL STREET CORRIDOR
D3
C3
B3
A3
C-D CORRIDOR
A-B CORRIDOR
COMMON STREET CORRIDOR
D2
C2
B2
A2
D1
C1
B1
A1
NAPOLEON BALLROOM
NAPOLEON FOYER
EXIT
REGISTRATION DESK
ELEVATORS
EXIT
POYDRAS
BORGNE
ESCALATORS

Hotel Map


EXIT
A
B
C
BAYSIDE FOYER
BAYSIDE
CANAL STREET
ESTHERWOOD
EVERGREEN
B
A
EDGEWOOD
B
A
GALLIER
OAKLEY
SOUTHDOWN
EXIT
EXIT
CRESCENT
ELLENDALE
ELEVATORS
SERVICE CORRIDOR
ESCALATORS
OAK ALLEY
NOTTOWAY
CAMP STREET


EXIT
POOL
ARMSTRONG BALLROOM
FITNESS CENTER
ORPHEUS
CANAL STREET
ARMSTRONG FOYER
REX
MUSES
IRIS
BACCHUS
EXIT
EXIT
ZULU
PROTEUS
MID-CITY
ENDYMION
ELEVATORS
CAMP STREET