ASTIN is the worldwide forum for risk and actuarial professionals in the non-life insurance industry. Created as the first Section of the International Actuarial Association (IAA) in 1957, ASTIN stands for ‘ACTUARIAL STUDIES IN NON-LIFE INSURANCE’.

While adhering to the highest standards of the actuarial profession maintained by the IAA, ASTIN’s mission is to generate value for its members. This is achieved by helping them develop their professional skills. We also engage with academia and industry to drive innovation and promote meaningful, quality research in the field of economics and mathematics of non-life insurance, and their applications to quantitative risk management.

As a well-established global professional forum, we draw upon the values of the ASTIN brand. Our intellectual base and wealth of knowledge have been developed across decades and have resulted in ground-breaking research. In our quest for excellence, we consistently demonstrate an uncompromising pursuit of knowledge and understanding.

Our vision is for ASTIN to serve the non-life insurance industry globally by ensuring that our members are trusted to provide insight and find solutions to quantitative risk management issues, and hence in high demand for their valued professional skills and expertise.
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INTRODUCTION

Dear fellow ASTIN members,

Needless to say, 2020 was a special year. As some of us mourn for the friends or family they have lost, and as we all hope to soon recover a normality that now seems far away, the COVID-19 pandemic also dramatically thwarted our ambitious plans, as the unusual slimness of this report demonstrates. But it also forced us all to thread new paths: let us hope that some of them will improve us and our world!

In particular, upon postponing the CAS hosting our annual Colloquium in Orlando until May 2022, we are now improvising a fully online Colloquium, hosted virtually by several ASTIN Chapters. The task is daunting, and we are trying to find our way through a thicket of unknowns and uncertainties to design from scratch an event, which hopefully will be a worthy and gratifying experience for all our members and the worldwide actuarial community at large. Undoubtedly, there will be mishaps, and by the time you read these lines, you will probably have had a good laugh at the funny faces and perplexed utterings of the Colloquium hosts and organisers facing unexpected technical video conferencing challenges: currently I’m terrified, with only a small remote portion of my brain already looking forward to joining you in your amusement once the event is over…

Having said this, I would like to express my deep gratitude to the members of the ASTIN Board and the Secretariat, who these days are working overtime to make this online Colloquium happen, and who over the past few years have spared no effort to achieve and enhance ASTIN’s value propositions. And I also want to extend this gratitude to the volunteers who so enthusiastically assist the Board by (co-)chairing Committees. As a matter of fact, I feel privileged for the opportunity I have enjoyed over the past few years to work together with this passionate team!

As I write these lines, we are also running the next elections for the Board, and I cannot overemphasise my satisfaction at seeing that for two years in a row now, we have more candidates than open seats. I interpret this as your, the increasingly vibrant ASTIN membership, growing appetite to involve yourselves and fulfill ASTIN’s mission as a dynamic refinery of actuarial innovation.

Which brings me to my message to you: we value ASTIN’s bottom-up nature very much, and I am convinced that this is key to its success, but it requires a constant influx and renewal of ideas, inspirations and commitments from its members, to guide and assist the Board. Currently, four volunteers each (co-)chair a Board Committee, and in doing so they greatly alleviate the burden of the regular Board members. However, we much depend on keeping a constant influx of new volunteers, willing to (co-)chair a Committee (or even initiate a new one devoted to a new ASTIN activity!) and replenish our pool of prime candidates for the next Board elections. I therefore encourage all ASTIN members eager to engage in ASTIN’s mission and fearless of being empowered, to volunteer some of your time for our organisation!

Actuarially yours,

Frank CUYPERS,
ASTIN Chairman, April 2, 2021
Dear members and friends of ASTIN,

It’s a pleasure to present our 2020/2021 Annual Report as ASTIN secretary, a role I took over from Yuriy Krvavych who served for several years. On behalf of the ASTIN Board I would like to thank Yuriy for his constantly high-quality contribution.

It’s ongoing that COVID-19 causes a lot of restrictions on all of us but as vaccination has started, we can hope that more normality should be possible not too far in the future which would include face to face meetings especially our usual Colloquium.

As actuaries we are used to face risks and deal with them which enables us to help our business and the people to get through the current situation.

COVID-19 and its impact have shifted some weights in our activities, but we are proud that we nevertheless were able to drive a lot and push that forward.

Especially with respect to the situation we are in it’s even more important to provide value and service for our members.

Therefore eight webinars were offered/hosted regarding different topics.

Four working parties were active in 2020 and made their progress, two of them could even finalise their tasks, the other two are ongoing.

The ASTIN Academy was established which will more intensively bring together the perspective of practitioners and universities. We are very proud that we could win Jed Frees to contribute. Additionally, a new approach is about to be started regarding ASTIN industry/academia cooperation.

The ASTIN Masterclasses were delayed due to COVID-19 but we will continue on that promising way. The Expert Helpline needs to be developed further to fulfil our objectives.

All of that clearly demonstrates the broadening of our offer and deliver more support to our members in developing research and knowledge including its sharing.

After the successful Paris Colloquium last year, we will have another online Colloquium in May 2021 which will take place for a week. This is showing an intensified international presence of ASTIN as for this Colloquium the ASTIN Chapters of Denmark, Italy, Switzerland, France, Germany, Japan and US will contribute a program for a half day each.

It’s worthwhile to especially mention that the Japanese Chapter managed to get started in October 2020 in spite of the COVID environment. During that week we also expect the inauguration of the Finnish-Baltic Chapter.

The willingness of all Chapters to contribute is an excellent sign as it demonstrates that ASTIN is living not only on a global level but in quite a lot of communities as well which are connected to each other on top of that.

We also stepped forward in strengthening our communication with our members, stakeholders and towards the IAA. You can easily see that while checking our website and reading our annual reports and bimonthly newsletters.

Summing up we will continue to further rollout our five-year strategic plan which will generate more value for our members and improve our visibility as an organisation on an international level. I would like to thank all ASTIN members and colleagues on the Board for their contributions which enable all these initiatives and all progress on our way forward.

I am referring to this Annual Report for the details of what we’ve done and we will do in the next future and wish you maximum fun with reading.

Stay healthy and looking forward to meeting you all in our Orlando Colloquium next year.

Axel WOLFSTEIN,
Secretary, April 2, 2021
OUR MISSION AND VISION

ASTIN is the worldwide forum of risk and actuarial professionals of non-life insurance industry. ASTIN is the first and oldest section of the IAA. It was founded on October 16, 1957 in New York City.

While adhering to the highest standards of the actuarial profession maintained by the IAA, ASTIN’s mission is to generate value for its members. This is achieved by helping them develop their professional skills. We also engage with academia and industry to drive innovation and promote meaningful, quality research in the field of economics and mathematics of non-life insurance, and their applications to quantitative risk management.

Today, ASTIN has over 1,330 members in over 65 countries. ASTIN Colloquia are held each year and every four years in conjunction with International Congresses of Actuaries. Jointly with other IAA Sections, ASTIN publishes the ASTIN Bulletin — the internationally renowned, refereed scientific journal of the actuarial profession. ASTIN also organises working parties and webinars and provides training and bursaries to young researchers in developing economies. The newly introduced ASTIN research and educational platforms: Masterclasses and Expert Helpline, will play an important role in providing continuing professional development services to our members.

Our vision is for ASTIN to serve the non-life insurance industry globally by ensuring that our members are trusted to provide insight and find solutions to quantitative risk management issues, and hence in high demand for their valued professional skills and expertise.
RESEARCH AND DEVELOPMENT

ASTIN has identified and is currently focused on the five strategic areas of research and development outlined below. The research is conducted via ASTIN Working Parties (AWPs) and the results are published on the ASTIN website, and also presented at ASTIN webinars.

Each AWP is a self-organised group of risk and actuarial experts with a focused and applied research goal. The ASTIN Board provides support to AWPs by ensuring appropriate governance, adequate funding and access to the IAA infrastructure.

ASTIN also regularly organises various topical webinars which are used to share knowledge and expertise among ASTIN members and the wider non-actuarial community. Over the last six years, ASTIN has produced over 25 webinars.

For more details on ASTIN research and development please refer to Working Parties sub-section in this report or visit the ASTIN website.

1 - FINANCIAL STABILITY AND REGULATORY CHANGES

ASTIN focuses on the changing regulatory landscape and studies and how new changes may impact the insurance industry. The upcoming IFRS 17 Accounting Standard for insurance contracts is of particular interest. The Standard introduces significant changes to insurance reporting, impacting all insurers reporting under IFRS. The Standard applies separately to all insurance and reinsurance contracts and will take effect from January 1, 2023.

Over the past two years, ASTIN has completed two working parties on IFRS 17 with the objective of studying the impact of this new Standard on non-life insurers, products and markets.

2 - DATA SCIENCE IN INSURANCE

Developments in data science and technological advances in computing power have introduced a quantum leap in the quality of insurance analytics. They promote innovation in how risk is differentiated, products are designed and priced, and claims reserved and settled.

Over the past two years, ASTIN has successfully completed three working parties on Big Data and Insurance Analytics and also Machine Learning and Applications to Non-Life Reserving.

3 - CATASTROPHE RISK: NATURAL PERILS/CLIMATE CHANGE AND MAN-MADE DISASTERS

Over the past two decades, the trends in climate change have shown growing evidence of increasing frequency and intensity of extreme weather events. The damage caused by heatwaves, fires, floods, storms, earthquakes and other natural catastrophes has affected millions of lives and the economies of entire regions. Natural catastrophe modelling technologies have been used by insurers, reinsurers and capital markets for some time, to support strategic decision-making in risk taking, risk management and capital setting. It is important for the actuarial profession and, in particular, for non-life actuaries to understand how the existing natural catastrophe modelling technologies and methodologies should be adapted to allow for emerging trends in climate change and to be able to perform more forward-looking projections, rather than relying solely on historical data.

In addition to natural perils and climate change, man-made disasters are also of special interests. Specific hazards such as terrorism, nuclear/biological disasters and pandemics could present large systemic shocks. Therefore, new robust models are required to be developed to be able to adequately model the effects of these phenomena.

ASTIN plans to carry out research in this area and organise relevant working parties in the near future.

4 - CYBER RISK

Cyber risk is an emerging, expanding and fast-changing risk. It has evolved rapidly with technological advances and growing digitisation. Whilst cyber risk is yet to be fully studied and understood, it is already evident that the insurance industry is getting ready to deal with the complex systemic risk of cyber attack, given its highly pervasive nature, compounded by today's complex technological interconnectivity.

Last year, ASTIN launched its first working party on cyber risk and plans to carry out more research in this area in the future to study the phenomenon of cyber risk and develop efficient methodologies for quantifying it.

5 - INSURTECH

Rapid digitisation and technological advances are ushering in considerable changes to the insurance industry by allowing the use of big data and advanced analytics. The traditional insurance value chain is destined to be transformed as the result of increased use of more granular big data and predictive modelling, artificial intelligence and cognitive computing as well as the use of wearable devices and telematics, and smart utilities as well as the Internet of Things (IoT). As the new digitally oriented iGeneration enters the insurance market, insurers will have to offer products and services that suit their lifestyle and needs. They will also have to revolutionise the ways the risk is taken and managed to increase operational flexibility and enable more efficient use of capital.

ASTIN wants to play a key role in studying the potential impact of InsurTech on the insurance industry and deepen its understanding of how non-life actuaries should adapt to embrace these new changes. Over the past year, ASTIN has completed an AWP on Automated Cars and Insurance. This work was carried out in cooperation with lawyers from AIDA (International Insurance Law Association). ASTIN plans to conduct more research in this area in the future.
ASTIN OVERVIEW

ASTIN COLLOQUIA AND EVENTS

ASTIN colloquia are held annually. These are truly international events that are well-attended, attracting risk and actuarial professionals from all over the world. Bringing together academics and practitioners, the colloquia provide an ideal environment for continuing professional development through the exchange of knowledge and expertise among participants from different countries across a wide range of professional disciplines.

ASTIN colloquia encompass keynote speakers and invited lecturers, plenary sessions, parallel sessions, ‘practitioner corner’ panel discussions and actuarial workshops. All papers submitted are carefully pre-selected by the ASTIN Scientific Committee and distributed to all participants, in advance for prior reading, to enable more time to debate proposed ideas.

With the exception of the extraordinary years 2021 and 2022, ASTIN colloquia are organized in attractive and iconic locations which offer a friendly and collaborative atmosphere, conducive to creative stimulation in working sessions, as well as through both social and cultural activities.

To help promote the actuarial profession in actuarially emerging regions, ASTIN also organizes regional events, a mix of seminars and workshops, in conjunction with local actuarial associations and other Sections of the IAA.

In addition, ASTIN Chapters have been playing a significant role in promoting the actuarial profession locally. We will continue to expand and strengthen ASTIN’s presence at a regional level by reinforcing our ties with the existing ASTIN Chapters in Europe and Asia. And we are also establishing and developing links in those regions where ASTIN is not currently well represented.

ASTIN BULLETIN

The ASTIN Bulletin was established in 1958. Over the last six decades, the ASTIN Bulletin has been evolving and it is now widely regarded as the leading international refereed journal of the actuarial profession, covering the full breadth of practical and theoretical work in actuarial science.

EDUCATION AND CONTINUING PROFESSIONAL DEVELOPMENT

The newly introduced ASTIN research and educational platforms: ASTIN Masterclasses and Expert Helpline, will play an important role in providing continuing professional development services to our members.

ASTIN MASTERCLASSES

A series of online Masterclasses on a wide range of non-life insurance topics, given by pre-eminent figures in the actuarial profession and renowned authorities on risk and insurance. The online Masterclasses are designed for risk and actuarial professionals, ranging from analysts to C-suite executives. They will be fully interactive, providing ASTIN members with free access and covering key topics including financial stability and enterprise risk management, regulatory changes, data science and artificial intelligence in insurance, climate change and catastrophe risk, cyber risk, and InsurTech and disruptive technologies.

For more details on Masterclasses please see the ASTIN Masterclasses sub-section in this report.

EXPERT HELPLINE

ASTIN operates an open access online question and answer (Q&A) exchange platform for the global actuarial community. It is used to facilitate rapid worldwide dissemination of actuarial best practice by connecting actuarial practitioners and academics.

GRANTS AND ASSISTANCE

A proportion of ASTIN’s income has always been reserved for the development of actuarial science in actuarially emerging countries. ASTIN has donated 18 important actuarial textbooks to 120 universities and actuarial associations across emerging markets. The beneficiaries were also granted free access to the ASTIN Bulletin. ASTIN has also sponsored seminars in India, Croatia, Latvia, Poland, Zimbabwe, Chile, and Hong Kong.

ASTIN members have taught the principles of loss reserving, experience rating in motor insurance, financial economics in insurance, applications of stochastic processes, and stochastic models for life contingencies to actuarial students and practitioners.

Today, ASTIN continues to support actuarially emerging countries.
Dr. Frank CUYPERS
Chairman
Country: Switzerland
Qualification: PhD in Theoretical Physics; Fellow of German and Swiss Associations of Actuaries
Experience: Chief Actuary, Prime Re Solutions
Main areas of expertise: actuarial engineering

Michiel VAN DER WARDT
Vice-Chairman
Country: The Netherlands
Qualification: MSc in Actuarial Science; Fellow of the Actuarial Society of the Netherlands
Experience: Freelance Senior Non-Life Actuary and Risk Manager
Main areas of expertise: enterprise risk management, Solvency II

Axel WOLFSTEIN
Secretary
Country: Germany
Qualification: Dipl. Math., Aktuar DAV
Experience: Director of Pricing bei Verti Versicherung AG
Main areas of expertise: pricing, reserving, claims statistics

Eberhard MÜLLER
Treasurer
Country: Portugal
Qualification: Dipl. Math., Aktuar DAV, CERA
Experience: Managing Director, Riskmueller Consulting GmbH
Main areas of expertise: enterprise risk management, Solvency II, reinsurance

Dr. Agnieszka BERGEL
Chair Website Committee
Country: Portugal
Qualification: PhD in Actuarial Science; Fellow of the Portuguese and the Polish Institutes of Actuaries
Experience: Assistant Professor at ISEG, University of Lisbon
Main areas of expertise: risk theory, actuarial education

Miyuki EBISAKI
Chair ASTIN Academy
Country: Japan
Qualification: MBA; Fellow of the Institute of Actuaries of Japan, and Fellowship of the Chartered Institute of Insurance (UK)
Experience: Senior Research Officer - Sompo Research Institute Inc.
Main areas of expertise: product development, risk management, M&A

Bor HAREJ
Chair ASTIN Expert Helpline
Country: Slovenia
Qualification: BSc in Applied Mathematics; Fellow of the Slovenian and Swiss Actuarial Associations
Experience: Senior Actuary and Risk Manager
Main areas of expertise: actuarial engineering, Solvency II

Dr. Roger M. HAYNE
Chair Webinars Committee
Country: USA
Qualification: PhD in Mathematics; Fellow of the Casualty Actuarial Society; Member of the American Academy of Actuaries
Experience: Associate Adjunct Professor in the Department of Statistics and Applied Probability at the University of California, Santa Barbara
Main areas of expertise: reserving, risk management

Salma JAMAL
Chair Events Committee
Country: France
Qualification: MSc in Actuarial Science; Fellow of the French Institute of Actuaries
Experience: Manager, Milliman
Main areas of expertise: Solvency II, Capital Modelling, Non-Life reserving
ASTIN OVERVIEW

Pierre MIEHE
Chair, Social Media Committee
Country: France
Qualification: Certified Actuary (IA and CERA); Fellow of the French Institute of Actuaries
Experience: Director, Milliman
Main areas of expertise: non-life insurance pricing, reserving and risk modelling

Kirsten SASADY
Chair, Chapter Committee
Country: Denmark
Qualification: MSc in Actuarial Mathematics, Fellow of the Danish Actuarial Association, Chairperson of Danish ASTIN Chapter
Experience: Head of the Actuarial department @ AkademikerPension
Main areas of expertise: General Insurance, Pensions, Risk management, Solvency II, Leadership

Dr. Dimitri SEMENOVICH
Chair, Scientific Committee
Country: Australia
Qualification: PhD in Computer Science; Fellow of the Actuaries Institute (Australia)
Experience: Director of Analytics, Insurance Australia Group
Main areas of expertise: business analytics, mathematical optimisation, machine learning

Dr. Yuriy KRVAVYCH
Chair, ASTIN Masterclasses
Country: UK
Qualification: PhD in Mathematics (Kiev), PhD in Actuarial Studies (Sydney)
Experience: Managing Director, Guy Carpenter
Main areas of expertise: enterprise risk management, risk and capital modelling, Solvency II

Prof. Bernard WONG
Chair, Scientific Committee
Country: Australia
Qualification: PhD in Mathematical Sciences; Fellow of the Actuaries Institute (Australia)
Experience: Professor and Head of School, Risk and Actuarial Studies, UNSW Sydney
Main areas of expertise: actuarial risk modelling and optimal decision making

Bob CONGER
IAA Delegate, Chair, Governance Committee
Country: USA
Qualification: BA in Economics and Mathematics; Fellow of the Casualty Actuarial Society; Member of the American Academy of Actuaries
Experience: (retired) Principal, Towers Perrin
Main areas of expertise: Workers Compensation; Pricing, Loss Reserving, Capital Management; Mergers, Acquisitions, Demutualisations, and other complex transactions; Litigation Support and Expert Witness

William WEILAND
IAA Delegate, Chair, Members Committee
Country: Canada
Qualification: BSc, Fellow of the Canadian Institute of Actuaries; Fellow of the Casualty Actuarial Society
Experience: Principal, Eckler Ltd
Main areas of expertise: Reserving, Financial Condition Testing, Pricing, Expert Witness

Prof. Hans BÜHLMANN
Honorary Chairman
Country: Switzerland
Qualification: PhD in Mathematics; Fellow of the Swiss Association of Actuaries
Experience: Professor Emeritus, Swiss Federal Institute of Technology (ETH)
Main areas of expertise: risk theory, credibility theory, insurance mathematics

Prof. Jean LEMAIRE
Honorary Chairman
Country: USA
Qualification: PhD in Mathematics; Associate of the Society of Actuaries
Experience: Harry J. Loman Professor of Insurance and Risk Management and Director of the Actuarial Science Program of the Wharton School of the University of Pennsylvania
Main areas of expertise: mathematical statistics and probability, bonus-malus systems in automobile insurance

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ASTIN SECTION COORDINATORS

The IAA Secretariat coordinates the work of the ASTIN Section, providing administrative support to the ASTIN Board and members of the ASTIN Section.

Christian LEVAC  
the IAA Secretariat  
ASTIN Section Coordinator  
Director, Communications and Membership  
Email: christian.levac@actuaries.org

Juan LAVERDE  
the IAA Secretariat  
ASTIN Section Coordinator  
Administrative support  
Email: juan.laverde@actuaries.org

ASTIN SECTION VOLUNTEERS 2020/2021

We currently have five ASTIN Section volunteers:

Warda HADAOUI  
Chair Social Media Committee  
Country: Norway

Dr. Edwaed FREES  
Chair ASTIN Academy  
Country: USA

Brian A. FANNIN  
Chair Publications Committee  
Country: USA

Dr. Walther NEUHAUS  
Chair ASTIN Working Parties  
Country: Norway

Sarah KAESTEL-BJERG  
Chair Publications Committee  
Country: Denmark

Over the last year, our volunteers were instrumental in helping the ASTIN Board to run working parties, organise events and lead new initiatives.
HIGHLIGHTS 2020-2021

Launch of a new working party
Statistical Methods for the Derivation of Exposure Curves from First Principles
Project Leader: Pietro Parodi, SCOR (UK)
Project period: April 2020 – April 2021
Summary: In the paper Parodi, P. and Watson, P. (2019), Property Graphs — A Statistical Model for Fire and Explosion Losses Based on Graph Theory, ASTIN Bulletin, Vol 49 (2), pp. 263-297, authors argued that it is rare that the severity loss distribution for a specific line of business can be derived from first principles. In there, they presented a new approach to deriving a severity distribution for property losses based on modelling a property as a weighted graph. This approach generated a number of interesting results but also raised a number of questions that couldn’t be fully resolved without a substantial amount of further research.

Launch of a new working party
Forecast Verification in Insurance
Project Leader: Dimitri Semenovich, Insurance Australia Group (Australia)
Project period: May 2020 – May 2021
Summary: Much of actuarial work can in principle be described as making forecasts. Whereas traditional rate-making and reserving deal with point or deterministic forecasts, capital models, including stochastic reserving and premium principles, are primarily concerned with probabilistic forecasts in the form of distributions over future outcomes or their functionals. Empirical verification then emerges naturally as a central topic if one wishes to systematically assess quality of all such forecasts, including those where the forecaster has applied subjective judgement. The working party will review existing meteorology and statistics literature on empirical forecast verification and suggest methods that are most appropriate to the established areas of actuarial practice. Where possible this will also include suggestions for economic interpretation of such metrics.

Award of the Hachemeister Prize
The Hachemeister Prize was awarded to Ronald Richman for his paper titled “AI in Actuarial Science.”

New Zealand Society of Actuaries
On 30 July 2020 the New Zealand Society of Actuaries (NZSA) hosted a webinar on Modelling Tail Events presented by Dr. Frank Cuypers, ASTIN Chair.

ASTIN Webinars
• 16 July 2020 — Strategic Modelling and Scenario Planning by Carlos Fuentes (Mexico)
• 20 November 2020 — “Joint model prediction and application to individual-level loss reserving” by Peng Shi (USA)
• 1 December 2020 — “Revisiting the Methodology of Actuarial Science” by Craig Turnbull (Ireland). Panel discussion moderated by Dimitri Semenovich (Australia), featuring Andrew Smith (UK) and Jim Guszcza (USA)
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ASTIN KEY EVENTS

May 2020

• 27 May 2020 – Bayesian Claims Reserving Methods in Non-Life Insurance (Session I) by Glenn Meyers (USA)
• 1 June 2020 – Actuarial Modelling by David Wilkie (UK) and Stuart McDonald (UK)
• 10 June 2020 – Bayesian Claims Reserving Methods in Non-Life Insurance (Session II) by Glenn Meyers (USA)
• 24 June 2020 – Frequency Modelling of Cyber Risk by Alexandre Boumezoued (France)

ASTIN webinar
• 9 February - “AI in Actuarial Science” by Ron Richman (South Africa)

ASTIN Board changes
Last year, two Board members stepped down or were ineligible for re-election:
• Dieter Köhnlein (Germany)
• Kenji Shirai (Japan)
Subsequently, two new members were elected to the Board at ASTIN’s Annual General Meeting in May 2019:
• Miyuki Ebisaki
• Axel Wolfstein

We welcome new members onto the Board and wish them every success in their new role.
We say goodbye to outgoing members and thank them for their hard work.

ASTIN Webinars
• 27 May 2020 – Bayesian Claims Reserving Methods in Non-Life Insurance (Session I) by Glenn Meyers (USA)
• 1 June 2020 – Actuarial Modelling by David Wilkie (UK) and Stuart McDonald (UK)
• 10 June 2020 – Bayesian Claims Reserving Methods in Non-Life Insurance (Session II) by Glenn Meyers (USA)
• 24 June 2020 – Frequency Modelling of Cyber Risk by Alexandre Boumezoued (France)

A recording of each webinar alongside a PDF of the presentation can be found on the ASTIN website and are freely accessible to ASTIN members.

June 2020

ASTIN Webinars
• 27 May 2020 – Bayesian Claims Reserving Methods in Non-Life Insurance (Session I) by Glenn Meyers (USA)
• 1 June 2020 – Actuarial Modelling by David Wilkie (UK) and Stuart McDonald (UK)
• 10 June 2020 – Bayesian Claims Reserving Methods in Non-Life Insurance (Session II) by Glenn Meyers (USA)
• 24 June 2020 – Frequency Modelling of Cyber Risk by Alexandre Boumezoued (France)

A recording of each webinar alongside a PDF of the presentation can be found on the ASTIN website and are freely accessible to ASTIN members.

February 2021

2020 IAA Sections Virtual Colloquium

The 2020 IAA Sections Virtual Colloquium was held on 11–15 May 2020. It brought the actuarial world together for five days offering 80 pre-recorded high-quality presentations (30 under the ASTIN track), as well as interactive live online plenary sessions from IAA Sections with contributions from keynote speakers.

March 2021

Actuarial Pricing Game
ASTIN was one of several sponsors of an online insurance pricing game hosted on the AI Crowd platform. Participants used insurance claims data to build a pricing model to set premiums in a competitive market. Players competed against one another to win policyholders. Just as in the real world, it is possible to build market share by offering a lower price. However, success depends on making a profit which includes the cost of claims.
Today, ASTIN has over 1,330 members in over 65 countries. ASTIN Colloquia are held each year, every four years in conjunction with International Congresses of Actuaries. Jointly with other IAA Sections, three times per year, ASTIN publishes the ASTIN Bulletin – the internationally renowned, refereed scientific journal of the actuarial profession. ASTIN also organises working parties and webinars and provides training and bursaries to young researchers in developing economies.

For more information about our activities, please visit our ASTIN webpage on the IAA website

www.actuaries.org
The ASTIN Board encourages and supports applied research through its programme called ASTIN Working Parties (AWP). This involves a self-organised group of experts with a clearly defined scope of applied research that is expected to be completed within a reasonable timeframe. The research topics fall within the scope of non-life insurance. They are designed to be timely, practical and provide added value to the ASTIN membership. In addition to stimulating applied research, the AWP also aims to benefit from the intellectual calibre of ASTIN membership.

There are currently two ASTIN working parties actively in progress. These working parties will produce results to benefit non-life insurers in pricing, reserving, and risk management.

Copies of the reports of the completed projects are fully accessible to ASTIN members and can be downloaded from our ‘Working Parties’ webpage on the IAA website at www.actuaries.org (login required).

Both leadership or participation in an ASTIN Working Party is an excellent way to establish contacts with colleagues/peers, who have similar interests, as well as the opportunity to share and enhance your professional skills.

If you are interested in forming or joining a working party, please contact the AWP Coordinator at walther.neuhaus@alambraconsulting.com
In 2020, two working parties concluded their work, while two remain active.

**AGENT-BASED MODELS, NETWORKS AND CELLULAR AUTOMATA IN RISK MANAGEMENT**
Project Leader: Magda Schieg, HL Landshut (Germany)
Project period: November 2017 – August 2020
Summary: The main purpose of this Working Party was to study and describe models and methods in complex systems for measuring and managing risks. The group comprised of six members and presented a preliminary report at the ICA in Berlin in 2018. It has submitted the manuscript summarising the results of this research for publication in a refereed journal. The final report is available on the ASTIN website.

**IMPLICATIONS OF IFRS 17 ON NON-LIFE INSURERS, PRODUCTS AND MARKETS**
Project Leader: Walther Neuhaus (Norway)
Project period: October 2018 – December 2020
Summary: A joint Working Party between ASTIN and the GI Committee of the IAA. This Working Party had three complementary goals. First, to develop an inventory of the significant changes in financial reporting that non-life insurers are likely to encounter. Secondly, to consider the behavioural changes of rating agencies, analysts and other parties impacted by insurance. Also finally, to assess these impacts from an actuarial point of view. With 13 volunteer members from 11 countries, this group has identified significant areas that require deeper investigation such as the possible effects on premium setting, taxation and portfolio transfers. The initial results were presented at the IAA Section Colloquium in Cape Town in April 2019 – available on Actuview website at www.actuview.com.

**STATISTICAL METHODS FOR THE DERIVATION OF EXPOSURE CURVES FROM FIRST PRINCIPLES**
Project Leader: Pietro Parodi, SCOR (UK)
Project period: April 2020 – April 2021
Summary: The main objectives of this Working Party are to explore a) the connection between the property graph approach to exposure rating and percolation theory as well as epidemic theory; b) the relationship between existing exposure curves and the curves arising from graph theory; c) the relationship between the graph parameters and the shape of the exposure curves; d) whether fire propagation models developed by engineers can be used to derive exposure curves that are more realistic; and e) if the graph approach can be extended to other risks where contagion is possible. For a background reading see Parodi, P. and Watson, P. (2019), Property Graphs — A Statistical Model for Fire and Explosion Losses Based on Graph Theory, ASTIN Bulletin, Vol 49 (2), pp. 263-297.

**FORECAST VERIFICATION IN INSURANCE**
Project Leader: Dimitri Semenovich, Insurance Australia Group (Australia)
Project period: May 2020 – May 2021
Summary: A great deal of actuarial work can, after some reflection, be described as making forecasts. Whereas traditional rate-making and reserving deal with point or deterministic forecasts, capital models, including stochastic reserving and premium principles, are primarily concerned with probabilistic forecasts in the form of distributions over future outcomes or their functionals. Empirical verification then emerges to systematically assess quality of all such forecasts, including those where the forecaster has applied subjective judgement. The Working Party will review existing meteorology [Jolliffe and Stephenson, 2012] and statistics [Gneiting, 2008] literature on empirical forecast verification and suggest methods that are most appropriate to the established areas of actuarial practice. Where possible this will also include suggestions for economic interpretation of such metrics.


**ASTIN REGIONAL EVENTS**
ASTIN sees its core mission as being to provide practical research and education to benefit non-life actuaries around the world. This targets not only ASTIN members but also actuaries practicing in non-life insurance globally. In 2017 and 2018, ASTIN held a series of regional events in Central America - ASTIN Colloquium in Panama City in 2017, and also a Joint CAS-ASTIN Workshop in Jamaica and Joint One-Day AFIR-ASTIN Seminar in Mexico in 2018. These regional events offered innovative research presentations as well as introductory workshops aimed at assisting those in Central and South America gain a better understanding of non-life actuarial mathematics.

**TIME:** July 2020
**Event title:** New Zealand Society of Actuaries; Modelling Tail Events
**Event description:** The New Zealand Society of Actuaries hosted ASTIN Chair Dr. Frank Cuypers, for a 90-minute interactive seminar on Modeling Rare Tail Events, addressing:
- Rare events in the context of risk and solvency models
- Experience models of extreme events and their calibration
- Exposure models of extreme events and their validation
- Tail dependencies and their inference

The session included examples in Excel.
The 2020 IAA Section Colloquium took place virtually, between 11 May and 14 May 2020. This event was a collaboration between the French Actuarial Society (Institut des Actuaires) and the Sections of the International Actuarial Association (IAA).

While we are witnessing a rise in individualisation, the actuarial profession supports the general interest, the community and the world at large. We owe it to ourselves, as actuaries and risk specialists, to express ourselves, to make our voice heard. We can all contribute to change the status quo.

This was the aim of the Colloquium: to shed light on how actuarial science can bridge the gap between individual and collective choices. The theme of the Colloquium was “Individual choices facing societal challenges” (“Les choix individuels face aux défis sociétaux” in the original language).

This was an appropriate theme, given that we live in an eminently complex world where withdrawal sometimes seems to be the ultimate temptation to find the serenity to which we aspire.

In total, the Colloquium attracted over 1,400 attendees. 7 plenary sessions were held (1 per section + Institut des Actuaires) & over 80 articles were submitted.

Many Colloquium sessions were recorded as part of the agreement with Actuview. Recordings of Colloquium sessions are available to all ASTIN members for further viewing on the Actuview website at www.actuview.com. This enables a much wider audience globally to view the high-value content presented at the Colloquium and maintained this valuable knowledge/event in a sustainable manner.
ASTIN WEBINARS

ASTIN regularly organises its topical webinars jointly with the IAA Secretariat. They are used to share knowledge and expertise among ASTIN members and the wider non-actuarial community.

ASTIN webinars are accessible to all ASTIN members, free of charge.

OUR RECENT WEBINARS

Over the last year we have organised five webinars:

- 27 May 2020 – Bayesian Claims Reserving Methods In Non-Life Insurance Part I by Glenn Myers (USA)
- 1 June 2020 – Actuarial Modelling by David Wilkie (UK) and Stuart McDonald (UK)
- 10 June 2020 – Bayesian Claims Reserving Methods In Non-Life Insurance Part II by Glenn Myers (USA)
- 24 June 2020 – Frequency Modelling of Cyber Risk by Alexandre Boumezoued (France)
- 16 July 2020 – Strategic Modelling and Scenario Planning by Carlos Fuentes (Mexico)
- 20 November 2020 – Joint Model Prediction and Application to Individual-level Loss Reserving by Peng Shi (USA)
- December 2020 – Revisiting the Methodology of Actuarial Science by Craig Turnbull (Ireland). Panel discussion moderated by Dmitri Semenovich (Australia), featuring Andrew Smith (UK) and Jim Guszcza (USA)
- 10 February 2021 – AI in Actuarial Science by Ronald Richman (South Africa)

A recording of each webinar, along with a PDF copy of the presentation, can be found on the ASTIN website and are freely accessible to ASTIN members.

Efforts in early 2021 have focused on the Virtual Actuarial Colloquium with sessions spread over nearly a week in May and presented by local ASTIN Chapters. Rather than trying to compete with these webinar-like efforts we have elected to focus the scheduling for 2021 webinars for after the virtual colloquium.

In addition to these ASTIN webinars, we continue to explore opportunities to co-host webinars with the Casualty Actuarial Society (CAS). Although the CAS typically charges a separate fee for its webinars, it will again offer six in 2021, free for all members. These are at times and on subjects of particular interest to members outside of the United States. There are also opportunities for co-branding one or more of these webinars with ASTIN. In 2019, previous examples of collaboration included a webinar titled “Silicon Valley – Actuarial Style” (August) and one on IFRS 17 (April). We continue to look for further opportunities for such co-branding in 2021.

For more details about ASTIN webinars please refer to ‘Our Activities’ webpage on the ASTIN website.
EXECUTIVE SUMMARY

Among its recent initiatives, ASTIN plans to produce a series of online Masterclasses on a wide range of non-life insurance topics given by the eminent figures in the actuarial profession and renowned authorities on risk and insurance. The online Masterclasses are designed for risk and actuarial professionals, ranging from analysts to C-suite executives, and will be fully interactive, providing ASTIN members with free access and covering key topics of interest including financial stability and enterprise risk management, regulatory changes, data science and artificial intelligence in insurance, climate change and catastrophe risk, cyber risk, and InsurTech as well as the impact of disruptive technologies.

This initiative is being co-ordinated by Yuriy Kravych (ASTIN Secretary).

FORTHCOMING MASTERCLASSES IN 2021-2022

It was originally scheduled for the first half of 2020, however, due to the COVID-19 outbreak, it has been deferred until the world comes back to normal.

We plan to produce two yearly online Masterclasses during 2021-2022: 6-8 lessons (episodes) per class, each lesson of 15-20 minutes duration.

We will be providing further updates regarding this throughout the year.

Masterclass 1

Masterclass title: THE INSURANCE-RISK LANDSCAPE: AN ECLECTIC SURVEY
Lecturer: Michael R. Powers (China / USA)
Production period: TBC

Abstract

"The Insurance-Risk Landscape: An Eclectic Survey" is a Masterclass video series written and narrated by Professor Michael R. Powers of Tsinghua University. Through a collection of eight engaging episodes, Professor Powers navigates the metaphorical landscape formed by the many manifestations of insurance risk — from natural and man-made perils to insurance company insolvency. Along the way, he stops to explore some of the most intriguing twists and turns in the landscape, with an ability to make the complex simple, and the simple profound.

The eclectic choice of topics includes:
- the origins of insurance, with relevant insights for today’s markets;
- the roles of randomness, complexity, and uncertainty in generating losses;
- rationales for the most commonly used frequency and severity distributions;
- the interplay between hedging and diversification in risk finance;
- explanations (and common misconceptions) of insurability and underwriting criteria;
- the meaning and implications of heavy-tailed losses;
- the nature of the property-liability underwriting "cycle";
- the opposing effects of advancing technologies on insurance markets.

In discussing technical matters, Professor Powers prefers intuitive storytelling to excessive mathematical notation, without sacrificing intellectual substance. His thoughtful, yet fast-paced approach makes this online Masterclass accessible and entertaining viewing for both actuaries and experienced insurance professionals across the sector.

Episodes
1. The Many Meanings of Risk
2. Insurance and Human Society
3. The Nature and Origin of Insurance Losses
4. Modelling Insurance Losses
5. Financing Insurance Losses
6. Insurability and Underwriting
7. Catastrophes, Heavy Tails, and Insolvency
8. What the Future Holds
About the Lecturer

Michael R. Powers is the Zurich Insurance Group Professor of Finance at Tsinghua University’s School of Economics and Management. He also holds a joint appointment as Professor of Economics and Business at Tsinghua’s Schwarzman College. From 2012 to 2015, he served as chair of Tsinghua’s finance department — a unique assignment for a foreign academic in China.

Professor Powers was a 2011 recipient of the Qian Ren Ji Hua award, and in 2013 won the Kulp-Wright Book Award for Acts of God and Man: Ruminations on Risk and Insurance (2012, Columbia University Press), in which he proposes a new “science of risk”. He is co-editor of The Political Economy of Chinese Finance (2016), and provides regular business and economics commentary for China Radio International’s Today and BizToday programmes.

His research covers a variety of areas, including government regulation and public policy; applications of game theory in risk and insurance; mathematical models in enterprise risk management; and cultural attitudes and risk finance. He has edited two scholarly books — The Economics and Politics of Choice No-Fault Insurance and Global Risk Management: Financial, Operational, and Insurance Strategies. He also has published over eighty articles and book chapters, and received awards for outstanding research from the Journal of Risk and Insurance, the Risk and Insurance Management Society, and the International Insurance Society.

Professor Powers received his B.S. in applied mathematics from Yale University, and his Ph.D. in statistics from Harvard University.

Masterclass 2

Masterclass title: MODEL RISK MANAGEMENT — THE QUEST FOR A UNIFYING APPROACH
Lecturer: Andrew D. Smith (Ireland / UK)
Production period: TBC

Abstract

Modern financial businesses rely on thousands of models to support decision-making from pricing and reserving through risk and capital to management bonuses and shareholder decisions. These models sometimes fail. Forecasts prove to be inaccurate, or decisions supported by models may turn out to be unwise.

What can we do about this? We cannot eliminate the possibility that the future turns out differently to a model prediction. However, we can ensure that assurance we give on models is both truthful and statistically meaningful. We can reverse stress-test models by feeding them awkward simulated data until they fail. We can choose between harsh validation tests that reveal model weaknesses, or we can apply powerless validation methods where a green light is a foregone conclusion. We can/ must foster a culture where people who become aware of model shortcomings are heard rather than silenced.

This Masterclass uses a series of examples to highlight quantitative approaches to model risk management, using examples related to underwriting risk, stochastic reserving and the modelling of asset price changes. Andrew offers tips for actuaries pressurised into expressing undeserved confidence in risky models, together with tips better to support decision-making in the context of uncertainty.

Episodes
1. Introduction — Uses of models and where models go wrong
2. The nature of model risk
3. Application: underwriting risk models
4. Application: reserving risk
5. Ersatz model tests
6. Application: stock market returns
7. Professionalism
8. Conclusion

About the Lecturer

Andrew D. Smith is an assistant professor in the School of Mathematics and Statistics at University College Dublin (Ireland) and an Honorary Fellow of the Institute of Actuaries (UK). Before he moved to Ireland in 2017, he gained 30 years of insurance experience, specialising in stochastic modelling, including 15 years as a partner in a major global consulting firm.

Andrew is well known internationally for his portfolio of ground-breaking client assignments and extensive published research in the actuarial field. In 1996, he won the UK Institute of Actuaries’ prize for his paper How Actuaries can use Financial Economics, another prize in 2002 for his joint paper Corporate Bond Models, and a further prize for his joint 2004 paper The Cost of Capital for Financial Firms. His 2001 methodology for constructing risk-free yield curves has been adopted for the published yield curves under Solvency II. His joint paper Why financial firms can charge for diversifiable risk won a Casualty Actuarial Society prize in 2003 and underpins much of current thinking on risk margins. In 2008, the UK Institute of Actuaries awarded Andrew a Finlaison Medal, in recognition of Andrew’s contribution to actuarial science, also awarding a prize for his joint paper The Modelling of Extreme Market Events. Having represented the UK twice in the International Mathematical Olympiad, he graduated from Cambridge University in 1990, with a first-class degree in mathematics and a Master of Mathematics postgraduate degree.
As part of our strategy to expand and strengthen ASTIN's presence locally at the regional level, we continue build up our links with existing ASTIN Chapters in the Caucasus (Armenia, Azerbaijan, Georgia), Denmark, Germany, Italy, Japan and Switzerland. In addition, we are establishing and fostering new relationships in territories where ASTIN is not currently well represented. Last year, due to the pandemic, no new ASTIN Chapters were founded, but both France and the Baltic Region (Eastland, Finland, Latvia and Lithuania) are planning to create in 2021 their own respective ASTIN Chapters.

ASTIN member Kirsten Sasady (Chair of ASTIN Denmark and ASTIN Board member) drives the coordination between ASTIN and its Chapters.

This section presents profiles of existing six ASTIN Chapters. For more details about ASTIN Chapters please refer to ‘Our Activities’ web page on the ASTIN website.

**ARBEITSGRUPPE ASTIN, Swiss Association of Actuaries**

Chair: Ljudmila Bertschi

The Swiss ASTIN Chapter (called ‘Arbeitsgruppe ASTIN’) was founded on 15 October 1967, by the General Assembly of the Swiss Association of Actuaries in Bern. Originally, Professor Dr. Hans Ammeter wanted to make the annual meeting of the Swiss Association of Actuaries more attractive to its members. At that time, the Swiss Association of Actuaries already had two working parties, one on Personal Insurance and one on Data Processing. The foundation of the Swiss ASTIN Chapter then formed the third working party of the Association. Its first chair was Professor Dr. Hans Bühlmann. Since its foundation in 1967, the Swiss ASTIN Chapter has been organising scientific sessions annually during the annual meeting of the Association.

The Swiss ASTIN Chapter has become a very active working party on the scientific side, on the educational side and also on the professional side. It has been (co-)organising and hosting several international conferences:
- ASTIN Colloquium 1965 in Luzern (slightly before its foundation)
- International Congress of Actuaries 1980 in Zurich and Lausanne
- ASTIN Colloquium 1990 in Montreux
- ASTIN and AFIR Colloquia 2005 in Zurich
- Insurance Data Science Conference 2019 in Zurich

Many prominent members have been responsible for promoting the activities of the Swiss ASTIN Chapter, among them are Professor Dr. Hans Bühlmann, Professor Dr. Josef Kupper, Professor Dr. Hans Ammeter, Professor Dr. Erwin Straub, Dr. Fritz Bichsel, Professor Dr. Marc-Henri Amsler, Professor Dr. Hans-Ulrich Gerber, Professor Dr. Paul Embrechts, Professor Dr. Alois Gisler, Professor Dr. André Dubey, Dr. Hans Schmidter, Peter Diethelm and Dr. Benedetto Conti.

There have also been many influential contributions by members of the Swiss ASTIN Chapter in many fields of actuarial science. The Swiss ASTIN Chapter has formed the foundation of experience rating and credibility theory (Bühlmann, Straub, Bichsel and Gisler), it has played a fundamental role in the development of collective risk theory (Bühlmann, Gerber), and their members have written fundamental essays in the fields of reinsurance,
One small anecdote has been the development of the new tariff in 1970 for fire insurance in Switzerland. The working party aimed at developing a risk-based tariff accounting for differences between the different policies. Since data had been scarce, the working party derived a new tariff based on the methodology of credibility theory. At that time, the tariffs had to be approved by the Swiss national regulator. This regulator came, after a careful consideration, to the conclusion that the newly structured tariff was very “sophisticated”, however, it preferred a simpler method which required less mathematical skills.

Another example of the success of the Swiss ASTIN Chapter is that it has been a regular host of ASTIN Bulletin – The Journal of the IAA, which appeared for its first time in December 1958. We have chaired ASTIN Bulletin as Editor-in-Chief as follows:

- Professor Dr. Hans Ammeter (1960-1965)
- Professor Dr. Hans Bühlmann (1985-1995)
- Professor Dr. Paul Embrechts (1995-2005)
- Professor Dr. Mario Wüthrich (since 2018)

Going forward, our aim is to support the actuarial profession in all new (and present) developments. Currently, we have a strong focus on insurance data science and on the integration of computational and algorithmic methods into our profession. We therefore strongly engage in data science projects such as the newly founded Actuarial Data Science working party of the Swiss Association of Actuaries. The list of prominent speakers working in the non-life industry.

Chairs of the Swiss ASTIN Chapter:

- Professor Dr. Hans Bühlmann (1967-1970)
- Professor Dr. Josef Kupper (1971-1979)
- Dr. Fritz Bichsel (1979-1985)
- Professor Dr. Hans-Ulrich Gerber (1985-1989)
- Professor Dr. André Dubey (1989-2004)
- Dr. Hans Peter Boller (2004-2009)
- Dr. Benedetto Conti (2010-2015)
- Professor Dr. Mario Wüthrich (2016-2020)
- Ljudmila Bertschi (since 2020)

The German ASTIN Group was founded in 1979 by Professor Elmar Hetten and Jürgen Strauss, who later also became Chairman of the international ASTIN Section.

The group was a “spin-off” of the German Society of Insurance Mathematics (now DGVFM), hence the initial vision was clearly aimed at “scientificating” the non-life industry, or to put in the words of the founders: “to formulate quantitative problems in non-life insurance in a mathematical fashion by using and testing theoretical models, and to support the collaboration of mathematicians in Germany as well as in international circles”. Consequently, the group has always had two co-leads to cover both the academic and practical perspectives. Bringing these dimensions together remains our vision still today.

By 1991, the group had grown to around 80 regular participants when Thomas Mack and Professor Christian Hipp took over the leadership. They were also instrumental in establishing a professional educational system for actuarial practitioners in the 90s, and it was under their patronage that the German ASTIN Group became home for most mathematicians working in the non-life industry.
Den Danske ASTIN Forening, The Danish ASTIN Society

Chair: Kirsten Sasady

The Danish ASTIN Society was established in 1995 as a sub-division of the Danish Society of Actuaries. The association’s purpose is equivalent to the International ASTIN Association, helping to share knowledge about the use of actuarial methods in non-life insurance.

In Denmark, we feel a very specific connection to the International ASTIN Association and its establishment, since the Danish Actuarial Society. Denmark still has a tradition of having an actuary on the ASTIN Board and a considerable number of members. In reality, despite being a relatively small country, Danish actuaries currently form the largest group of members within ASTIN.

The Danish ASTIN Chapter has also been successful. It has evolved from being a small sub-division of the Actuarial Society to accounting for more than half of the Danish qualified actuaries as members.

The local association’s activities typically consist of two all-day events each year, where various interesting topics related to the non-life insurance business are discussed. The aim is to present agendas which include a mixture of current topical matters in the industry as well as more theoretical talks. We also endeavour to stimulate participants with presentations about new areas; they do not encounter within their day-to-day dealings but which nevertheless have an impact on their assignments. At our events, we also place great emphasis on the opportunities of networking which encourages participants to attend regularly.

The events, which are called “ASTIN-days” are frequently attended by more than 100 actuaries, which represents a significant proportion of the total of Danish actuaries working on general insurance.

In addition to the biannual events, the Association organises study groups on relevant topics in non-life insurance and contributes to the planning of further training of non-life insurance actuaries through cooperation with the education committee within the Danish Actuarial Society.

The Board of the Danish ASTIN Society is elected to office for one year, coinciding with the annual meeting, which is held in conjunction with the Spring ASTIN-day. In constituting the Board, an emphasis is placed on achieving a balance between both practitioners and members with a more theoretical background, and on members who are active within the actuarial society both locally and internationally. The latter is important to keep the Danish ASTIN at the forefront of the latest developments within the actuarial field and also to be able to attract interesting speakers from abroad through personal contacts.

Kirsten Sasady is the current chairperson, having been appointed in 2015.

ISOA, ITALIAN ASTIN Chapter

Chair: Giampaolo Crenca (ISOA) and Giovanni Sammartini (Ordine degli Attuari)

The Italian ASTIN Chapter was founded in 2019, with its inaugural - a Seminar (ASTIN/ISOA) held in Milan in May 2019.

ISOA is an Association established in Via delle Milizie 1, Rome. The founders were Istituto Italiano degli Attuari (scientific actuarial body) and the Actuarial National Board, public body that holds the official register (Albo) and chairs all the “Ordine degli Attuari”
ISOA is the Italian representative of the Italian ASTIN Chapter. It is the focal point for all the international links and activities and incorporates all the Italian Fully Qualified Actuaries enrolled in the register (Albo), according to the law of 1942. Under the supervision of the Ordine, as provided by the law, managed by the Actuarial National Board which is chaired by Giampaolo Crenca who is also the Chairman of ISOA.

Giampaolo Crenca and Giovanni Sammartini are the joint leaders of the group. Giovanni Sammartini is the co-ordinator of the non-life insurance committee inside the Ordine, a position he has held for many years. The members of this committee are Fully Qualified Actuaries enrolled in the official register who have considerable experience in many different fields of non-life insurance sector. In the last 15-20 years, this sector has expanded significantly as a consequence of Solvency II and continues to develop in all its aspects.

In particular, ISOA is supported by the National Actuarial Board and the organisation of the Ordine which includes a number of Committees and Working Groups. In addition, a Scientific inside the Ordine Committee has been very active, as well as supporting the work of the ISOA.

The new Chapter of ASTIN will serve as the main forum for the non-life actuarial community in the region which although a relatively recent development, has seen a rapid development of its insurance markets. Going forward, the Caucasus ASTIN Chapter aims to ensure regular actuarial professional exchange, to promote research and continuing professional development through regular meetings, conferences, workshops and training. Currently, we have a strong focus on the areas of claims reserving, risk-based pricing, reinsurance, solvency and quantitative risk management.

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The Caucasus ASTIN Chapter

Chair: Giorgi Abashidze (President, Association of Actuaries and Financial Analysts of Georgia), Gayane Arsenyan (The President, Actuarial Society of Armenia) and Dilara Asadova (Executive Director and Member of Board of the Actuarial Association of Azerbaijan)

The Caucasus ASTIN Chapter was founded on October 17-18, 2019 at the inaugural meeting of ASTIN Caucasus’ followed by the first regional ASTIN conference in Tbilisi/Georgia, with around 40 delegates attending from across the region. It was a historic event for non-life actuaries in the Caucasus region. The foundations of the Chapter are the recently formed constituent actuarial associations: Actuarial Association of Azerbaijan, Association of Actuaries and Financial Analysts of Georgia (AAFA) and Actuarial Society of Armenia.

The Japan ASTIN Chapter

Co-Chairs: Miyuki Ebisaki and Shigeo Watanabe

The Japanese ASTIN Chapter was formed on 31 October 2020. An inaugural ceremony was planned, however, it has been postponed to the future because of COVID-19. The Chapter is looking forward to welcoming global actuaries to Japan some day soon. Until then, the Japan Chapter is excited to host one of the Chapter events for the 2021 ASTIN Online Colloquium.
ASTIN continues to focus on research, innovations and initiatives that improve our services and add value to our members. This remains integral to our five-year budget plan, to which ASTIN has committed to increase its spending to support these activities.

In addition to ASTIN Masterclasses and ASTIN Chapters covered in the preceding sections of this report, other ongoing interesting initiatives include the following projects:

- Members’ outreach
- ASTIN Expert Helpline
- ASTIN Academy

It is worth noting that some good progress has been achieved with this plan in the last year.

**MEMBERS’ OUTREACH**

ASTIN continues to look to improve its policies and practices of engaging and communicating with its members, stakeholders within the IAA and also the wider community of risk and non-life insurance professionals outside the IAA. These are now much more transparent and effective. This is evident from the following results:

**ASTIN Annual Report and ASTIN Newsletter.** A formal Annual Report and a bimonthly newsletter were launched in June 2018. We continue to use these as an efficient communication media for sharing the information with ASTIN members and keeping them up to date with the latest developments including news and current affairs.

**Enhanced membership support.** Our membership support team, led by ASTIN Section Coordinators, Christian Levac and Juan Laverde, from the IAA Secretariat continue to provide an excellent support structure to ensure efficient communication with ASTIN membership.

**ASTIN EXPERT HELPLINE**

In April 2020, ASTIN launched Expert Helpline — an open access online question and answer (Q&A) exchange platform for the global actuarial community. The objective is to facilitate rapid worldwide dissemination of actuarial best practice by connecting actuarial practitioners and academics. Initially, the platform will be dedicated to actuarial practice in non-life insurance but could potentially be extended later to include other areas of actuarial practice.

The Q&A section will be available to all users, but only ASTIN members will be permitted to ask questions. The newly assigned “Pool of Experts” is designed to respond to online queries.
ASTIN ACADEMY

In support of actuarial aspects of the open education resource (OER) movement, the ASTIN Board has recently created the ASTIN Academy. Its purpose is best described by its mission statement (provided by ASTIN Board member Dimitri Semenovich):

“The mission of the ASTIN Academy is to provide high-quality free educational materials in non-life insurance to actuarial students across the world. The Academy is committed to open course development under Creative Commons licence and seeks innovation in teaching methodologies and application of technology. Let’s build the future of actuarial education together.”

How does this fit into the International Actuarial Association (IAA)? This question has been well answered by the ASTIN Board, reflected in presentations given by its chair, Frank Cuypers, at various ASTIN events. From my perspective, I think of this as consistent with the principle of subsidiarity that Hans Bühlmann discussed in his interview article. He said “The principle of subsidiarity states that in any social organisation decisions should be taken at the most immediate (lowest) level competent to take this decision. More directly: upper levels should only decide, where the competence of the lower level is lacking.” Applying this general principle to the educational content dilemma, my view is that it is consistent with the purpose of the IAA to provide educational content when none is available from local associations. And this is precisely where the ASTIN Academy fits in.

Pilot Project. The first project of the ASTIN Academy is to develop a short course based on the beginning chapters of Loss Data Analytics. This project is under the leadership of myself, ASTIN Board member Miyuki Ebisaki (Deloitte Touche Tohmatsu LLC), Paul Johnson (University of Wisconsin) and Yvonne Chueh (Central Washington University). We have the support of an additional 12 contributors from around the globe (including Australia, South Korea, Canada, and the U.S.). You can learn more about this project at our Short Course Development Strategy site.

The Role of R. The approach of our open textbooks and related short courses is to use R as an authoring environment. The statistical package R is widely used by the actuarial academic community and is finding greater acceptance in industry. By using this well-known tool, we can attract many potential creators of educational content from a wide spectrum. For this open educational content, we seek broad and diverse groups of both authors and learners.

PRIZES

Each year the Hachemeister prize is awarded to the best paper presented at the ASTIN Colloquium. The prize was established in 1993 in recognition of Charles A. Hachemeister’s many contributions to Actuarial Studies in Non-Life Insurance (ASTIN) and his efforts to establish a closer relationship between the Casualty Actuarial Society (CAS) and ASTIN.

The 2020 Hachemeister prize was awarded to the paper “AI in Actuarial Science”, by Ron Richman.

This research paper investigates how actuarial science may adapt and evolve in the coming years to incorporate new techniques and methodologies that fall under the headings of Artificial Intelligence, Machine Learning, and Deep Learning. The paper surveys emerging applications of artificial intelligence in actuarial science, with examples from mortality modelling, claims reserving, non-life pricing, and telematics, and then concludes with an outlook on the potential for actuaries to integrate deep learning into their actuarial work.

In awarding the prize, the CAS Hachemeister Committee believed it was impactful and valuable for actuaries because:

• the paper is a well-written survey of various artificial intelligence and machine learning methods that represent a new frontier for practising actuaries,
• several practical examples in multiple areas of actuarial science are presented, and
• to aid in understanding and application, the author has made the code for some of the examples available through his Github repository.

Overall, the committee believed this paper would be of interest to all actuaries, including practical uses and original thought, and is well written.

AWARDS

Each year, ASTIN provides the ‘ASTIN Best Paper Award’ to the best papers written and presented by actuarial researchers. This award is conducted in conjunction with the annual ASTIN Colloquium.

In 2020, 53 papers were submitted for this award. Peng Shi’s paper “Joint model prediction and application to individual-level loss reserving” was recognized as the best paper among all of those submitted. The paper deals with microlevel loss reserving which incorporates longitudinal payments of a claim into the intensity process of a claim settlement. In addition, the paper identifies scenarios where this model outperforms macrolevel reserving methods.
Overview

The special year 2020 has been a successful year for ASTIN Bulletin. Many things have developed in a favourable direction for our journal, we have observed increased quality in submitted papers, we have published three very interesting issues and, in general, our publications have received more attention, reflected in a positive development of our impact factor. In summary, ASTIN Bulletin is maintaining its position as the leading international actuarial journal with a bias towards more practically motivated and more statistically oriented research papers compared to some other actuarial journals.

Key Action Points

The initiative of making articles shorter, more concise and more attractive to readers is highly appreciated, and we continue to work on this point.

Our strategy of publishing data and computer code as supplementary material on our publisher’s website continues to receive special attention. Replicability of published results is a crucial point of the credibility of our journal.

The international publishing landscape is moving towards open access (OA), and there is increasing pressure to join this initiative. This raises some issues to be solved for our journal, since we are not a
purely academic journal, and OA regulation is mostly designed for an academic environment.

Editorial Board:
Maria de Lourdes Centeno and Gary Venter have decided to step down from our Editorial Board by the end of 2020 (due to their retirements). I would like to kindly thank them for serving for many years on the Editorial Board of ASTIN Bulletin, especially, for their time and efforts they have invested to make it an excellent and high-quality actuarial journal. I wish them all the best for their retirements!
At this time, I would also like to greatly thank all editors for their invaluable contribution to the success of ASTIN Bulletin. Moreover, I wish to sincerely thank all the anonymous referees, without whom the journal could not function. Last but not least, a great thank you to our journal manager Christian Levac who has been instrumental in running this journal so smoothly.

ASTIN Bulletin, Volume 50, 2020
In total, during 2020 we published 35 research articles, amounting to 1,122 pages. Volume 50 contains a good mixture of applied and theoretical papers over the actuarial research areas: ASTIN type – 11; AFIR-ERM type – 12; Life & Pension type – 12; Health type – 0.
The number of published articles is stable over the last three years. Note: the high number in 2018 is explained by the fact that our publisher Cambridge University Press changed the typesetter by the end of 2018. This required that the backlog of all accepted papers had to be published by the end of 2018.
The average length of the published articles is stable on a (slightly too) high level. We target for an average length of 30 pages. This pressure on authors ensures that articles are written in a concise and focused way.
The updated impact factor for 2020 is not available yet. This impact factor is determined from citations in 2020 referring to papers in 2019 and 2018. We are very pleased to see an increase in impact factor in 2019, which reduces the gap to our main peers.

Administration
The current administrative structure continues to work very well. Submissions are handled effectively on an online submissions system. At the point of acceptance our administrative officer, Christian Levac, acts as a liaison between the authors and the publisher, Cambridge University Press. The relationship with Cambridge is working well and we are pleased with the quality of their work. In December 2017, a 5-year contract extension has been signed with Cambridge. Cambridge provide us with a strong electronic presence and Section members can all log on through www.actuaries.org to access the most recent papers including papers that have been accepted but not yet published via their FirstView system.

Running Costs
The costs are shared equally between ASTIN, AFIR-ERM, IAALS and PBSS based on membership. These costs are offset by the royalties generated from the Bulletin sales, licensing and subscription income (individual or through consortia agreements).

Open Access (OA) and Plan S
Plan S is an initiative for Open Access (OA) publishing that was launched in September 2018. The plan is supported by cOALition S, an international consortium of research funding and performing organisations. Plan S requires that, from 2021, scientific publications that result from research funded by public grants must be published in compliant Open Access journals or platforms, see https://www.coaision-s.org/. To remain attractive for all authors we are considering joining this initiative, because otherwise authors funded by public bodies may no longer be able to publish in our journal. However, there are still some open points that are being discussed between Cambridge University Press, the ASTIN Bulletin Management Board (representatives of funding IAA sections) and the Editorial Board of ASTIN Bulletin. These discussions essentially concern (1) potential publications by authors who are not funded by public bodies like practitioners, and (2) disclosure requirements concerning the publication process. We expect to make a decision about next steps in 2021.

Outlook
We emphasise that ASTIN Bulletin is the preferred journal for actuarial research. Our publications have a clear actuarial focus presenting interesting statistical work with a practical relevance. We continue our initiative of making our publications shorter, more concise and more attractive to readers.
ASTIN Bulletin plays a key role in the area of data analytics and machine learning for insurance. We continue to recommend the use of data analytics and machine learning in insurance. We continue to encourage authors to provide us with code and data as supplementary material. The goal is to make this available to our readers, so that they can replicate published results more easily.

We aim at increasing the visibility of our publications, in particular, we try to increase publication of articles that produce high attention and citations.

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ASTIN has a long history. From simple beginnings in ratemaking, to the task of loss reserving, the group has evolved over many years to handle the problem of risk theory and risk management. ASTIN practitioners continue to tackle current and emerging issues like machine learning and artificial intelligence in actuarial applications.

These achievements are often driven by prominent figures, who break new ground in practice areas and move the profession forward. These advancements rest on the foundations of classical risk theory, those who founded ASTIN, and those who further developed its intellectual base.

This Annual Report includes guest editorials by three ASTIN prominent figures: Jed Frees of the United States, Stéphane Loisel of France, and Frieder Knüpling of Germany.

All three reflect on ASTIN's past, present and future.
INTRODUCTION

This is the third year of the series “Talking with Prominent Figures” which is designed to reflect on ASTIN’s past, present and future. In preparing for this article, I re-read earlier contributions from Hans Bühlmann, Hans Gerber, Jean Lemaire, Greg Taylor, Thomas Mack, Chris Daykin, and Paul Embrechts. They provide insightful perspectives on the development of our profession through the ASTIN lens.

Compared to them, my connection with ASTIN has been more recent. I published my first ASTIN Bulletin paper in 1986. (Like others of my generation, it was on ruin probabilities. Unlike others, I used simulation techniques.) In that same year, I participated in an ASTIN-related event, the “First International Conference on Insurance Solvency”. This conference was mentioned as historically prominent by Greg Taylor in his interview article. Further, if you take a look at Chris Daykin’s article, you will see me in the third row of the second figure. I am the one without a tie.

In this series, the reflections on the past are masterful. I encourage readers of this article to spend time looking them over. Because they have been done so well, instead of discussing the past I will focus on the future. In particular, I want to describe ways that we can all be involved in educating future actuaries.

MY BACKGROUND AS AN EDUCATION ACTUARY

To understand my perspective on education, I first summarise my own background. I started my actuarial career working in industry for a few years (with consulting firms in Seattle and Wellington, New Zealand, as well as the Government Actuaries Department in London). However, I soon moved to academia where I recently retired from the University of Wisconsin (UW) at Madison after 35 years of service. At research institutions like UW-Madison, faculty focus on knowledge creation as well as knowledge dissemination. Some of my research contributions have been recently summarised in an interview article “Insurance applications of dependence modeling.”

This article is instead about knowledge dissemination. At UW, I had opportunities to teach at all levels, including undergraduate, masters, and doctoral classes. See Figure 1 for me with some of my former PhD students at my retirement event. Moreover, I have had opportunities to be involved in basic and continuing education initiatives for professional actuarial associations (for me, this is the Society of Actuaries and the Casualty Actuarial Society) as well as delivering short courses throughout the world. As examples, see Figures 2 and 3.

ACTUARIAL EDUCATION

There is little disagreement on the value of education to the actuarial profession. Education is the lifeblood of any profession, particularly one that aspires to comprise the “leading quantitative professional advisers in financial services, risk management and social protection . . .” (from the vision statement of the Actuarial Association of Europe).
Delivery. However, there is substantial disagreement (or simply differences) on the methods of delivering an actuarial curriculum. For example, in his article Paul Embrechts distinguishes between two main delivery styles, a university-based system adopted by much of continental Europe and a system driven by professional associations that is utilised in the Commonwealth countries and North America, among other jurisdictions. Even within each group there is substantial heterogeneity among countries; differences in approach depend on the size of the marketplace and economy, regulatory involvement, the extent of actuarial traditions, and so on.

Certification. Much of the discussion of actuarial education by associations focuses on standards for certifying one to become an actuary (or some other “para-actuary” type of status). Discussions of standards are important for public acceptance of a profession. These discussions are complicated by differing views on:

- whether the actuary should be broadly trained or deeply educated in specialised areas
- whether the training should focus on the current needs of insurance companies, within the current technology and business environment, or should emphasise training to provide lifelong skills that enable students to adapt to future developments and environments
- whether the level of training should be attuned to the resources and sophistication of a country/marketplace/jurisdiction or should be universally consistent across domains.

Regardless of one’s views on these and many other complicating issues, all discussants agree that certification standards are critical to the viability of the actuarial profession.

Content development. Certification standards are different from delivery of education. On the one hand, standards can provide motivation for students to learn. For many, the goal of becoming a member of an actuarial association (often recognised as an “Associate” or a “Fellow”) signals years of learning. On the other hand, we need to recognise that, although necessary, our standards can impede the delivery of education. For example, we are all familiar with the approach of the “student studying for the test”; that is, a focus on meeting a standard at the expense of developing a deeper (and longer lasting) appreciation of a topic.

Less visible, and the subject of this article, is how standards impede the development of educational content. As an example, I have had discussions with many academic colleagues who are contemplating writing a book on a topic that they feel would benefit the profession. However, they are reluctant to do so without an assurance that the book would be adopted by a professional association, understanding that there will be little marketplace for a book that does not have this certificate of approval.

Should professional associations be the primary developer of educational content? There are certainly arguments for this position, for example, keeping the content attuned to the certification standards. This is the position largely adopted by the Institute and Faculty of Actuaries. From my perspective, this is not an approach that is viable for the profession globally.

Figure 1. 2018 Frees Retirement Workshop. Pictured with Jed are many of his former doctoral students. From left to right, Jiafeng Sun, Emiliano Valdez, Lu Yang, Ping Wang, Jed, Yu (Jack) Luo, Gee Lee, Jie Gao, Peng Shi, Xiaoli Jin.

Figure 2. Teaching a short course at IFAGE (Institut interafricain de formation en assurance et en gestion des entreprises), 2019, in Dakar, Senegal. Pictured with Jed are students and fellow faculty, Rokhya Faté (second from left) and Rokhya Kandji (second from right).

Figure 3. Teaching a short course at READI (Risk Management, Economic Sustainability and Actuarial Science Development in Indonesia), 2018, in Belitung, Indonesia. Pictured here are Jed with short course students who are at actuarial faculty in Indonesia.
An alternative is to let the marketplace (through publishing houses) determine available content, as is done in sister professions such as accounting. However, accounting enjoys economies of scale in that major publishing houses are willing to develop alternative resources and delivery approaches because of the size of the marketplace. In contrast, the relatively small actuarial profession does not have this marketing clout.

There is much excellent educational content made available by both professional associations and publishing houses. However, almost by definition, their content is inevitably directed towards their current and prospective constituents. So, for many small universities or actuarial associations outside of Europe and North America, the only content that their students can get is not developed with them in mind (and it is expensive). What is lacking is content that is readily available on a global basis, particularly for local economies that do not have the capacity to develop it themselves. This lack of educational content has been a problem with the actuarial profession for years (at least the four decades in which I have been an active participant). Fortunately, new alternatives due to the internet and our world connectivity.

OPEN EDUCATIONAL RESOURCES

In our connected world, the public is becoming familiar with educational resources that are open (and free) to all. As an example that most readers are familiar with, think of Wikipedia, a type of online encyclopædia. As other examples, there are many online courses that allow us to learn computing and natural languages. To illustrate, I learn about new ways of computing through Code Academy and Datacamp and develop foreign language skills through Duolingo, all for free.

These are examples of open educational resources. The theory underlying an open education resource (OER) is that education is a public good and that openness can have a strong, positive effect in education. In addition to open encyclopædias, there are many other learning support resources including textbooks, courses, interactive games and simulations, feedback on questions through intelligent tutoring systems, and the like. An OER may range from a simple .pdf homework assignment to a full-scale online course.

Naturally, OERs are receiving substantial attention from the education community. For more about the theory and additional references, see for example, the Open Actuarial Textbooks Project Site. The COVID pandemic that began in 2020 has been an incredible burden on our global society. One silver lining of this very dark cloud is that distance learning induced by the pandemic has forced academic institutions to become familiar with more technology enhanced educational tools that may benefit society in the long run.

Building a Library. One can think of developing educational content as building a repository, or “library,” of knowledge. As an actuarial example, now available is the first version of an open textbook Loss Data Analytics. This book was built by a team; we have 19 authors from seven countries as well as approximately 50 reviewers. Loss Data Analytics is an interactive, online, and freely available.

- The online version contains many interactive objects (quizzes, computer demonstrations, interactive graphs, and the like) to promote deeper learning.
- A subset of the book is available for offline reading in .pdf and EPUB formats.

ASTIN ACADEMY

More information about the ASTIN Academy may be found in the ACTIVITIES section.

HOW YOU CAN HELP

Many will remember the (bad old) days before open statistical software such as R was available. In academia, the availability of free open software has transformed the way that we teach and do research. Will the same be said of textbooks in the future? Even more intriguing is the opportunity to utilise technology enhanced learning tools in our classes. Perhaps the most compelling aspect is to provide these resources globally where alternatives are not available.

Although the R core was developed by a small group of dedicated individuals, it is now maintained and developed by a wide community. It is not the same as crowd-sourcing where the wisdom of the collective rules. Nonetheless, it is far from having a single author, or small group, write the code. In the same way, we are hopeful to have many people from a wide spectrum contribute open educational resources.

What types of contributions do we seek? How can you help? Let me respond to this by summarising a number of other efforts currently underway or contemplated:

Translations. ¿Hablas español? For Spanish-speaking students, six chapters of Loss Data Analytics have been translated by the actuarial group at the Universitat de Barcelona. Clearly, as with many other OER resources, much of the (freely available) base work could be translated.

Alternative Software. A small team (Kenny Wunder, University of Alabama, Frank Quan, University of Illinois at Urbana-Champaign) is seeking to supplement the R code in Loss Data Analytics with Python code.

Other Textbooks. A small team (Val Asimit, City University of London, Dani Bauer, University of Wisconsin, Adam Butt, Australian National University, Emiliano Valdez, University of Connecticut) is developing a framework for a life contingencies textbook.

Case Studies. The work so far has been on relatively low-level technical aspects that form the foundation of our profession. Another next step will be to include case studies to demonstrate the impact of the mathematical approaches being presented.

This is an exciting time in actuarial education. For decades, teaching meant getting your fingers dirty with chalk from writing on blackboards while reading from faded, yellowish lecture notes. Now, education initiatives invite creative approaches and have a similar thrill as when one does research. It is all about discovering new things. For those interested in contributing, contact me and Miyuki Ebisaki in our roles as caretakers of the ASTIN Academy.

Edward (Ted) FRees, jfrees@bus.wisc.edu
Miyuki EBISAKI, mebisaki.astin@gmail.com
Stéphane LOISEL

Stéphane Loisel holds a PhD in applied mathematics from University of Lyon, a MSc in actuarial science and finance, and is a fellow and former member of the board of the Institut des Actuaires. He is now full professor and head of LSAF research lab at ISFA, Université Lyon 1.

He was visiting professor at ORIE, Cornell University in 2014 and has been lecturing for several years in Université Paris 6 and ENSAE. Associate Editor of IME, MCAP, Risks and co-editor of EAJ, Stéphane’s main research interests include ruin theory with dependent risks, Solvency II, regulation and ERM, as well as longevity risk and customer behaviour in insurance. Stéphane was the coordinator of the ANR research project LoLitA (Longevity with Lifestyle Adjustments).

He is the PI of an AXA Joint Research Initiative on longevity risk and of the research chair Actuariat Durable sponsored by Milliman Paris. Stéphane is a member of the steering committee of the BNP Paribas Cardif DAMI Research Chair.

He received the SCOR PhD award in 2005, the Lloyd’s Science of Risk runner-up prize in 2011 and the Hachemeister prize in 2013. CERA, Stéphane is also the scientific director of the French CERA programme. He is a board member of Axeria Prevoyance, and member of the Validation Advisory Committee of SCOR.

MY BEST ASTIN MEMORIES

My best ASTIN memories correspond to great moments spent with colleagues and friends during the ASTIN conferences I had the pleasure to attend. Each and every ASTIN Colloquium I took part in combined strong scientific content and valuable research and practice interactions with friendship and wonderful activities and excursions.

My first ASTIN Colloquium was held in Zurich in 2005. It was the opportunity for me to confront my research-oriented point of view with practitioners and peers. In particular, I had the pleasure to meet Shaun Wang and to discuss the founding of ERM-II (Enterprise Risk Management Institute, International), a former not-for-profit association of universities and actuarial bodies, which could be seen as an ancestor of what the CERA association could become. I remember a wonderful excursion on the Luzern lake involving wine tasting, an experience which continued during the bus drive back to the hotels each time there was a tunnel (and there are many tunnels in Switzerland!). My Belgian friends were clearly in charge of the entertainment. My friend Marc Henry (see Figure 1) even took care of the mike after the gala dinner. His unofficial ASTIN Colloquium reports are available upon request.

Every four years, the ASTIN Colloquium teams up with the other section conferences to become the International Congress of Actuaries. If I had to choose two of those, I would pick the one in Paris (2006) and the one in Cape Town (2010).

As a young researcher, it would not have been possible to take part in the very expensive gala dinner of ICA 2006, held in the Orangerie of Versailles Castle. Professor Chevallier could not come to the dinner and gave me his ticket. I am highly indebted to him for his gift, which enabled me to have a wonderful time with dear friends and colleagues.
me to enjoy with Paul Embrechts and his wife the Galerie des Glaces without any tourists and the Grandes Eaux fireworks and water show (as well as the rest of the night rue Mouffetard). South African organisers impressed us from the beginning to the end, starting with a splendid reception in the local White House and including tours on Table Mountains and in the Stellenbosch wineries.

In Orlando (2007), I remember seeing the same Belgian team members as in the Zurich bus wearing business attire over their swimming suit in order not to lose time from the parallel sessions to the swimming pool. Mexico (2012) was a special one for me, as I received the best paper award and, later on, the Hackemerste prize for our paper with Hansjoerg Albrecher and Christophe Dutang. As it was joint with AFIR conference, it was also a great opportunity to learn from our Mexican colleagues how to organise the event in a very warm and welcoming way, as we were about to host the AFIR/LIFE/PBSS event in Lyon the year after.

Lisbon (2016) and Panama (2017) were a story of glasses for me. I had the honour to be an invited speaker in Lisbon, and I gave my talk while wearing ridiculous yellow glasses with blue filters (see Figure 2). This caused me a lot of trouble, because I was completely unable to identify colours in the drawings that I had made on the whiteboard. The organisers of the Panama conference deserve the award for the best party. Thanks to their performers and accessories made available to the participants (see Figure 3), nobody avoided the dance floor. The excursion to Panama Canal was very interesting and so was the additional tour organised by Andrée Gluyas after the conference.

My best ASTIN memories also include reading great articles in the ASTIN Bulletin, a journal that has always been part of the top 3 publications in actuarial journals, together with Insurance: Mathematics and Economics and Scandinavian Actuarial Journal.

ASTIN also involves local Chapters. I had the pleasure to give a talk at the very lively Danish ASTIN Chapter and I thank Kirsten Sassady for the invitation.

**MY MAIN CURRENT RESEARCH FOCUS: RUIN THEORY TAKES REVENGE.**

Poor ruin theory has had difficult times recently. After the pioneering work of Cramer and Lundberg, ruin theory was at the source of some solvency regulations, particularly in Scandinavian countries. But for the past few decades, it is seen by actuaries more and more as a purely theoretical research field, disconnected from practice. Solvency II has not helped, as the one-year time horizon became the new standard, with companies stopping to implement their long-term economic capital, sacrificed on the altar of the short-term. Even if ruin theory can bring some interesting insight for the ORSA exercise when one looks at multi-period risk management, it remains far from standard practice. Some actuarial bodies have even removed it from their syllabus. Some of my PhD students explicitly asked not to deal with ruin theory during their PhD. Ruin theory seemed more and more isolated.

And then... actuaries become more interested in monitoring their actuarial assumptions. For example, regarding claim frequency, one wants to check that there is not a change in the average number of claims per unit of time. This question is known in the literature as sequential testing or the quickest detection problem. A classical way to check whether there is a change is to compute the log-likelihood ratio, comparing the likelihood of the initial model with one of an alternate model in which the frequency is higher. It turns out that if claims occur following a Poisson process, this log-likelihood process behaves like a dual ruin model (with negative drift and upward jumps). It is also possible to prove (see El Karoui, Loisel and Sahi, 2017 and the webpage of the Actuarium Durable research initiative funded by Milliman Paris) that the optimal monitoring strategy involves the hitting time of an upper barrier for a version of this process that is reflected at zero (the process in red in Figure 6). Mathematically, thanks to a more affine change of variable, this corresponds to the ruin time of a ruin process with some horizontal dividend barrier. In addition, in order to compute the expected time up to detection or up to false alarm, one needs to use martingale methods of ruin theory.

Ruin theory is back in the game, with concrete applications to a problem motivated by the industry, both in general insurance and “non-general insurance” (aka life insurance). Currently, with my colleagues, we are combining ruin theory with machine learning algorithms to design multi-source detection algorithms (for example to detect a change in claim frequency in at least one policyholder class among n classes).
THE FUTURE OF ASTIN

For me ASTIN is like one of the two cars of the exercise. With respect to analytics, it must not stand still, otherwise it might be nibbled by the other sections and by statistical societies just like the first vehicle A. Many actuarial tools and models are now common to very different lines of business. Quickest detection tools are just one example, but one may think of machine learning techniques, Hawkes processes or correlation models. I believe that ASTIN members could apply graph theory and random maps to actuarial science, both for cyber risk modelling like my colleague Nabil Kazi-Tani and to explore sources of correlations. I also believe that ASTIN members should investigate cyber risk and space insurance which are going to develop in the next few years. Following our new research project (the BNP Paribas Cardif NINA research chair), actuaries should pay more attention to communication challenges around risk and actuarial science, as well as insurance in general. I think that they should complement statistics with imagination, with a “what could go wrong” approach, particularly for cyber risk, as we saw attacks against oil drills, public water treatment plants, as well as cases where the hackers use a respected institution to broadcast the worm they previously inserted in the official software update. Eventually, as in our Dialogue research chair funded by CNP Assurances, ASTIN members should not behave like the second vehicle B. Climate change is going to hit us, just as the bridge was about to hit the boat trailed by this car in front of the second vehicle A. Some actuarial associations and regulators initiated stress tests or developed scenarios for the insurance industry. ASTIN members have a role to play both in terms of modelling but also taking part into the effort of finding solutions and mitigation initiatives that the insurance sector could implement.

ANSWERS TO THE PUZZLE

The first car (the one of my neighbours) was nibbled by a horse (see Figure 8). The second car (which belongs to the wife of applied probability researcher John Nolan) was damaged by a boat which unloaded from the trailer of another car on the highway when hitting a bridge.

Figure 6: Cumulated number of claims (black) and associated monitoring process (red).
Enterprise Risk Management has come a long way since the early 2000s, when the International Association of Insurance Supervisors first documented an approach to the rating of an insurer based on its unique risks. Following the introduction of Solvency II, the (re)insurance industry has now universally accepted the use of enterprise-wide risk models, in addition to other tools and frameworks in an integrated enterprise risk management system. This ensures that, as (re)insurers, we can fulfill our role of facilitating economic and societal resilience to major events. However, COVID-19 has reminded risk managers of the need to remain humble, and particularly of the importance of being better prepared by looking for unexpected outcomes in any given event.

Pandemic events like COVID-19 are not a new risk for a (re)insurer. As such, they cannot be considered as emerging risks, as we have models to quantify losses from pandemic events caused by viruses similar to COVID in terms of lethality and infectiousness, and indeed by viruses that are much worse. Before the emergence of COVID-19, it is fair to say that a pandemic was considered a major event for life and health (re)insurance portfolios, and that although economic impacts were predicted, these were considered secondary in comparison to the potential losses to human life. However, during the COVID crisis, we have seen this assumption being turned on its head, as many governments imposed lockdown measures to attempt to prevent human deaths and to protect “frontline” workers.

One of the lessons we can take from this is that our society has placed more value on human life than we may have assumed in the past. We have also underestimated the amount of economic pain and the restrictions to our personal lives that our societies have been prepared to accept in order to avoid an even larger number of illnesses and deaths from COVID-19. In many ways this is a wonderful revelation - but as (re)insurers we need to think through the implications, which are having a profound impact on our risk universe.

The experience of COVID is showing us that pandemics can have very complex and long-term consequences on several areas of the risk universe. For example, the fault lines that exist in our society have been exposed, with the inequalities in people’s access to healthcare, to digital equipment, to sufficient living space and to secure employment being clearly demonstrated. Impacts on people’s mental health caused by these stresses, in addition to those created by feelings of fear, social isolation and of being overwhelmed by juggling family and work, are causing another raft of issues, the full effects of which are yet to be seen. But already, in some countries, the extra stresses placed on people during the pandemic have resulted in an increase in the abuse of illegal or over-the-counter substances such as opioids.
Another major ERM concern is the increase in exposure to cyber threats, which have been amplified during the COVID crisis. As we see cyber attacks becoming increasingly sophisticated, we cannot afford to lose sight of the threats to companies - and to societies - related to an increased reliance on digital equipment and networks. This has of course been necessary during the pandemic, to continue both economic activities and to maintain social contacts, but the innovations in the digital area that have proliferated during this period are likely to continue, along with the associated risks.

On the positive side however, the pandemic has also generated a renewed spirit of innovation and collaboration. For example, it has been inspiring to witness the sudden shift to a much more flexible and agile way of working, both transversal and collaborative, sometimes spontaneous and bottom-up, and highly solution-oriented. Maintaining this spirit after the crisis will enable us, both as (re)insurers and as members of society, to achieve goals faster and more effectively than ever.

Looking to the immediate future, and hopefully towards the tail of the COVID-19 crisis, the trends of most concern to the (re)insurance industry will be the continued impact on the health and lives of employees and insureds and the immediate economic fallout and recovery. Dealing with longer-term credit risks and other economic scarring, restoring the public perception of the industry in relation to recent and ongoing coverage disputes, and looking at how (re)insurers can help societies as a whole to become more resilient to future threats, will all be equally important.

However, as the (re)insurance industry deals with the short to medium-term fallout from the pandemic, it will be important not to lose sight of other major developing risks that we currently face as an industry and as a society, such as climate change and the degradation of the planet’s life-support systems. The pathway that humans collectively choose over the next five to ten years will determine whether we can avoid a catastrophic outcome and leave a habitable earth for the generations to come. (Re)insurers will continue to contribute to the way that this is addressed, both through our actions and active engagement with science and the public, and by ensuring that we can manage our specific related financial risks.

As we move past the COVID-19 pandemic and into the future, we need to take the lessons from this experience on board. From an ERM perspective, it’s incredibly important that we see the risks to which we are exposed as an industry in the context of the entire risk universe, that we remain aware of low probability but high velocity threats when conducting scenario analyses, and that we take this broad and interconnected vision into account in our risk management frameworks.

In the wider context, I hope that the pandemic will be followed by a strengthening of international cooperation on issues that cannot
The full year 2020 unaudited reports for ASTIN were received from the IAA Secretariat on March 22, 2021. The audited accounts usually will not differ substantially.

“Same procedure as last year….”
Freddie Frinton

It happened again. No chance to come even close to the budgeted figures. Even unrealised gains(!) from investments contributed CAD 23,510 to the 2020 year-end result. Together with CAD 17,289 ordinary investment income (CAD 7,289 more than budgeted) this contributed to CAD 39,496 more income than expected. On the other hand many of our plans to invest in value creating initiatives could not be realised because of the pandemic restrictions. This is especially true for our Masterclass project. Everything was prepared to start the recordings in April 2020 when the lockdown caused a sudden break. And in 2021 we had to postpone the intended start again for the same reason. Also our Section Colloquium in May 2020 was done online rather than in Paris: no needs for bursaries and other expenses that usually occur. Only for the Benin project the final instalment of CAD 7,500 was paid. In total we ended with CAD 59,576 expenses in 2020 – CAD 102,571 less than budgeted! While a “normal” treasurer would be delighted to report a further increase in total net assets from CAD 806,419 to CAD 824,764 (+ CAD 18,345) it must be noted that the budget was missed by CAD 131,692!
Good news are coming from the membership figures. After last year’s drop we saw an increase again from 1,287 (2019) to 1,336 in 2020 (+49 = +3.8%). Especially encouraging are the 19 new entries from the Albanian Actuarial Association (1), Institute des Actuaires de Côte d’Ivoire (3), Felag Islerinska Tryggingsfarbring (7), Slovensko Aktuarsko Drustvo (2), Col·legi d’Actuaris de Catalunya (5) and Actuarial Society of Turkey (1).

**BUDGET 2021**

When setting up the 2021 budget, we have continued with our “optimistic” plans, especially as respects our Masterclass project. This means that we again are planning a reduction in ASTIN net assets of CAD 83,297. The budget, as usual, includes a zero estimate for unrealised gains/losses in 2021 and is based on a conservative membership figure of 1,300. Given the current worldwide restrictions, however, the report next year might look quite similar to this one.

Eberhard MÜLLER
ASTIN Treasurer, April 2, 2021
ASTIN MEMBERS

Denmark 165
United Kingdom 162
United States 114
France 109
Japan 109
Netherlands 102
Germany 94
Norway 83
Switzerland 75
South Africa 45
Italy 39
Sweden 35
Canada 30
Finland 23
Australia 21
Ireland 14
Israel 11
Mexico 11
Spain 11
Singapore 10
Portugal 9
Austria 8
Belgium 8
Iceland 8
Bermuda 7
Hong Kong 7
Luxembourg 5
North Macedonia 5
Czech Republic 4
United Arab Emirates 4
Côte D’Ivoire 3
Greece 3
Kenya 3
Lebanon 3
New Zealand 3
Slovenia 3
Argentina 2
Brazil 2
China 2
Estonia 2
India 2
Nigeria 2
Panama 2
Peru 2
Turkey 2
Bahrain 1
Cayman Islands 1
Chinese Taipei 1
Congo 1
Cyprus 1
Gibraltar 1
Grenada 1
Hungary 1
Indonesia 1
Jamaica 1
Latvia 1
Mauritius 1
Pakistan 1
Philippines 1
Poland 1
Russia 1
Slovakia 1
Suriname 1
Venezuela 1
Vietnam 1
Zambia 1

Annual Report - 2020 / 2021
### ASTIN STATEMENT OF FINANCIAL POSITION
**As at December 31, 2020**

#### ASSETS

<table>
<thead>
<tr>
<th>Description</th>
<th>31 DEC 20</th>
<th>31 DEC 19</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chequing/Savings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash in bank accounts</td>
<td>$9,414</td>
<td>$1,530</td>
</tr>
<tr>
<td>Cash in investment accounts</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Short-term Investments</td>
<td>125,275</td>
<td>114,201</td>
</tr>
<tr>
<td><strong>Total Chequing/Savings</strong></td>
<td>134,689</td>
<td>115,731</td>
</tr>
<tr>
<td><strong>Other Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Membership Receivables</td>
<td>450</td>
<td>100</td>
</tr>
<tr>
<td>Other receivables</td>
<td>-</td>
<td>12,081</td>
</tr>
<tr>
<td>Prepaid Expenses</td>
<td>18,632</td>
<td>263</td>
</tr>
<tr>
<td><strong>Total Other Current Assets</strong></td>
<td>19,082</td>
<td>12,444</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>153,772</td>
<td>128,175</td>
</tr>
<tr>
<td><strong>Fixed Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Software - Cost</td>
<td>20,478</td>
<td>19,234</td>
</tr>
<tr>
<td>Computer Software - Amortisation</td>
<td>(10,580)</td>
<td>(6,091)</td>
</tr>
<tr>
<td><strong>Total Fixed Assets</strong></td>
<td>9,898</td>
<td>13,144</td>
</tr>
<tr>
<td><strong>Other Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-term investments - Bonds</td>
<td>402,506</td>
<td>396,961</td>
</tr>
<tr>
<td>Long-term investments - Stocks</td>
<td>276,165</td>
<td>276,316</td>
</tr>
<tr>
<td><strong>Total Other Assets</strong></td>
<td>678,670</td>
<td>673,278</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS</strong></td>
<td>$842,340</td>
<td>$814,597</td>
</tr>
</tbody>
</table>

#### LIABILITIES & NET ASSETS

<table>
<thead>
<tr>
<th>Description</th>
<th>31 DEC 20</th>
<th>31 DEC 19</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Liabilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deferred revenue</td>
<td>$3,250</td>
<td>$4,000</td>
</tr>
<tr>
<td>Other payables &amp; accruals</td>
<td>14,325</td>
<td>4,177</td>
</tr>
<tr>
<td><strong>Total Other Current Liabilities</strong></td>
<td>17,575</td>
<td>8,177</td>
</tr>
<tr>
<td><strong>Total Current Liabilities</strong></td>
<td>17,575</td>
<td>8,177</td>
</tr>
<tr>
<td><strong>Total Liabilities</strong></td>
<td>17,575</td>
<td>8,177</td>
</tr>
<tr>
<td><strong>Net Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unrestricted surplus</td>
<td>806,419</td>
<td>770,586</td>
</tr>
<tr>
<td>Excess (Deficiency) of Revenue over Expenses</td>
<td>18,345</td>
<td>35,833</td>
</tr>
<tr>
<td><strong>Total Net Assets</strong></td>
<td>824,764</td>
<td>806,419</td>
</tr>
<tr>
<td><strong>TOTAL LIABILITIES &amp; NET ASSETS</strong></td>
<td>$842,340</td>
<td>$814,597</td>
</tr>
</tbody>
</table>
### ASTIN Statement of Revenue & Expenses - Actuals vs Budget

#### For the 12 months ended December 31, 2020

<table>
<thead>
<tr>
<th></th>
<th>31-Dec-20</th>
<th>Budget to Date</th>
<th>$ Variance</th>
<th>% Variance</th>
<th>31-Dec-19</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ordinary Income/Expense</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Book sales &amp; other revenue</td>
<td>$ 586</td>
<td>$ 5,000</td>
<td>$(4,414)</td>
<td>(88%)</td>
<td>$ 17,427</td>
</tr>
<tr>
<td>Interest &amp; investment revenue</td>
<td>17,289</td>
<td>10,000</td>
<td>7,289</td>
<td>73%</td>
<td>19,117</td>
</tr>
<tr>
<td>Membership Fees</td>
<td>67,400</td>
<td>65,000</td>
<td>2,400</td>
<td>4%</td>
<td>64,550</td>
</tr>
<tr>
<td>IAA Section Fund Income</td>
<td>10,711</td>
<td>10,711</td>
<td>-</td>
<td>-</td>
<td>7,910</td>
</tr>
<tr>
<td><strong>Total Income</strong></td>
<td>95,986</td>
<td>80,000</td>
<td>15,986</td>
<td>20%</td>
<td>109,004</td>
</tr>
<tr>
<td><strong>Gross Profit</strong></td>
<td>95,986</td>
<td>80,000</td>
<td>15,986</td>
<td>20%</td>
<td>109,004</td>
</tr>
<tr>
<td><strong>Expense</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amortisation</td>
<td>3,847</td>
<td>3,847</td>
<td>0</td>
<td>0%</td>
<td>3,847</td>
</tr>
<tr>
<td>Bank charges &amp; service fees</td>
<td>17</td>
<td>300</td>
<td>283</td>
<td>94%</td>
<td>247</td>
</tr>
<tr>
<td>Bulletins</td>
<td>16,740</td>
<td>20,000</td>
<td>3,260</td>
<td>16%</td>
<td>10,138</td>
</tr>
<tr>
<td>Bursaries</td>
<td>7,500</td>
<td>30,000</td>
<td>22,500</td>
<td>75%</td>
<td>9,278</td>
</tr>
<tr>
<td>Committee &amp; Representation Expense</td>
<td>-</td>
<td>1,000</td>
<td>1,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Loss(gain) on foreign exchange</td>
<td>(1,596)</td>
<td>-</td>
<td>1,596</td>
<td>-</td>
<td>44</td>
</tr>
<tr>
<td>Gifts and Awards</td>
<td>2,539</td>
<td>5,000</td>
<td>2,461</td>
<td>49%</td>
<td>-</td>
</tr>
<tr>
<td>Initiatives</td>
<td>22,834</td>
<td>50,000</td>
<td>27,166</td>
<td>54%</td>
<td>24,006</td>
</tr>
<tr>
<td>Meetings - other</td>
<td>522</td>
<td>20,000</td>
<td>19,478</td>
<td>97%</td>
<td>11,090</td>
</tr>
<tr>
<td>Office &amp; overhead</td>
<td>214</td>
<td>5,000</td>
<td>4,786</td>
<td>96%</td>
<td>3,991</td>
</tr>
<tr>
<td>Printing</td>
<td>-</td>
<td>5,000</td>
<td>5,000</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Professional services</td>
<td>3,675</td>
<td>4,000</td>
<td>325</td>
<td>8%</td>
<td>4,489</td>
</tr>
<tr>
<td>Telephone &amp; teleconference</td>
<td>891</td>
<td>2,000</td>
<td>1,109</td>
<td>55%</td>
<td>2,664</td>
</tr>
<tr>
<td>Travel - general</td>
<td>2,130</td>
<td>15,000</td>
<td>12,870</td>
<td>86%</td>
<td>4,441</td>
</tr>
<tr>
<td>Webinars expense</td>
<td>263</td>
<td>1,000</td>
<td>737</td>
<td>74%</td>
<td>1,018</td>
</tr>
<tr>
<td><strong>Total Expense</strong></td>
<td>59,576</td>
<td>162,147</td>
<td>102,571</td>
<td>63%</td>
<td>78,869</td>
</tr>
<tr>
<td><strong>Net Ordinary Income</strong></td>
<td>36,410</td>
<td>(82,147)</td>
<td>118,557</td>
<td>144%</td>
<td>30,135</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>31-Dec-19</th>
<th>Budget to Date</th>
<th>$ Variance</th>
<th>% Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Other Income/Expense</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other income</td>
<td>23,510</td>
<td>23,510</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Section Administration</td>
<td>(41,575)</td>
<td>(31,200)</td>
<td>(10,375)</td>
<td>(33%)</td>
</tr>
<tr>
<td><strong>Excess (Deficiency) of Revenues over Expenses</strong></td>
<td>$ 18,345</td>
<td>$ (113,347)</td>
<td>$ 131,692</td>
<td>116%</td>
</tr>
</tbody>
</table>
VISION 2022

Our vision is for ASTIN to serve the non-life insurance industry globally by ensuring that, when it comes to providing insight and finding solutions to quantitative risk management issues, our members are trusted and in demand for their valued professional skills. To realise this, we envisage continuing our current beneficial activities in the long run, and plan the following in the near future:

• Work further to complete the development of ‘ASTIN Masterclasses’, a series of online professional education courses on different risk and non-life actuarial topics, with the aim to schedule additional Masterclasses in the series over the period between 2021 and 2022.

• Continue strengthening ASTIN’s presence around the globe in local regions by helping establish ASTIN Chapters.

• Continue co-operating with other professional forums of risk and insurance professionals outside the IAA who remain relevant to ASTIN’s mission and vision, and also to the work we do.
FUTURE ASTIN COLLOQUIA

2022

2023

2026
JOIN
ASTIN
NOW!

QR Code