



CAMAR Spring 2021 Meeting  
May 10 and 11, 2021  
Online

**Monday, May 10, 2021**

**Executive Board:**

*(Expiration of term)*

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Matthew Schockley (2024)  
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Paul LeStourgeon (2021)  
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Committee

9:00 – 10:00 **Data Munging and Data Preprocessing in R**

As actuaries expand their technical skill beyond traditional methods and tools, they must deal with the fundamental issue of data munging. A large percentage of the time on projects is used for the data munging. R is a key software tool being embraced by actuaries for their more advanced work but has not historically been embraced for data work. A recent innovation developed by Hadly Wickham and his colleagues at Rstudio is a set of tools contained in the “tidyverse” package. The tools include:

*read\_csv* and *readxl* for reading data; *tidyr* for creating “tidy” data; *dplyr* for data manipulation functions, many of which replicate the capabilities of SQL; *stringr* for string manipulations; *lubridate* for handling date/time data; and *ggplot2* for exploratory data analysis.

This presentation will explain the concept of tidy data and will explain how to use the *tidyverse* tools for data munging. Open-source datasets will be used for the illustrations and R code will be made available to attendees. Two recommended references are the chapter on “Data Wrangling” in *R for Actuaries* by Brian Fannin and *R for Data Science* by Hadley Wickham and Garret Groleland. These references will be frequently cited in this presentation.

Speaker: Louise Francis, FCAS, CSPA, MAAA,

10:00 – 11:00 **Social Inflation**

Social inflation has been a topic of significant interest in recent years for property casualty insurers. It can generally be described as related to increased overall costs due to shifting in societal norms. This session will provide background on social inflation, discuss the various ways it may manifest in property-casualty insurance, and examine insurance data to identify potential signals that social inflation is present.

Speaker: Tim McCarthy, ACAS, MAAA, ISO/Verisk

## **Scenario Testing COVID-19 Assumptions with Predictive Models**

How can we use existing geographic segmentation models to help make post-COVID predictions? In times of flux, we often look at data from a new perspective for insight. This session will discuss an exercise by ISO actuaries to assess the effects of COVID on auto risk. This research leverages existing territorial models to perform scenarios tests of external economic forces on auto pure premiums.

Speaker: Ralph Dweck, FCAS, MAAA, ISO/Verisk

### **11:00 – 12:00 Precept 13 Revisited**

Mike Toothman, a Past President of the CAS and a former member of the ABCD, will provide discussion and commentary on Precept 13, which is probably the least understood and least appreciated precept of our Code of Professional Conduct. Precept 13 may also be the most commonly violated provision of the Code. Mike will discuss the importance of Precept 13 and illuminate the specific requirements and guidance contained within this precept. He will also provide some guidance with regard to having a productive conversation with another actuary, as suggested by Precept 13. Finally, some case studies will be discussed to further illuminate some of the key issues involved when considering how to apply this precept in practical situations.

Speaker: Michael Toothman, FCAS, MAAA, Principal & Consulting Actuary, Actuarial & Risk Services

## **Tuesday, May 11, 2021**

### **9:00 – 10:00 How is ESG impacting P&C insurers and what role should actuaries play?**

Environmental, Social, Governance ("ESG") is a topic of increasing relevance across P&C insurers and consists of a large number of topics, for example climate change, diversity and inclusion, data privacy and security. This presentation will examine which ESG topics executives are focused on and explores key areas where actuaries should play a role.

Speakers: Graham Hall FIA, Senior Manager, PricewaterhouseCoopers,  
Steve Bochanski, FSA, MAAA, CERA, Partner, PricewaterhouseCoopers

### **10:00 – 11:00 Transition to a Code-Based Environment and the MCMC Use Case**

Microsoft Excel is the most common software used in actuarial work. Its statistical capabilities are largely limited to regressions. Leading insurers need to deal with policy and claim volumes that often exceed spreadsheet capabilities. Insurers need reusable solutions and the ability to implement the latest advances in modeling. To do this, companies need to transition to a code-based environment for actuarial work. This transition is critical for the actuary of the future. As we compete with data analysts, modelers, and statisticians, we need to match their skill sets. In the first part of the presentation, we will provide a practical guide for this transition.

In the second part of this presentation, we will present an example of a core actuarial function that our clients/employers should reasonably expect us to provide but cannot be practically performed in a spreadsheet. Specifically, actuaries are in the business of modeling uncertain outcomes. However, many actuarial models do not consider parameter risk as it is not an output of frequentist (or judgment-based) parameter estimation approaches. Recent advances in computing technology support the fitting of Bayesian Models via Markov-chain Monte-Carlo simulation. Those models provide information on parameter uncertainty. In this session, we will discuss the basics of MCMC, present an example model, its evaluation, and its application.

Speakers: Raj Sahasrabuddhe, FCAS, MAAA, Oliver Wyman  
Kenneth Smart, Actuarial Consultant, Oliver Wyman

11:15 – 12:15 **Update on CAS Strategic Initiatives**

Update from CAS Board Member on some of the more important initiatives and issues facing the CAS. The session will allow time for comments and feedback.

Speaker: Geoffrey Werner, FCAS, MAAA, Board Member, Casualty Actuarial Society