

# PBR BOOT CAMP

**BASIC TRAINING AND BEYOND FOR  
PRINCIPLE-BASED RESERVING IMPLEMENTATION**



**JUNE 6-8, 2016**

**HILTON CHICAGO O'HARE AIRPORT**



AMERICAN ACADEMY *of* ACTUARIES

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## PBR BOOT CAMP

### BASIC TRAINING AND BEYOND FOR PRINCIPLE-BASED RESERVING IMPLEMENTATION

## DAY 1

MONDAY, JUNE 6, 2016

7–8 a.m.

Continental Breakfast and Registration

ORCHARD

8–9:45 a.m.

### PBR 101—The Basics

PBR Valuation Manual overview, VM-20 overview, qualified actuary overview, stochastic, deterministic, NPR reserves.

INTERNATIONAL BALLROOM

### Advanced Breakout

A workshop for those who are proficient in AG 38 and AG 48 and want to discuss specific issues with others who have gone through the process.

ORCHARD

9:45–10 a.m.

Break

10–11 a.m.

### Stochastic, Deterministic, and NPR Reserves

This session will include topics such as utilization of the exclusion tests, considerations for calculations of the NPR, the deterministic and stochastic exclusion tests, and calculation of the minimum reserves.

INTERNATIONAL BALLROOM

11:05–11:45 a.m.

### Reserving Case Study

This session will cover stochastic, deterministic, and net premium reserving.

BREAKOUT ROOMS\*

11:50 a.m.–12:30 p.m.

### Reserving Wrap-Up

INTERNATIONAL BALLROOM

12:30–1:45 p.m.

Lunch

Speaker Topic: Modeling Caveats

ORCHARD

1:45–2:45 p.m.

### Modeling Overview

This session will cover the requirements around PBA modeling, including specific inputs, projection capabilities, and output formats. Issues around in-force compression, scenario generation, platform development, cross-model leveraging, and model validation will also be discussed.

INTERNATIONAL BALLROOM

2:45–3 p.m.

Break

3–4 p.m.

### Mortality Overview

This session will include consideration of aggregation of products and blending into industry tables.

INTERNATIONAL BALLROOM

4:05–4:45 p.m.

### Mortality Case Study

BREAKOUT ROOMS

4:50–5:30 p.m.

### Mortality Wrap-Up

INTERNATIONAL BALLROOM

6–7:30 p.m.

Reception

PARIS BALLROOM

*\* Breakout sessions will be held in the following rooms: Chicago, Erie, Orchard, and State. Refer to your group assignment for location.*

## DAY 2

### TUESDAY, JUNE 7

7–8 a.m.

#### Continental Breakfast

ORCHARD

8–9 a.m.

#### Additional Liability Assumption Overview

This session will cover the main assumptions necessary for a Term and/or ULSG PBR model. Assumptions explored will include lapses, premium persistency, credited rate function, expenses, and taxes.

INTERNATIONAL BALLROOM

9:05–9:45 a.m.

#### Assumption Case Study

BREAKOUT ROOMS

9:45–10 a.m.

#### Break

10:05–10:40 a.m.

#### Assumption Wrap-Up

INTERNATIONAL BALLROOM

10:40–11:40 a.m.

#### Asset Overview

This session will include considerations of choosing in-force assets for PBA testing, assets to be assumed for reinvestments, and use of tables for spreads and default assumptions.

INTERNATIONAL BALLROOM

11:40 a.m.–12:40 p.m.

#### Lunch

ORCHARD

12:40–1:20 p.m.

#### Assets Case Study

BREAKOUT ROOMS

1:25–2:05 p.m.

#### Assets Wrap-Up

INTERNATIONAL BALLROOM

2:05–3:05 p.m.

#### Reinsurance Overview

This session will include considerations by the ceding company and the reinsurer in projecting reinsurance cash flows, a brief refresher on risk transfer requirement, and highlights of AG 48 and the proposed model regulation to replace it.

INTERNATIONAL BALLROOM

3:05–3:20 p.m.

#### Break

3:20–4 p.m.

#### Reinsurance Case Study

BREAKOUT ROOMS

4:05–4:45 p.m.

#### Reinsurance Wrap-Up

INTERNATIONAL BALLROOM

4:45–5:30 p.m.

#### PBR Model Governance Checklist

This session will introduce the developments in the PBR Model Governance Checklist consisting of a broad set of questions intended to solicit discussion and to capture model governance issues of concern to practitioners, auditors and regulators alike. The list is categorized across the various modeling stages, and distinguishes procedural questions from those intended for validation.

INTERNATIONAL BALLROOM

## DAY 3

### WEDNESDAY, JUNE 8

7–8 a.m.

#### Continental Breakfast

INTERNATIONAL BALLROOM

8–9 a.m.

#### Practice Notes—Sources of Information

This session will include a preview of revised VM-20 practice note and a brand new PBR Model Governance practice note. It will provide a high-level summary of other sources of information.

INTERNATIONAL BALLROOM

9–10:30 a.m.

#### Regulatory and Other Considerations

This session will include regulatory overview, reporting, experience studies, pricing considerations, a sample report, Annual Statement changes, and considerations for year 2 and beyond. This session will include a mock regulatory review of a PBR submission.

INTERNATIONAL BALLROOM

10:30–10:45 a.m.

#### Break

10:45 a.m.–12:15 p.m.

#### Regulatory and Other Considerations Case Study and Wrap-Up

Same case, but one year later.

INTERNATIONAL BALLROOM

12:15–12:30 p.m.

#### Break

12:30–1 p.m.

#### Question-and-Answer Session

INTERNATIONAL BALLROOM

# PBR BOOT CAMP SPEAKERS



**Mary Bahna-Nolan**  
**MAAA, CERA, FSA**

Mary Bahna-Nolan is an executive vice president and head of life R&D for SCOR Global Life. In that role, she is responsible for leading SCOR's global research initiatives regarding mortality

and policyholder behavior, and the interaction of mortality, underwriting, medical research and business development. Bahna-Nolan is also responsible for experience analysis including support and expert judgment for best estimate assumptions as well as the mortality and policyholder behavior risk calibration for SCOR's internal model under Solvency II. She has 26 years of experience in product development, pricing, product and risk management, and reinsurance. She has a Bachelor of Science degree from the University of Michigan in actuarial mathematics and economics. She is a fellow and chartered enterprise risk analyst in the Society of Actuaries and a member of the American Academy of Actuaries, where she has served in many volunteer roles, including as vice president of the Life Practice Council.



**Mike Boerner**  
**MAAA, ASA**

Mike Boerner is the director of the Actuarial Office within the Financial Regulation Division at the Texas Department of Insurance. His regulatory responsibilities include oversight of

annual actuarial reviews and the actuarial portion of insurance company examinations in Texas. His NAIC involvement includes chairing the Life Actuarial (A) Task Force (LATF) and chairing the PBR Review (EX) Working Group. Involvement also includes member participation in the Principle-Based Reserving (PBR) Implementation (EX) Task Force and other NAIC groups. Significant NAIC involvement includes contributions with the LATF that led to the initial NAIC adoption of the Valuation Manual along with subsequent updates. Current involvement includes support to the PBR Implementation (EX) Task Force to ready the Valuation Manual for an impending operative date and to develop PBR review procedures and other support for regulators in the implementation and review of PBR. Boerner is a member of the American Academy of Actuaries and a member of the Academy's Life Practice Council.



**Tim Cardinal**  
**MAAA, CERA, FSA**

Tim Cardinal is a principal at Actuarial Compass, providing actuarial and reinsurance consulting services as well as educational training services including online PBA training courses. Actuarial

Compass published two white papers commissioned by the Society of Actuaries (SOA): *Life Reinsurance Treaty Construction* and the *PBA Implementation Guide*. Cardinal was a 2014 SOA Volunteer of the Year recipient. He is a council member of the SmallCo and Modeling sections, co-editor of the Modeling Platform, member of the Academy's PBR Model Governance Work Group, chair of the LIMRA and SOA VAGLB Utilization Study, and is past chair of the advanced Corporate Finance and ERM Exam and a current curriculum committee member, and past member of the Modeling Task Force of the Actuarial Standards Board.



**Nadeem Chowdhury**  
**MAAA, FSA**

Nadeem Chowdhury is assistant vice president and actuary at USAA Life Insurance Company. He monitors and assesses key laws and regulations for USAA Life. He has been very involved with the

development of principle-based reserving and its impact on the company. He also chairs the Assumption Forum, where he reviews and facilitates the discussions, agreement, and communication of all key actuarial assumptions. He reviews experience studies and reports on key trends. He participates in many work groups and committees of the Society of Actuaries and the American Academy of Actuaries. He graduated from the University of Illinois at Urbana-Champaign with a Bachelor of Science degree in mathematics. He is a fellow of the Society of Actuaries and a member of the American Academy of Actuaries.



**Donna R. Claire**  
**MAAA, FSA, CERA, CLU, ChFC, FLMI**

Donna R. Claire is president of her own consulting firm, Claire Thinking, Inc., which specializes in risk management and regulatory issues. She has been involved with various

aspects of the principle-based approach to reserves and capital. Previously, Claire had served as vice president of the Life Practice Council of the American Academy of Actuaries and as vice president of the Society of Actuaries. Claire is the winner of the 2005 Jarvis Farley Award for volunteer service to the Academy and the actuarial profession.



**Rich Daillak**  
**MAAA, FSA**

Richard Daillak is chief risk officer with Swiss Re Life & Health America, where he has been since 2005. He has more than 30 years of experience in the industry, beginning his career with a large direct writer. Daillak serves on several committees of the American Academy of Actuaries, including the Life Practice Council, as chairperson of the Life Reinsurance Work Group, and as a member of the Academy's Board of Directors. Daillak received a bachelor's degree in mathematics from the University of California, Berkeley, and a Ph.D. in educational research methods and program evaluation from UCLA. He is a fellow of the Society of Actuaries and a member of the American Academy of Actuaries.



**Arnold A. Dicke**  
**MAAA, FSA, FCA, CERA**

Arnold A. Dicke is the president of AADicke LLC and president of New World Actuaries. He has been chief actuary or chief line of business actuary at three mutual companies and two stock companies in the United States. He was also a consultant with KPMG and Tillinghast and was an internal consultant at AXA-Equitable during its demutualization. He has extensive experience in life insurance product development, risk classification and financial reporting, and in life insurance and financial reinsurance. Since starting his own consulting practice in 2007, Dicke has conducted projects involving the development of international life insurance products and innovative products for the U.S. life insurance market, strategic planning, federal tax issues, and expert witness testimony on a variety of topics. Dicke graduated from Harvard College, cum laude in physics, and received his master's degree in mathematical physics from Princeton University. He attended the Advanced Management Program at Harvard Business School. He is a fellow and former vice president of the Society of Actuaries and a member and former vice president of Life Practice Council of the American Academy of Actuaries. Dicke currently chairs the Academy's Reinsurance Committee and is a member of the Academy's Life Reserves Work Group, the group that is responsible for developing the Academy's recommendations regarding principle-based reserving for life insurance products.



**Brandon Dwyer**  
**MAAA, FSA**

Brandon Dwyer is a corporate vice president and actuary at New York Life Insurance Company. During the past four years at New York Life, he has worked on annuity modeling and principle-based reserving. Prior to joining New York Life, Dwyer worked for Generali in Dublin, Ireland, reinsuring Variable Annuity business. Before joining Generali, Dwyer began his career at MetLife in New York, where he rotated among the valuation, ALM, and pricing oversight teams. Dwyer is a member of the American Academy of Actuaries and is a fellow of the Society of Actuaries. He received a Bachelor of Science degree in mathematics from Bentley University.



**Michael Failor**  
**MAAA, ASA**

Michael Failor is a research and development modeling actuary with SCOR Global Life. His primary areas of focus include developing actuarial applications, conducting mortality research and peer reviewing key actuarial systems. Prior to SCOR, Failor was a research statistician developer with the SAS Institute, responsible for developing Solvency II components. Failor also held positions with Transamerica Reinsurance and IBM Global Services. Failor has 25 years of actuarial experience spanning the life, property and casualty, health, and pension sectors, with extensive involvement in applications development, systems conversions, and testing. Failor has authored articles and presented at major Society of Actuaries meetings covering stochastic modeling, systems peer review, and modeling controls. He is an associate of the Society of Actuaries, a member of the American Academy of Actuaries, and an IBM Certified Consultant. Failor earned his Bachelor of Science from the Pennsylvania State University and his Master of Science in mathematics from the Shippensburg University of Pennsylvania.



**Brian W. Fomby**  
**MAAA, FSA**

Brian Fomby is a sales executive for the Life Technology Solutions practice within Milliman (MG-ALFA, MG-Triton, and Integrate) and works from his home in Brunswick, Maine. Prior to joining Milliman a year ago, Fomby spent his entire eight-year career with a voluntary benefits carrier in a variety of different roles from valuation to pricing then back to valuation. In his last assignment with the insurance company, Fomby played a key role on the newly established global modeling team, leading the development and implementation of a model governance framework in the context of a modeling transformation.



**Alice Fontaine**  
**MAAA, FSA, FCIA**

Alice Fontaine is president of Fontaine Consulting, LLC. In addition to managing the firm, she focuses on providing statutory financial examination and related support to

states, and product filing and rate review for life, annuity, and health products for the Interstate Insurance Product Regulation Commission. Fontaine graduated with a business degree from the University of Manitoba. She has over 25 years in the industry, including experience working at a large publicly held insurer as well as consulting with small and mid-size insurers, fraternal, and various regulatory agencies. Fontaine is very active in the actuarial community, being a volunteer, presenter, and leader for various American Academy of Actuaries life and health work groups, Society of Actuaries sections, and actuarial clubs. She is currently chairperson of the Academy's Life Valuation Committee, and has been active in various workgroups for principle-based approaches for risk-based capital and reserves since 2006.



**Jason Kehrberg**  
**MAAA, FSA**

Jason Kehrberg is vice president of sales at PolySystems, where he heads up PBR readiness and works with clients to help them use PolySystems to meet their end-to-end actuarial

modeling needs at the product and enterprise level.



**Stephen Krupa**  
**MAAA, FSA, CC**

Steve Krupa has been working for the last three years as an actuarial client support specialist with GGY, a Moody's Analytics Company, with a focus on modeling universal life (UL) and annuity

products. He resolves hundreds of questions from clients each year on a variety of topics including: model implementation, reporting, automation, efficiency, reconciliation, and new system enhancements. Over the past year, Krupa has visited several companies and regulators to provide onsite training on VM-20 as well as other UL and annuity products in AXIS. He recently wrote an article and reference guide discussing the VM-20 NPR reserve for UL with secondary guarantees in AXIS. Krupa previously worked for over 20 years at TIAA-CREF implementing industry, leading valuation automation, controls, and financial reporting for over \$500 billion in annuity and life insurance reserves.



**Linda Lankowski**  
**MAAA, FSA**

Linda Lankowski is vice president and actuary at Prudential Financial. In her current role, she coordinates Prudential's response to emerging actuarial issues. She is the chairperson of the Life

Stress Test Work Group at the American Academy of Actuaries, and led both the Life Settlements Consumer Guide Work Group and the Life Settlements Investor Guide Work Group. Lankowski formerly served as chairperson of the Academy's Life Products Committee and as vice chairperson of the Life Practice Council. She also served on the task force that wrote the actuarial standard of practice covering life settlements mortality (ASOP No. 48). She sits on several American Council of Life Insurers committees. A longtime fellow of the Society of Actuaries and member of the American Academy of Actuaries, Lankowski has held actuarial roles at several life insurers including The Hartford, Lincoln, and MassMutual.



**Russ Menze**  
**MAAA, FSA**

Russell Menze is a specialist leader with Deloitte Consulting LLP. He has more than 25 years of actuarial consulting and company experience for life and health insurance companies, regulators,

investors, legal firms, and other clients. Prior to joining Deloitte, Russ was a senior manager for Arthur Andersen, and he served as an officer in corporate portfolio management at Phoenix Life Insurance Company. His experiences includes statutory, GAAP, and tax life insurance valuation and financial reporting; financial modeling, including economic and financial statement projections and MCEV consulting; mergers, acquisitions, and restructuring analyses, including actuarial appraisal and tax appraisal analysis; and regulatory consulting for insurance companies and state insurance departments. Menze has a Bachelor of Science degree in mathematics and economics from the University of Nebraska and is a fellow of the Society of Actuaries and a member of the American Academy of Actuaries.



**David E. Neve**  
**MAAA, FSA, CERA**

Dave Neve is vice president and chief actuary for Accordia Life and Annuity Company, and serves as the appointed actuary for Accordia. His responsibilities include statutory valuation,

financial modeling and forecasting, and experience studies. He is also responsible for monitoring new and emerging regulatory capital and reserve requirements. Neve has more than 35 years of actuarial experience in strategic planning, capital management, reserve valuation, financial reporting and forecasting, corporate finance, and enterprise-wide risk modeling. Neve earned the Chartered Enterprise Risk Analyst (CERA) designation in 2008. He is an industry leader in assisting the NAIC and the American Academy of Actuaries in developing a new principle-based valuation framework, and is a frequent speaker at industry and actuarial conferences, seminars, and webinars. Neve currently serves as vice chairperson of the Academy's Life Practice Council, and chairperson of the Life Reserves Work Group. He completed a three-year term on the Board of Directors of the Academy in October 2012. He is also a member of the ACLI Actuarial Committee. Neve holds a Bachelor of Arts degree in mathematics from Wartburg College, and a Master of Science degree in actuarial science from the University of Wisconsin-Madison.



**Craig Roberts**  
**MAAA, FSA**

Craig Roberts is a principal with the life insurance consulting practice of the Seattle office of Milliman, which he joined in 1996.

Roberts has managed the completion of a broad range of asset-liability management projects, especially as it relates to pricing, U.S. GAAP, MCEV, AG-43 reserves, C-3 Phase II capital, and economic capital. In recent years, Roberts has assisted companies with model validation and governance, identifying gaps in corporate production models as they may diverge from best practices, company documentation, and intended computations. He has moderated and presented at Society of Actuaries (SOA) meetings on topics of model validation and governance, modeling efficiency, and asset-liability modeling techniques. Roberts co-authored the SOA sponsored report "Analysis of Proposed Principle-Based Approach," and has served on several Academy working groups related to the topic.



**Karen K. Rudolph**  
**MAAA, FSA**

Karen Rudolph is a principal and consulting actuary in the Omaha office of Milliman.

She joined the firm in 1981. Rudolph's area of expertise is individual life insurance and

annuities. She has experience with business modeling and financial projections, statutory valuation, principle-based valuation, actuarial aspects of mutual company restructuring, actuarial aspects of insurance appraisals, illustration regulation compliance, and tax code compliance. Additionally, her work includes reserve reviews for Xxx and Axxx products, economic reserve determination, asset adequacy analysis, and statutory system conversions. Rudolph is also currently involved in the principle-based approach initiative, including Society of Actuaries (SOA) research surrounding its implications to various product types. She co-authored the Milliman report "Analysis of Proposed Principle-Based Approaches" (September 2009), the SOA's "Report on 2014 VBT/2017 CSO Impact Study" (June 2015), the ACLI's "VM-20 Impact Study Compendium" (2012), as well as the SOA's current study note on principle-based approaches to valuation. Rudolph has recently been involved in the American Academy of Actuaries' Life Reserve Working Group and chairs the Academy's Life Principle-Based Reserve Practice Note Working Group. Rudolph has served on the SOA's Examination Committee. She also served as president and board member of the Nebraska Actuaries Club and member of several Academy working groups. She has spoken before actuarial and general insurance professional audiences. Rudolph received her bachelor's degree in mathematics from Doane College.



**Sheldon Summers**  
**MAAA, FSA**

Sheldon Summers is a consulting actuary with Claire Thinking, Inc. He was previously chief actuary of the California Department of Insurance until his retirement in September

2009. While there, he was a member of several NAIC committees, including the Life and Health Actuarial Task Force, on which he served as vice chair from 1995 to 2001. He also served as chair of the NAIC working group that drafted the Life and Health Reinsurance Agreements Model Regulation regarding risk transfer rules for life and health reinsurance agreements, and as chair of the PBR Reinsurance Subgroup of the Life and Health Actuarial Task Force. Summers holds a Bachelor of Science degree in business administration from Boston University and a Master of Business Administration degree from the University of Southern

California. In addition to participating on various American Academy of Actuaries committees, he currently participates on and is the former chairperson of the Life Reinsurance Work Group and has for several years been part of the faculty that annually teaches the Life and Health Qualification Seminar to enable actuaries to become qualified to issue certain statements of actuarial opinion. In 2010 Summers received the American Academy of Actuaries Robert J. Myers Public Service Award in recognition of contributions to the public good.



**Pete Weber**  
**MAAA, ASA**

Pete Weber is the chief life actuary at the Ohio Department of Insurance. He has regulatory experience in examination, new product filing, financial analysis, and drafting and implementing new and amended legislation. Weber represents Ohio as vice chair of the NAIC Life Actuarial Task Force. He also chairs the C-3 Phase II/AG 43 Subgroup, the PBR Review Procedures Subgroup, and the IIPRC (Interstate Compact) Actuarial Working Group. Prior to joining the Ohio Department of Insurance 10 years ago, Weber spent 16 years performing life insurance valuation, financial reporting, business planning and forecasting, and asset adequacy testing in the insurance industry. He received his bachelor's degree in mathematics from Adrian College in Michigan.



**Ali Zaker-Shahrak**  
**MAAA, FSA, CFA**

Ali Zaker-Shahrak has a Ph.D. in economics from The London School of Economics and Political Insurance and has been a member of National Academy of Social Insurance since December 2014. Zaker-Shahrak is a senior life actuary at California Department of Insurance. He has held this position since June 2005. Zaker-Shahrak reviews health insurance policy rate filings. Over the past 11 years Zaker-Shahrak has reviewed more than 1,000 rate filings related to major medical, specified disease, supplemental health, Medicare supplement, and long-term care insurance products. Zaker-Shahrak volunteers for Society of Actuaries' Education and Examination Committee preparing questions for various fellowship exams, and acting as grader for a number of fellowship exams. Zaker-Shahrak is also a member of American Academy Actuaries' Social Security Committee.



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