SOCIETY OF ACTUARIES®

ATC | 2022 Asia-Pacific Actuarial Teaching Conference

PROGRAM

Bangkok, Thailand
December 12-14, 2022

Welcome to the 2022 Asia-Pacific Actuarial Teaching Conference!

The SOA is grateful to the members of the **2022 Asia-Pacific Actuarial Teaching Conference Planning Committee** for their time and effort developing the variety of conference sessions.

Ann Ann Low	Sunway University
Dumaria Tampubolon	Institut Teknologi Bandung
Jing Rong Goh	Singapore Management University
Ken Seng Tan	Nanyang Technological University
Koon Shing Kwong	Singapore Management University
Prashan Karunaratne	Macquarie University
Wai Sum Chan	The Hang Seng University of Hong Kong

Interested in volunteering on the next ATC Planning Committee? Be sure to indicate your interest on your post-event survey and submit your name for consideration.

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Hyatt Regency Bangkok Sukhumvit
1, Sukhumvit Soi 13 (BTS Nana)
Bangkok, Bangkok Metropolitan 10110, TH

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Sessions and Activities
<u>Main Meeting Space:</u>
 Regency 3-4, 5/F

<u>Meals, Snacks, and Beverages</u>
12th Dec Networking Reception: Spectrum 31/F
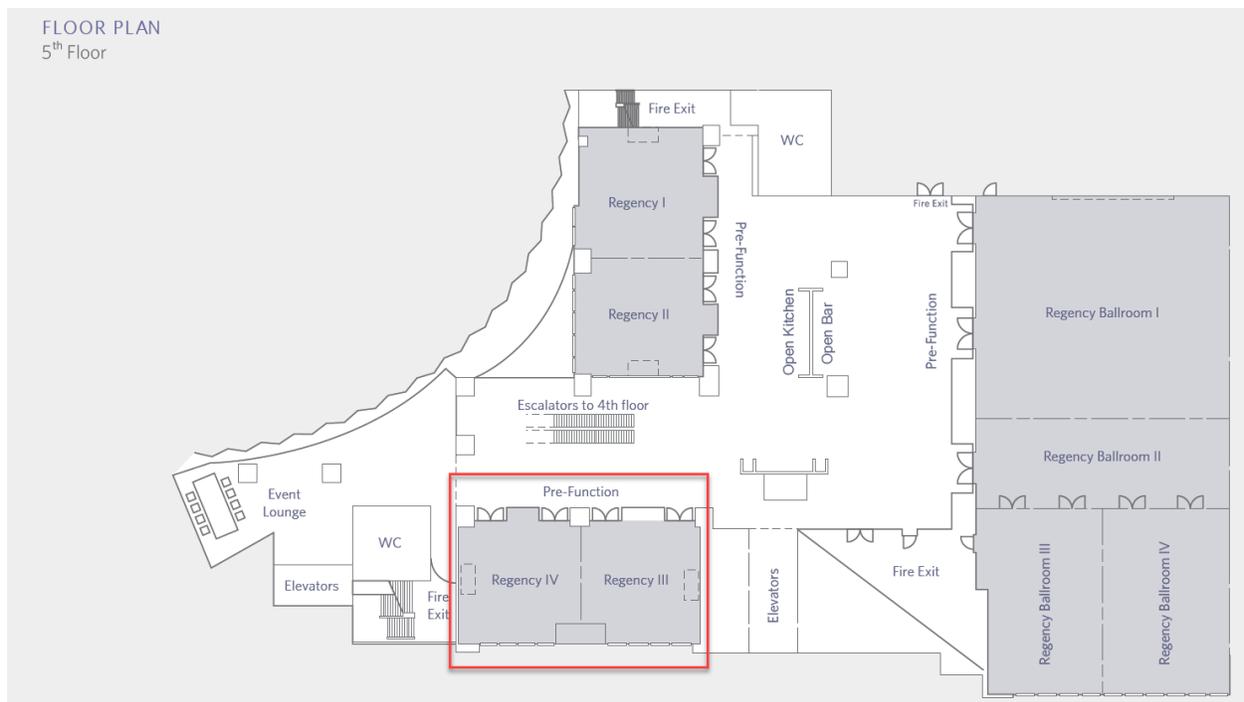Welcome Breakfast, Coffee Break: Pre-Function Area, 5/F
13th Dec Lunch: Spectrum 29/F
14th Dec Lunch: Market Café 4/F

Event Venue & Program Floor Plan

Hotel

Hyatt Regency Bangkok Sukhumvit
1 Sukhumvit 13 Road, Klongtoey Nua
Wattana, Bangkok 10110 Thailand
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FLOOR PLAN
5th Floor

Conference Agenda

Monday, December 12, 2022

5:00-6:00 p.m.	Pre-Function Area, 5/F	**Registration**
6:00-8:30 p.m.	Spectrum 31st	**Networking Reception**

Tuesday, December 13, 2022

7:30-8:30 a.m.	Pre-Function Area	**Registration & Welcome Breakfast Break**
8:30-8:40 a.m.	Regency 3-4	**Welcome Remarks** Presenter: Jennifer Gillespie, FSA, MAAA, Society of Actuaries Moderator: Andrew Peterson, FSA, EA, MAAA, FCA, Society of Actuaries
8:40-9:40 a.m.	Regency 3-4	**Session 1: SOA University Programs and Education Update** Presenter: Tiffany Tatsumi, Society of Actuaries Moderator: Andrew Peterson, FSA, EA, MAAA, FCA, Society of Actuaries
9:40-10:10 a.m.	Regency 3-4	**Session 2: SOA Research Updates and Options** Presenter: Xiao Xu FSA, CERA, Society of Actuaries Moderator: Andrew Peterson, FSA, EA, MAAA, FCA, Society of Actuaries
10:10-10:30 a.m.	Pre-Function Area	**Morning Coffee Break**
10:30-11:00 a.m.	Regency 3-4	**Session 3: Project-based Learning in an Actuarial Curriculum** Presenter: Ann Ann Low, Sunway University Moderator: Dumaria Tampubolon, MSc, PhD, Institut Teknologi Bandung
11:00-11:30 a.m.	Regency 3-4	**Session 4: Blended Learning for Actuarial Courses & Student-Centered Lectures** Presenters: Endar Hasafah Nugrahani, IPB University Josephine Linoto, Universitas Pelita Harapan Moderator: Dumaria Tampubolon, MSc, PhD, Institut Teknologi Bandung
11:30-12:00 p.m.	Regency 3-4	**Session 5: Implementation of a Randomization-Based Curriculum for Introductory Statistics at UPH and Across Indonesia**

		Presenter: Kie Van Ivanky Saputra, Universitas Pelita Harapan Moderator: Dumaria Tampubolon,MSc, PhD, Institut Teknologi Bandung
12:00 p.m.-1:00 p.m.	Spectrum 29th	**Lunch**
1:00-1:30 p.m.	Regency 3-4	**Session 6: The UNSW Sandbox Model: Engaging the Next Generation of Actuaries to Provide Solutions to Industry Problems** Presenter: Kevin Liu, UNSW Business School Moderator: Prashan Karunaratne, FHEA, Macquarie University
1:30-2:00 p.m.	Regency 3-4	**Session 7: GitHub Classroom, Sandbox, and Case Study for Actuarial Education** Presenter: Xiao Xu FSA, CERA University of New South Wales Moderator: Prashan Karunaratne, FHEA, Macquarie University
2:00-2:30 p.m.	Regency 3-4	**Session 8: Teaching Predictive Modeling with R** Presenter: Koon Shing Kwong, PhD, FSA, CERA, Singapore Management University Moderator: Ann Ann Low, Sunway University
2:30-3:00 p.m.	Regency 3-4	**Session 9: Teaching Actuarial Modelling with Prophet Software (FIS)** Presenter: Jing Rong Goh, PhD, AFA, Singapore Management University Moderator: Ann Ann Low, Sunway University
3:00.-3:30 p.m.	Regency 3-4	**Dialogue with Jennifer & SOA** Presenter: Jennifer Gillespie, FSA, MAAA, Society of Actuaries Moderator: Andrew Peterson, FSA, EA, MAAA, FCA, Society of Actuaries
3:30 -4:00 p.m.	Pre-Function Area	**Afternoon Coffee Break**

Wednesday, December 14, 2022

8:00-8:30 a.m.	Pre-Function Area	**Welcome Breakfast Break**
8:30-9:00 a.m.	Regency 3-4	**Session 10: Interdisciplinary Collaborative Core (ICC) Program** Presenters: Jade Nie, PhD, FIAA, Nanyang Technological University Adam Shao, FSA, SCOR

		Joey Zhou, MBA, FIA, FRM, RGA Moderator: Ken Seng Tan ASA, CERA, Nanyang Technological University
9:00-9:30 a.m.	Regency 3-4	**Session 11: Innovative pedagogy on the Use of Tools/Methodologies** Presenter: Wai Sum Chan, PhD, FSA, CERA, HonFIA, The Hang Seng University of Hong Kong Moderator: Jing Rong Goh, PhD, AFA, Singapore Management University
9:30-10:00 a.m.	Regency 3-4	**Session 12: The "why" and the "how" of learning Actuarial Studies and Business Analytics** Presenter: Prashan Karunaratne, FHEA, Macquarie Business School Moderator: Jing Rong Goh,PhD, AFA, Singapore Management University
10:00-10:15 a.m.	Pre-Function Area	**Morning Coffee Break**
10:15-10:45 a.m.	Regency 3-4	**Session 13: Decentralized Finance for Future Actuaries** Presenter: Wittawat Kositwattanarerk, Mahidol University Moderator: Ann Ann Low, Sunway University
10:45-11:55 a.m.	Regency 3-4	**Open Sharing and Discussion** Moderators and Presenters: Ken Seng Tan ASA, CERA, Nanyang Technological University Koon Shing Kwong, PhD, FSA, CERA, Singapore Management University Prashan Karunaratne, FHEA, Macquarie Business School Wai Sum Chan, PhD, FSA, CERA, HonFIA, The Hang Seng University of Hong Kong Dumaria Tampubolon, MSc, PhD, Institut Teknologi Bandung
11:55 a.m. -12:00 p.m.	Regency 3-4	**Closing Remarks** Presenter: Andrew Peterson, FSA, EA, MAAA, FCA, Society of Actuaries

Sessions and Summaries

SOA Actuarial Teaching Conference Opening Address
Jennifer Gillespie, FSA, MAAA, Society of Actuaries
Moderated by: *Andrew Peterson, FSA, EA, MAAA, FCA, Society of Actuaries*
Jennifer Gillespie, Past President of the Society of Actuaries, will deliver opening remarks to welcome attendees of the Actuarial Teaching Conference.

Session 1: SOA University Programs and Education Update
Tiffany Tatsumi, Society of Actuaries
Moderated by: *Andrew Peterson, FSA, EA, MAAA, FCA, Society of Actuaries*
Tiffany Tatsumi, Manager of University Programs at the SOA, will provide an overview of the SOA and its various university programs and initiatives.

Session 2: SOA Research Updates and Options
Xiao Xu FSA ,CERA, Society of Actuaries
Moderated by: *Andrew Peterson, FSA, EA, MAAA, FCA, Society of Actuaries*
Xiao Xu will provide a sharing session on research updates, news and options for faculty.
Session 3: Project-based Learning in an Actuarial Curriculum
Ann Ann Low, Sunway University
Moderated by: Dumaria Rulina Tampubolon, MSc, PhD, Institut Teknologi Bandung
This session describes how Project-Based Learning (PBL) can be incorporated into an actuarial course for students to learn technical and professional skills effectively. PBL allows students to learn through active participation and experiences in the real world. A student-centered instructional approach enables students to acquire more profound knowledge by actively exploring real-world challenges and problems.

PBL is the way forward in this new generation of self-directed learning and intrinsic motivation to explore real-world challenges actively. Hence, teaching and learning should be geared towards more independent and experiential learning, replacing conventional classroom lectures, even for technical courses such as Ratemaking & Loss Reserving. Furthermore, the PBL approach intentionally develops students' soft skills to prepare students for employment. With the advancement of technological tools, employability skills will take priority over factual or technical knowledge that technology can easily replace.

Session 4: Blended Learning for Actuarial Courses & Student-Centered Lectures

Josephine Linoto, Universitas Pelita Harapan (UPH)
Endar Hasafah Nugrahani, IPB University, Indonesia
Moderated by: *Dumaria Rulina Tampubolon, MSc, PhD , Institut Teknologi Bandung*

Blended learning and student-centered learning system are gaining momentum. The combination of synchronous and asynchronous learning could be considered as blended learning. In this session, the effectiveness/successfulness of blended learning in actuarial science teaching will be analyzed both qualitatively and quantitatively. For the qualitative part, we will talk about the advantages and disadvantages of blended learning from a lecturer's and student's perspective. For the quantitative part, we will present data analysis on two actuarial classes (Mathematics Life Contingent (MLC) 1 and Risk Theory) in UPH and IPB university regarding the effectiveness of blended and student-centered learning.

It is found that students understand risk theories better as they implement them in their small research projects, as the learning process is student-centered, and the lecturer will just need to be the discussion counterpart in class. It is also found that interactive SCORM modules explaining MLC theoretical parts, synchronous meetings for Q&A, supervised synchronous and asynchronous practice problems and assignments (including MS Excel exercises) have its success in maximizing blended learning for actuarial students.

Session 5: Implementation of a Randomization-Based Curriculum for Introductory Statistics at UPH and Across Indonesia

Kie Van Ivanky Saputra, Universitas Pelita Harapan (UPH)
Moderated by: *Dumaria Rulina Tampubolon, MSc, PhD , Macquarie Business School*

Randomization-based curriculum for introductory statistics is spreading around the globe. In this presentation, we will present the content and pedagogy of simulation-based methods in an introductory statistics course. We will demonstrate that the simulation-based approach to teaching introductory statistics is a viable and effective alternative to teaching statistics at Indonesian universities.

This new statistics curriculum will reform our current statistics education on a national level, changing traditional teaching methods to an active learning, student-focused approach, engaging students to use more technology in learning something new, and hopefully initiating changes in our statistical education through the association of profession.

Session 6: The UNSW Sandbox Model: Engaging the Next Generation of Actuaries to Provide Solutions to Industry Problems

Kevin Liu, UNSW Business School
Moderated by: *Prashan Karunaratne, FHEA, Macquarie Business School*

UNSW Business School's Sandbox Education Program is created as a platform to connect the industry, academics, and students, empowering them to co-create solutions to real-life problems. It introduces students to industry projects as part of their coursework. Industry partners develop project tasks that reflect contemporary challenges and then engage with student project teams through the term. Collaborating with leading industry partners, we have incorporated Sandbox industry projects in multiple courses in the UNSW Bachelor of Actuarial Studies Programs. This provides our students with unique opportunities to learn, engage with industry, and contribute to the solutions to real-world challenges.

Session 7: GitHub Classroom, Sandbox and Case Study for Actuarial Education

Xiao Xu FSA ,CERA, University of New South Wales
Moderated by: *Prashan Karunaratne, FHEA, Macquarie Business School*

In the UNSW actuarial control cycle class in 2022, the SOA Research Institute Student Case Challenge was introduced to facilitate group activities, which provides an excellent opportunity for students to explore real-world projects in the education sandbox model by applying the actuarial skills. Four teams advanced to the semi-finals, which resulted in UNSW Business School having the most global finalists - 4 out of 14 teams. The A Team won 3rd place, the best historical record for any Asia-Pacific university.

GitHub Classroom allows students to collaborate in the cloud-based project development workflow simultaneously. To showcase the work, students created a group landing page via the free GitHub Pages and made the content public to external industry partners and future employers.

Session 8: Teaching Predictive modeling with R

Koon Shing Kwong, PhD, FSA, CERA Singapore Management University
Moderated by: *Ann Ann Low, Sunway University*

In 2019, I designed a new course called "Statistical Learning with R" which is one of the core courses for the Actuarial Science (ACS) and Data Science & Analytics (DSA) programs at Singapore Management University. This course aims at introducing the concepts of statistical methodologies for searching for analytical solutions to real-life problems with the use of data. Students not only learn statistical concepts for data analysis but also R-programming techniques for implementing those cutting-edge statistical methods in solving practical problems with data. By taking this course, ACS students should have enough knowledge and background to sit for the SOA's Statistics for Risk Modeling (SRM) exam.

In this talk, I will share with you the course materials including learning goals, course materials, assignments, project work, and final exam papers, my teaching approach, challenges, and teaching outcomes.

Session 9: Teaching Actuarial Modelling with Prophet Software (FIS)
Jing Rong Goh, PhD, AFA, Singapore Management University
Moderated by: *Ann Ann Low, Sunway University*
In 2021, I succeeded in developing a workshop that focuses on teaching actuarial science students how to use Prophet Software to model life insurance products. This workshop aims to provide students with a high-level overview of life insurance modeling. It then applies these modelling techniques within the Prophet Software. A majority of life insurers in Singapore use the Prophet Software to model life insurance products. The objective is to train students well such that they are more competitive in the job market.

In this session, I will share with you how the collaboration with FIS came about, and the course materials, including learning objectives, quizzes, homework, and final quiz questions. I will also highlight my teaching philosophy, as well as any challenges that I faced and how I overcame these challenges.

Dialogue with Jennifer & SOA
Jennifer Gillespie, FSA, MAAA, Society of Actuaries
Moderated by: *Andrew Peterson, FSA, EA, MAAA, FCA, Society of Actuaries*
Jennifer, the former president of the Society of Actuaries, will share recent strategic developments and updates at the SOA.

Session 10: Interdisciplinary Collaborative Core (ICC) Program
Joey Zhou, MBA, FIA, FRM, Director of Business Management and Marketing , RGA
Adam Shao, FSA, Senior Actuary, Biometric Risk Model, Society of Actuaries
Ciyu Nie (Jade), PhD, FIAA, Lecturer, Actuarial risk management, Nanyang Technological University
Moderated by: *Ken Seng Tan ASA, CERA President's Chair Professor in Actuarial Risk Management, Nanyang Technological University*
The rapidly changing nature of work, compounded by the relentless speed of innovation, necessitates that our graduates constantly acquire new knowledge and skills, and adapt to several career changes over their lifetime. As forward-looking educators, we are in continual pursuit of providing a holistic education grounded in future-ready skills which will prepare our graduates for lifelong learning and global citizenship. Such education needs to transcend the traditional boundaries of disciplines to address

the nexus between theoretical and practical learning; "hard skills" and "soft skills"; and core curriculum and co-curriculum. Hence, a new curriculum structure was set up to address these needs, featuring a range of Interdisciplinary Collaborative Core (ICC) Courses.

Starting in 2021, all incoming Nanyang Technological University (NTU) undergraduate students, regardless of their specializations, are required to take 7 common ICC courses. This new initiative aligns with the NTU 2025 Education Strategy and the learning outcomes embodied by the 3Cs expected of all NTU undergraduates - Character, Competence, and Cognitive Agility. These ICC Courses focus on key transferable skills and global challenges using an interdisciplinary and collaborative approach to learning.

Session 11: Innovative pedagogy on the use of tools/methodologies
Wai Sum Chan, PhD, FSA, CERA, HonFIA, School of Decision Sciences, The Hang Seng University of Hong Kong
Moderated by: *Jing Rong Goh, PhD, AFA, Singapore Management University*
The syllabus for SOA Exam P develops the candidate's knowledge of the fundamental probability tools for quantitatively assessing risk. Closed questions, which merely have one clear numeric answer, are traditionally used in actuarial classrooms. On the other hand, if we want to help students develop higher-order thinking skills, we may need to ask more open questions that allow students to give a variety of acceptable responses. Many dice games have been used to illustrate basic probability concepts. There has been growing interest in developing "optimal strategies" for actuarial decisions. In this presentation, we develop an optimal strategy for a maximization dice game using probability tools. It can be used as a project for problem-based (activity-based) learning in teaching Exam P classes.

This presentation is based on the following article published by the Mathematical Association of America:

Kevin L.T. Chan & Wai-Sum Chan (2019) Developing an Optimal Strategy for a Maximization Dice Game, The College Mathematics Journal, 50:4, 272-279, DOI: 10.1080/07468342.2019.1632662

Session 12: The 'why' and the 'how' of learning Actuarial Studies and Business Analytics
Prashan Karunaratne, FHEA, Macquarie Business School
Moderated by: *Jing Rong Goh, PhD, AFA, Singapore Management University*
The learning journey is fruitful for both teachers and students when the focus is on inspiring students to want to learn – by emphasizing the 'why' of learning; and when teaching equals empowering students to navigate their own learning journey – by focusing on the 'how' of learning. To emphasize the 'why' of

learning, we frame our teaching methodology on research into threshold concepts – these are the portals and gateways of thinking of each discipline which emphasizes the transferrable skills that each discipline has to offer its graduates.

To incorporate the 'how' of learning, we develop a four-step pedagogy based on Bloom's taxonomy, summarized as R.E.A.L.: Re-Cap and Remind, Engaging Examples, Application & Awareness, Learning Life Lessons – that gradually progresses the learner towards higher-level thinking. When an Actuarial Studies or Business Analytics curriculum is traditionally content-driven and content-heavy, attention to the discipline's threshold concepts is a useful tool in guiding curriculum re-design. Relevance is created for a cohort of diverse abilities and diverse aspirations, as threshold concepts are those that transform the way one views the world, and these are the concepts that can be integrated into learners' everyday experiences as well as their challenges upon graduating.

Session 13: Decentralized Finance for Future Actuaries
Wittawat Kositwattanarerk, Mahidol University
Moderated by: *Ann Ann Low, Sunway University*
With the latest curriculum revision, the Actuarial Science program at Mahidol University has decided to include Decentralized Finance as one of its core general education courses. In this talk, we explore various challenges and opportunities that come with the rise of blockchain and cryptocurrencies. Recent financial instruments such as flash loan, automated portfolio manager, leveraged yield farming, and decentralized cover protocol will also be discussed are asked to create a fictional story involving their context and explain what the simulation means in context of their fictional world. During this session, we will examine two projects used in a course on stochastic processes: one involving insurance application and the other involving a totally fictional zombie outbreak.

Session 14: Open Sharing and Discussions
Moderators and Presenters: *Ken Seng Tan ASA, CERA, Nanyang Technological University*
Koon Shing Kwong, PhD, FSA, CERA, Singapore Management University
Prashan Karunaratne, FHEA, Macquarie Business School
Wai Sum Chan, PhD, FSA, CERA, HonFIA,The Hang Seng University of Hong Kong
Dumaria Tampubolon, MSc, PhD, Institut Teknologi Bandung

Closing Remarks
Andrew Peterson, FSA, EA, MAAA, FCA, Society of Actuaries

Presenters

Jennifer L. Gillespie, FSA, MAAA
Past President
Society of Actuaries

Jennifer spent 19 years at Blue Cross Blue Shield of Minnesota – as vice president of Underwriting after various actuarial leadership roles. In recent years, she was vice president of Actuarial Services for Consortium Health Plans focusing on the national employer market. Gillespie has been retired for the last two years and has focused on her volunteering for the SOA and as a judge and Chief Referee for U.S. Figure Skating.

As a volunteer for the SOA, Jennifer served on the SOA Board for five years and the Leadership Team for two years as secretary/treasurer. She was also a member of the Strategic Planning Task Force and the Centers of Actuarial Excellence Evaluation Committee. As Chair of the Professionalism Education Management Committee, she is involved with the current effort to transform the Associateship Professionalism Course (APC) and Fellowship Admissions Course (FAC) experiences from in-person events to virtual ones as part of the SOA's response to COVID-19 restrictions. Most recently, Gillespie represented the SOA as a member of the CAS/SOA Joint Committee for Inclusion, Equity, and Diversity.

Andrew Peterson, FSA, EA, MAAA, FCA
Senior Director – International
Society of Actuaries

Andrew Peterson is the Senior Director - International at the Society of Actuaries (SOA) working to implement the SOA's mission of advancing actuaries as leaders in measuring and managing risk on a global basis. In that capacity he oversees the SOA's activities outside of North America in advancing the actuarial profession through education and research. Andrew works with the Board to establish the SOA's international strategy and oversees the work of members and staff around the world in implementing that strategy. Prior to taking on this role in mid-2018, Andrew served as the Senior Staff Fellow for Retirement where he worked with SOA members to develop and support better retirement systems. Andrew received a BS degree in mathematics from Taylor University in 1992. He is a Fellow of the Society of Actuaries, an Enrolled Actuary, a Member of the American Academy of Actuaries, and a Fellow of the Conference of Consulting Actuaries. He is also a member of the National Academy of Social Insurance.

Tiffany Tatsumi
Manager, University Programs
Society of Actuaries

Tiffany has held various roles in the Education department at the Society of Actuaries since joining in 2014. In her current role as Manager of University Programs, she oversees the success of the SOA's various academic- and university-related programs including University-Earned Credit, Centers of Actuarial Excellence, Universities and Colleges with Actuarial Programs, the James C. Hickman Scholar program, and the Actuarial Teaching Conference and their associated volunteer committees. In her free time, she is a serial hobbyist – her current interests include metalsmithing, calligraphy, and glass engraving.

Xiao Xu FSA ,CERA
Consultant - International Research Project Manager
Society of Actuaries
Lecturer
University of New South Wales

Dr. Xiao Xu is a Lecturer at the University of New South Wales, Australia, and a Researcher with the Society of Actuaries Research Institute. Her research interests center around variable annuities, risk management, and artificial intelligence (AI) deep learning. Before joining UNSW in 2020, Xiao had years of industry work experience in life insurance, consulting business, and VC entrepreneurship. She completed her Ph.D. at UNSW, MSE at Johns Hopkins University, and BBA at the University of Wisconsin-Madison. Xiao holds several professional qualifications: Chartered Financial Analyst (2019), Chartered Accountant - Australia (2019), Fellow of the Institute of Actuaries of Australia (2018), Certified Public Accountant - USA (2018), Financial Risk Manager (2016), Fellow of Society of Actuaries (2015) and Chartered Enterprise Risk Analyst (2015).

Ann Ann Low
Senior Teaching Fellow
Sunway University

Ann Ann is a Senior Teaching Fellow in the Department of Applied Statistics at the School of Mathematical Sciences, Sunway University. She teaches Ratemaking and Loss Reserving for General Insurance and Big Data Technologies. She has also taught Survival Models and Underwriting Practice courses previously. As a passionate educator, she aims to bridge the gap between academics and the industry by her teaching innovation in helping students learn 21st-century skills.

Dumaria Rulina Tampubolon, MSc, PhD
A Faculty member of the Faculty of Mathematics and Natural Sciences (FMIPA)
Institut Teknologi Bandung Indonesia

From 1989 to present, Dumaria Rulina Tampubolon is a fulltime faculty member of the Faculty of Mathematics and Natural Sciences (FMIPA) at Institut Teknologi Bandung (ITB), Indonesia. She obtained her Doctor of Philosophy degree in Actuarial Studies from Macquarie University, Sydney, Australia; her Master of Science degree in Mathematics, majoring in Statistics, from Monash University, Melbourne, Australia; and her Sarjana degree in Mathematics from Institut Teknologi Bandung, Indonesia. Dr. Tampubolon's research interest is in General (Non-Life) Insurance, particularly in Earthquake (Re)Insurance. She co-supervised a PhD student; and supervised many students in writing their skripsi (final projects) and master's theses with topics in earthquake insurance; the estimation of the outstanding claims liability for a long tail general insurance business; and the application of generalized linear models in general insurance. From 2018 to present, Dr. Tampubolon is the Head of the Actuarial Science Division of the Indonesian Mathematical Society (IndoMS).

Since September 2020, Dr. Tampubolon is an Independent Commissioner at PT AXA Financial Indonesia; and since December 2019 she is an independent member of the Board of Risk Committee and of the Board of Audit and Compliance Committee at PT Mandiri AXA General Insurance. From 2011 to 2019, Dr. Tampubolon was an actuarial consultant at PT Reasuransi MAIPARK Indonesia on actuarial problems relating to earthquake insurance. Dr. Tampubolon was the Person in Charge at FMIPA ITB for the establishment and the implementation of the READI (Risk Management, Economic Sustainability, and Actuarial Science Development in Indonesia) Project, from November 2013 to February 2021. The READI Project was funded by the Canadian Government, Manulife Indonesia, and Sunlife Indonesia, and it is a cooperation between University of Waterloo, Canada, and 8 (eight) universities in Indonesia. Dr.

Tampubolon worked closely with colleagues from the Actuarial Science Department at the University of Waterloo, Canada and in the READI project's Industry-University Task Force, Dr. Tampubolon played a significant role in the Actuarial Science Applied Research Working Group and the Recruitment and Development of Actuarial Science Lecturers Working Group.

Josephine Linoto
Mathematics lecturer
Pelita Harapan University (UPH)

Josephine Linoto is currently a full-time Mathematics lecturer, specializing in Actuarial Science, at Pelita Harapan University (UPH), Indonesia. She gained her mathematics master's degree from the University of Waterloo, and she's particularly interested in the field of longevity. Ever since she was young, she always had a passion for teaching and often volunteered to teach less fortunate children through charity foundations.

Endar Hasafah Nugrahani
Lecturer
IPB University

Endar is a lecturer at the Department of Mathematics at IPB University in Indonesia. She received her MS Degree from Bogor Agricultural University and PhD degree from Universität des Saarlandes, Germany. Since 2018, Endar is the Head of the Department of Mathematics formerly the head of the Actuarial Sciences Study Program. She has attended several congresses locally and internationally and participated in IME Educational Workshop in Vienna.

Kie Van Ivanky Saputra
Lecturer
Universitas Pelita Harapan

Kie Van Ivanky Saputra is a lecturer from University Pelita Harapan, Indonesia. He was educated at the Institut Teknologi Bandung for his bachelor's degree and continued his education for a doctoral degree at La Trobe University in the field of Dynamical Systems. He has been working in many areas of mathematics

such as applied mathematics, actuarial science, and statistical education. His research and articles were published and presented in national and international forums.

He has received several fundings for his research and educational innovations. These include USAID award funding from the National Academy of Science and READI research fund from the Canadian Government. He is currently promoting ways to use simulation-based inference to enhance the statistical understanding of first-year university students.

Prashan Karunaratne, FHEA
Course Director, Bachelor of Commerce Senior Lecturer, Department of Actuarial Studies & Business Analytics
Macquarie University

Prashan Karunaratne is an inspirational and innovative senior lecturer at Macquarie University. His enthusiasm for teaching, and passion for improving student outcomes, have inspired and engaged tens of thousands of students for more than a decade.

He nurtures students to develop a desire to engage and is a firm believer that the learning journey can benefit both teachers and students. Inspiring students to want to learn – by emphasising the 'why' of learning, and empowering students to navigate their own learning journey – by focusing on the 'how', creates valuable experiences in his classroom and beyond. This highlights the 'wow' moments that students will remember in years to come. Prashan is the Course Director for the Bachelor of Commerce as well as the unit convenor of the Bachelor of Commerce Capstone unit – where students in mixed-major teams, across 12 majors (from Business Analytics to Finance, Marketing, and more), work towards addressing a United Nations Sustainable Development Goal – collaboratively, sustainably, and profitably - using the knowledge and skills of commerce and their major.

Kevin Liu, PhD
Senior Lecturer, Undergraduate Actuarial Program Coordinator
School of Risk and Actuarial Studies
University of New South Wales

Dr. Kevin Liu is the Undergraduate Program Coordinator of the School Risk and Actuarial Studies at the UNSW Business School. Kevin is a multi-award-winning educator who is committed to empowering students by developing inspirational learning experiences through the integration of a career-focused educational approach and innovative educational technologies. Kevin is the Deputy Director of the

UNSW Sandbox Program. He pioneered the StoryWall Formative Assessment Model, which has been adopted in over 40 courses at UNSW Business School to engages students as partners in co-creating authentic learning experiences and active online learning communities.

Koon-Shing Kwong, PhD, FSA, CERA
Education Professor of Statistics
Singapore Management University

Professor Kwong is a Professor of Statistics (Education) in School of Economics at Singapore Management University and is the Director of the Actuarial Science Program. He has published many Biostatistics articles in top-ranked statistics journals, such as *Statistics in Medicine*, *Biometrics* and *Statistical Methods in Medical Research*. His recent research focuses on retirement financing. He has more than twenty years of experience in teaching actuarial science and has earned several teaching excellence awards in his teaching career. He was awarded two professional qualifications: Chartered Enterprise Risk Analyst (CERA) in 2011 and Fellow of the Society of Actuaries (FSA) in 2013.

Jing Rong Goh, PhD, AFA
Assistant Professor of Economics (Practice)
Singapore Management University

Prof Goh is a passionate educator and teaches actuarial science, data science, financial mathematics, statistics, and econometrics at SMU. Prior to joining SMU, he also lectured part-time at Nanyang Technological University, Singapore University of Technology & Design, and SMU. In 2020, he was awarded the Outstanding Adjunct Faculty Award by SMU (1/185), as recognition of his dedication to delivering quality learning to the students. He is well-connected with the industry and volunteers actively on the Education and Career Committee of the Singapore Actuarial Society. He previously co-founded an insurtech startup that was acquired by an insurance broker and is now actively investing in and advising start-ups. He also sits on the board of a global boutique risk consultancy firm and plays a key role in setting up the Asia Pacific Headquarters. He is also the Co-PI for a MOE Tier 1 Research Grant that focuses on supporting Singaporean retirees to age with dignity. His research interests include Actuarial Science, Data Science, Blockchain, Trust Technology, Zero Knowledge Proofs, Economics of Philanthropy, Cyber Risks, Mortality

Risks, Green Financing, and Climate Risks. He obtained his Ph.D. and bachelor's from Nanyang Technological University in 2019 and 2016, respectively.

Ken Seng Tan ASA, CERA
President's Chair Professor in Actuarial Risk Management
Nanyang Technological University

Professor Ken Seng Tan is Deputy Division Head of Banking & Finance and Director of Insurance Risk and Finance Research Centre at the Nanyang Business School, Nanyang Technological University (NTU), Singapore. He is also the President's Chair Professor in Actuarial Risk Management and the elected Chair of the NTU's Eighth Senate. Formerly he was the Canada Research Chair Professor in Quantitative Risk Management at the University of Waterloo, Canada. Professor Tan is active in research, reforming education and strengthening the profession, including serving as the evaluation member of the Natural Sciences and Engineering Research Council of Canada Discovery Grant, elected council member for several Society of Actuaries sections, and the Chief Actuarial Advisor for "Risk Management, Economic Sustainability, and Actuarial Science Development in Indonesia," a government-to-government development project between Canada and Indonesia.

His research interests lie at the intersection of actuarial science, insurance, finance, mathematics, and statistics. Much of his work relates to the development and implementation of innovative approaches to risk management, (re)insurance, agricultural insurance, and computational finance.

Ciyu Nie (Jade), PhD, FIAA
Lecturer, Actuarial risk management
Nanyang Technological University

Ciyu Nie (Jade) is a qualified actuary from the Institute of Actuaries of Australia. She graduated from The University of Melbourne (Australia) with a PhD degree in Actuarial Science. Before joining NTU as a lecturer, Jade first worked in Ernst & Young (Shanghai) as an actuarial consultant, and later on worked with Alibaba Group as a data scientist. Her combined experiences in the insurance industry as well as the internet industry greatly inspired her interests in big data analytics and actuarial applications in non-traditional actuarial area. She is passionate about teaching and adopts an evolving/ innovative teaching approach. She focuses on practical applications and equips the students with

practical skills. She is now a faculty member of the Nanyang Business School and her current research focuses on risk modelling and data analytics.

Adam W. Shao, FSA
Senior Actuary, Biometric Risk Model
SCOR

Adam is a Biometric Risk Actuary at SCOR based in Singapore, and is teaching as a Part-time Lecturer at Nanyang Technological University. Adam has qualified as a Fellow of the Society of Actuaries (FSA) and received his PhD degree from the School of Risk and Actuarial Studies at the University of New South Wales in Australia.

Adam has 8+ years' experience in the actuarial field after obtaining a PhD degree, e.g. reinsurance, consulting and superannuation (pension) funds in Australia. Before joining SCOR Singapore, Adam was an R&D Actuary in Pacific Life Re, where he was responsible for developing terms-of-trade best estimate basis for mortality and morbidity, and for deriving business insights through data analytical projects.

Adam's research interests include critical illness, longevity risk, life-cycle models, pricing and risk analysis of retirement products (e.g., annuity, reverse mortgage, and long-term care insurance). He is active in academic and industry research, having published papers in top-tier actuarial journals and industry magazines. Adam has been actively engaged in teaching actuarial and risk courses as a part-time lecturer at many universities, such as NTU (Singapore), UNSW (Australia), and the University of Sydney (Australia).

Joey Zhou, MBA, FIA, FRM
Director of Business Management and Marketing
RGA

Joey has 15+ years of corporate experience with insurers and reinsurers. He received his risk management and actuarial training at the University of Melbourne and an M.B.A. from the National University of Singapore (NUS). He is a Fellow of the Institute of Actuaries (FIA) and a certified Financial Risk Manager (FRM). He also holds the Certificate of Climate Risk and Sustainability awarded by the Institute and Faculty of Actuaries (IFOA). He also has the Certificate of Public Health and Ageing awarded by the School of Public Health of NUS.

Joey is active in research and development in the actuarial community. He has served as a council member of the Singapore Actuarial Society since 2014. He chairs Singapore's Industry Mortality Study, a collaboration between the Singapore Actuarial Society and NTU. In addition, he serves as the deputy chair of the IFOA's Diabetes Research, a research project collaboration between the IFOA and the University of Leicester. He is the course facilitator of IFOA's Certificate of Climate Risk and Sustainability and a member of IFOA's Sustainability Board research working parties, co-chairing a research group focusing on carbon pricing.

Wai Sum Chan, PhD, FSA, CERA, HonFIA
Dean & Professor
The Hang Seng University of Hong Kong

Wai-Sum Chan, PhD (Temple), FSA, HonFIA, CERA, is Dean and Professor of Decision Sciences at The Hang Seng University of Hong Kong. Dr. Chan's research interests include stochastic modelling of actuarial assumptions and statistical applications to risk management. He received the Edward A Lew Research Award (second prize) in 2006 and was awarded the Inaugural Teaching Excellence Award by the National University of Singapore in 1992. He has published more than 120 academic papers in learned journals. Dr. Chan served as a member of both Research Executive Committee and Education Executive Committee of the Society of Actuaries (SOA) from 2012- 2018. He was appointed as a non-executive director of the Hong Kong Insurance Authority from 2015-2021.

Wittawat Kositwattanarerk
Assistant Professor
Mahidol University

Wittawat Kositwattanarerk received the B.A. degrees in mathematics and economics from the University of Virginia in 2006 and the Ph.D. degree in mathematical sciences from Clemson University in 2011. After his postdoctoral work at Nanyang Technological University, he joined the Department of Mathematics at Mahidol University as a faculty. His research interest is in algebraic coding

University Programs and Resources

University Program Resource: A Guide for University Actuarial Programs

This guide is designed to assist faculty at university actuarial programs who seek to provide high-quality, robust actuarial education for their students. It includes four principles that we believe are critical to a quality actuarial program and some recommendations for enhancing those areas. It also includes an overview of the Centers of Actuarial Excellence (CAE) program and a list of academic benefits for faculty members and PhD students. A digital version of the guide can be accessed at UniversityProgramResourceGuide.soa.org.

SOA Explorer Map

Find SOA members, actuarial employers, actuarial science programs at universities and colleges, actuarial clubs, and jobs and internships all in one place. SOA Explorer uses Google Maps™ technology allowing you to quickly search by location throughout the world. Check out the SOA Explorer Map at https://www.soa.org/resources/soa-explorer/.

SOA Student Research Case Study Challenge

Cases, data, and solutions for the case study challenge may be helpful as a resource for universities looking to develop case studies for coursework or projects. Check out the latest case study information at https://www.soa.org/research/opportunities/res-comp-award-list/.

SOA Faculty Community

The SOA Faculty Community is intended to be a place where faculty members from university/college actuarial programs can come together, share ideas, and learn about new ideas to support their programs. https://soa.wufoo.com/forms/soa-faculty-community/

SOA News and Announcements

Digital Networking

Discussion Board

Stay connected with the Society of Actuaries and actuarial educators from around the world. The SOA Faculty Community is an online discussion forum created **exclusively for university/college professors and other faculty** involved with actuarial science. Members are encouraged to **contribute to the community** by creating and commenting on posts. SOA staff posts content relevant to academics. Members may also advertise open actuarial positions with **free job postings**, direct **message** with other members of the community, and **upload documents** that they would like to share. Never miss a post with alerts sent right to your inbox.

Universities and Colleges with Actuarial Programs (UCAP)

The SOA listing of Universities and Colleges with Actuarial Programs serves as a resource for students looking for a university/college actuarial program.

Eligibility Requirements

UCAP–Introductory Curriculum (UCAP-IC): Must maintain course coverage for at least two SOA preliminary exams and have approved courses for at least one Validation by Educational Experience (VEE) topic area.

UCAP–Advanced Curriculum (UCAP-AC): Must maintain course coverage for at least four SOA preliminary exams with one of those being Exam LTAM or Exam STAM and approved courses for all VEE topic areas.

Centers of Actuarial Excellence (CAE): CAE must maintain eight specific requirements related to degree, curriculum, graduate count, faculty composition, graduate quality, appropriate academic integration, connection to industry, and research/scholarship.

CAE with University-Earned Credit (UEC) Status: The UEC program allows university students to become eligible for SOA exam credit by attaining a designated UEC mark on university courses at approved CAEs.

Benefits for all UCAP

Dedicated university profile page on the SOA website

Inclusion on the SOA Explorer map

Eligibility to apply for Educational Institution Grants

Email communication from the SOA

Alerts about opportunities only available to UCAPs

Notification of university networking events

Access to student exam and candidate data

Reimbursement Programs
(per year, for UCAP-AC and CAE only)

Reimbursement of 3 student exam fees

and
Support up to $500 USD for <u>one</u> of these:

Study Materials

On-Campus Event

Student Travel and Fees to Actuarial Conference

Interested in learning more? Visit www.soa.org/UCAP-List for more information and a link to the online application. Questions can be sent to UCAP@soa.org

Academic Benefits

Visit us at https://www.soa.org/education/resources/academic-initiatives/academic-benefits/ or contact Rachel Siegel, SOA Academic Administrator, at rsiegel@soa.org to learn more about any of the programs below. Eligibility requirements and restrictions vary by program.

Academic Exam Fee Reimbursement

This program was established to reduce the economic barrier for university and college faculty members and graduate Ph.D. students who may lack monetary support. The SOA will reimburse 80% of the select exam and assessment fees for successful full-time faculty members of accredited universities and colleges and full-time graduate students in Ph.D. programs.

Partial Waiver of SOA Meeting Fees

A partial waiver equal to 50 percent of the full SOA member registration fee for qualifying meetings is available for SOA members who are full-time academics, full-time faculty at CAE schools, active SOA Hickman Scholars, and credentialed Ph.D. candidates. Requests for partial fee waivers must be made at the time of registration.

Reimbursement for Travel & Meeting Participation

Reimbursement of travel expenses to individuals who meet eligibility requirements and participate in SOA meeting programs as panelists, moderators, or in comparable roles.

Reimbursement for Committee & Board Expenses

Reimbursement of travel expenses to individuals who meet eligibility requirements and participate in qualified SOA committee and board meetings.

Free SOA Job Center Postings

Fee waiver for use by universities to post openings for actuarial faculty positions on the SOA Job Center.

> ## Thank You!
> We are so glad that you could join us for the Actuarial Teaching Conference this year! Be sure to share your experiences, suggestions, and/or topic ideas for the next ATC by completing the online survey that will be sent following the event.

Notes

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