



NATIONAL ASSOCIATION OF  
INSURANCE COMMISSIONERS

## **Responsible AI/Big Data**

A Dialogue Highlighting  
Educational Opportunities  
and Needs in an Insurance  
Regulatory Context

**NAIC 2023**

**SUMMER NATIONAL MEETING**

**TUESDAY, AUGUST 15TH**

**12:30 PM – 2:30 PM (PT)**







## **Responsible AI/Big Data**

A Dialogue Highlighting Educational Opportunities  
and Needs in an Insurance Regulatory Context

August 15, 2023

12:30 - 2:00 pm (PT)

### **Overview**

As artificial intelligence and big data continues to proliferate in the insurance industry, the need for insurance regulatory education and training on the responsible uses and associated pitfalls of these tools continues to grow as well. Several related educational programs have been developed as regulators continue to evolve their understanding and assessment of tools being deployed by the insurance sector. In the context of initiatives underway at the NAIC, this event will serve as a dialogue between insurance regulators and the broader industry educational community on current AI and Big Data education and training offerings in relation to existing regulatory education and training needs.

### **Learning Objectives**

- Explain the importance responsible use of AI/Big Data in an insurance context.
- Analyze the work underway by state departments of insurance and the NAIC to evaluate AI/Big Data tools being deployed by the insurance sector.
- Recognize relevant education and training offerings for insurance regulators.
- Discuss and identify longer-term education and training needs for insurance regulators.



## Plan For Event

1. Motivation for the responsible use of AI/Big Data in an Insurance Context (*15 minutes*)
  - **Dorothy Andrews**  
National Association of Insurance Commissioners
2. In light of the potential issues within an insurance context, highlight work underway at the NAIC to address these issues (*25 minutes*)
  - **Kathleen Birrane**  
Commissioner Maryland Insurance Administration
  - **Kevin Gaffney**  
Commissioner Vermont Department of Financial Regulation
3. Discuss current education and training offerings, why developed, and how geared toward regulator needs (*30 minutes*)
  - **Stuart Klugman**  
Society of Actuaries
  - **Ken Williams**  
Casualty Actuarial Society
4. Closing Discussion focused on the identification of additional education and training needs and who/how developed (*20 minutes*)
  - **All event participants**

## Related Resources

### CIPR Insurance Topic pages

Artificial Intelligence

<https://content.naic.org/cipr-topics/artificial-intelligence>

Big Data

<https://content.naic.org/cipr-topics/big-data>

Data Use, Privacy, and Technology

<https://content.naic.org/cipr-topics/data-use-privacy-and-technology>

### CIPR Research Library Collection

Data, Innovation, and Cyber

<https://naic.soutronglobal.net/Portal/Public/en-US/Collections/Collection/28>

### NAIC Activity

NAIC Innovation Cybersecurity and Technology (H) Committee

[https://content.naic.org/cmte\\_h.htm](https://content.naic.org/cmte_h.htm)

Big Data and Artificial Intelligence (H) Working Group

[https://content.naic.org/cmte\\_h\\_bdwg.htm](https://content.naic.org/cmte_h_bdwg.htm)

NAIC Principles on Artificial Intelligence (AI)

<https://content.naic.org/sites/default/files/inline-files/NAIC%20Principles%20on%20AI.pdf>

PPA AI/ML Survey Memo, Dec. 2022

[https://content.naic.org/sites/default/files/national\\_meeting/BDAIWG%202021%20PPA%20Survey%20Memo%20120822.pdf](https://content.naic.org/sites/default/files/national_meeting/BDAIWG%202021%20PPA%20Survey%20Memo%20120822.pdf)

PPA AI/ML Survey Report, Dec. 2022

[https://content.naic.org/sites/default/files/national\\_meeting/PP%20Auto%20Survey%20Team%20Report%20120822.pdf](https://content.naic.org/sites/default/files/national_meeting/PP%20Auto%20Survey%20Team%20Report%20120822.pdf)

Exposure Draft of the Model Bulletin on the Use of Algorithms, Predictive Models, and Artificial Intelligence Systems by Insurers 7/17/2023

<https://content.naic.org/sites/default/files/07172023-exposure-draft-ai-model-bulletin.docx>

### NAIC Education & Training

[https://content.naic.org/education\\_home.htm](https://content.naic.org/education_home.htm)

### Society of Actuaries (SOA)

Ethical & Responsible Use of Data & Predictive Models

Certificate Program

<https://www.soa.org/programs/ethical-responsible-data-certificate/>

Ethical & Responsible Use of Data & Predictive Models - Executive Track

<https://www.soa.org/programs/erud-executive-track/>



## **Related Resources** *(continued)*

Predictive Analytics Certificate Programs

<https://www.soa.org/programs/predictive-analytics-certificate/>

Actuarial Innovation & Technology Strategic Research

<https://www.soa.org/programs/act-innov-tech/>

Diversity, Equity, and Inclusion (DEI) Research

<https://www.soa.org/research/topics/dei-research/research/>

Ethical Use of Artificial Intelligence for Actuaries (to be updated in September 2023)

<https://www.soa.org/resources/research-reports/2019/ethical-artificial-intelligence/>

Avoiding Unfair Bias in Insurance Applications of AI Models

<https://www.soa.org/resources/research-reports/2022/avoid-unfair-bias-ai/>

Catastrophic Cyber Risk: An Expert Panel Discussion Series

<https://www.soa.org/resources/research-reports/2023/cat-cyber-risk/>

Data Challenges in Building a Facial Recognition Model and How to Mitigate Them

<https://www.soa.org/resources/research-reports/2023/data-facial-rec/>

Literature Review: Artificial Intelligence and Its Use in Actuarial Work

<https://www.soa.org/resources/research-reports/2019/ai-actuarial-work/>

## **Casualty Actuarial Society (CAS)**

Course on the Impact of Unintentional Bias in Insurer Decision Making

<https://www.casact.org/article/new-course-impact-unintentional-bias-insurer-decision-making>

Research Paper Series on Race and Insurance Pricing

<https://www.casact.org/publications-research/research/research-paper-series-race-and-insurance-pricing>

AI Recorded Webinar Package

[https://www.pathlms.com/cas/product\\_bundles/4848](https://www.pathlms.com/cas/product_bundles/4848)

Associate in Insurance Data Analytics (AIDA®)

<https://web.theinstitutes.org/designations/associate-insurance-data-analytics>

## **American Academy of Actuaries (AAA)**

Big Data Task Force “Big Data and the Role of the Actuary”

<https://www.actuary.org/sites/default/files/2019-10/BigDataAndTheRoleOfTheActuary.pdf>

## **Other Reference Materials**

The White House Blueprint for an AI Bill of Rights: Making Automated Systems Work for the American People

<https://www.whitehouse.gov/ostp/ai-bill-of-rights/>

American People

<https://www.whitehouse.gov/ostp/ai-bill-of-rights/>



## **JEFFREY CZAJKOWSKI (Moderator)**

CIPR Director

Dr. Jeffrey Czajkowski serves as the Director of the Center for Insurance Policy and Research (CIPR) for the National Association of Insurance Commissioners (NAIC). The CIPR provides research and education to drive discussion and advance thought leadership as well as action on current and emerging insurance issues

amongst insurance regulators, policymakers, industry, and academics. This is accomplished through CIPR's events, research publications, newsletter and website, the Journal of Insurance Regulation, and its extensive NAIC research library holdings.

Prior to joining the CIPR, he served as the Managing Director for the Wharton Risk Management and Decision Processes Center at the University of Pennsylvania, conducting research on various economic and risk-related issues of natural disasters and resilience, as well as on issues of environmental economics. His work has been published in leading risk management, insurance, natural hazards, and environmental economics journals. A significant amount of his research involves working collaboratively in cross-disciplinary research teams and applying research findings through various interactions with top policymakers and senior executives in the insurance industry. This has included serving on two National Academy of Sciences committees, being an academic advisory board member for the World Economic Forum's Global Risk Report, a member of the Federal Alliance for Safe Homes (FLASH) Resilience Policy Council, and a fellow for the Willis Research Network.

He holds a B.S. from Carnegie Mellon University, an M.S. in environmental and urban systems from Florida International University, and a Ph.D. in economics from Florida International University.

Preceding graduate school, he worked in New York City as a research associate for Coopers & Lybrand Consulting and was a vice-president for JP Morgan. He has taught economic courses for over 15 years at a number of universities and was an adjunct assistant research professor at the International Hurricane Research Center (IHRC) at FIU.



## **DOROTHY ANDREWS**

NAIC Senior Behavioral Data Scientist

Dorothy Andrews is the Senior Behavioral Data Scientist for the NAIC, where she focuses on analyzing insurance company rating models, reporting to state insurance regulators directly about her analyses, and providing related regulatory training. She has more than 25 years of actuarial and statistical modeling experience with life insurance companies, property and casualty insurance companies, reinsurance companies, international consulting firms, and government agencies. She is adjunct faculty at the University of North Carolina at Charlotte in the Mathematics and Statistics Department, teaching predictive analytics.

Dorothy is an Associate of the Society of Actuaries, a Member of the American Academy of Actuaries, and a Certified Specialist in Predictive Analytics (CSPA). She is just finishing her work on a Ph.D. in Media Psychology (August 2023). Her research focus is on how big data and machine learning algorithms are altering our perceptions of risk and our ability to become self-determined. She believes that because insurance is becoming mediated more and more by mobile, wearable, and AI technologies, automated decision-making algorithms require human oversight to ensure they are operating ethically and with transparency to prevent disparate impacts across the insurance consumer population.





## **KATHLEEN A. BIRRANE**

Maryland Insurance Commissioner

Kathleen A. Birrane was appointed Maryland Insurance Commissioner in May 2020. Prior to her appointment, Commissioner Birrane was a partner in the Insurance Sector and Litigation and Regulatory Practice Group at the global law firm of DLA Piper LLP (US), where her practice focused on insurance and reinsurance

transactions, regulatory compliance and related litigation.

Earlier in her career, Commissioner Birrane served in the Maryland Office of the Attorney General in the statutory position of Principal Counsel to the Maryland Insurance Administration. In that role, she managed all of the legal work of the agency, both in its capacity as regulator and as a unit of state government.

She is currently a member of the Executive Committee of the National Association of Insurance Commissioners (NAIC) and Chair of its Innovation, Cybersecurity, and Technology (H) Committee.

Commissioner Birrane is also Chair of the NAIC's Northeast Zone, Co-Vice Chair of the Climate and Resiliency Task Force, and Co-Chair of the Health Insurance Workstream, Special Committee on Race and Insurance.

Additionally, Commissioner Birrane is a member of the steering committee of the EU-U.S. Insurance Dialogue Project and is Chair of the Interstate Insurance Product Regulation Commission.



## **KEVIN GAFFNEY**

Vermont Insurance Commissioner

Commissioner Gaffney serves as technical expert for the Vermont Insurance Division on a variety of insurance issues, assisting with the development of departmental positions expressed through regulations, bulletins, or filing requirements. He also assists with bill analysis and testimony during the legislative session. He has been a key participant in several legislative summer studies that the DFR conducted, including one on credit for personal insurance and one on workers' compensation insurance. He also serves on Gov. Phil Scott's Workers' Compensation Insurance and Logger Safety Task Force.

Commissioner Gaffney was previously appointed Deputy Commissioner of Insurance by Gov. Scott in March 2019. Prior to that appointment, he worked as Director in the Rates & Forms section of the Vermont Insurance Division for more than 12 years. He has been responsible for rate and form analysis, as well as monitoring competition in the marketplace while leading the Rates & Forms Analysis team. Additionally, he has served as Director of the Producer & Individual Licensing section and as Director of Market Regulation.

Prior to working for Vermont, Commissioner Gaffney spent 23 years in various marketing, underwriting, and product management positions in Connecticut and Vermont. He began his insurance career in Connecticut as a multi-line (property/casualty [P/C] and life and health) insurance agent.

Commissioner Gaffney is a graduate of John Jay College (Manhattan, NY).



### **STUART KLUGMAN**

Senior Staff Fellow in the Society of Actuaries  
Education Department

Stuart Klugman, FSA, CERA, PhD, is Senior Staff Fellow in the Society of Actuaries Education Department, a position held since 2009. For the previous 35 years he was professor of actuarial science at The University of Iowa and Drake University. He has served two terms on the

SOA's Board of Governors, authored or edited four textbooks, written numerous research papers, and is a two-time recipient of the SOA's Presidential Award.



### **KEN WILLIAMS**

Staff Actuary Casualty Actuarial Society  
Property/Casualty Actuary

Ken Williams is a Staff Actuary of the Casualty Actuarial Society, a leading international organization for credentialing and professional education of actuaries. Founded in 1914, the CAS is the world's only actuarial organization focused exclusively on property and casualty risks and serves over 10,000 members worldwide.

In his work with the CAS, Ken is a frequent author and presenter on a variety of actuarial subjects.

Prior to joining the CAS, Ken spent 26 years working in the insurance industry in a variety of actuarial practice areas, including pricing, loss reserve analysis, budgeting, and enterprise risk management.

Ken has been a lecturer in the Math department at Illinois State University for over 20 years. He holds a BS in Actuarial Science from Purdue University and is both a Fellow of the Casualty Actuarial Society (FCAS), and a member of the American Academy of Actuaries (MAAA).

The National Association of Insurance Commissioners (NAIC) is the U.S. standard-setting and regulatory support organization created and governed by the chief insurance regulators from the 50 states, the District of Columbia and five U.S. territories. Through the NAIC, state insurance regulators establish standards and best practices, conduct peer review, and coordinate their regulatory oversight. NAIC staff supports these efforts and represents the collective views of state regulators domestically and internationally. NAIC members, together with the central resources of the NAIC, form the national system of state-based insurance regulation in the U.S.

For more information, visit [www.naic.org](http://www.naic.org).