

CASUALTY ACTUARIAL SOCIETY



Expertise. Insight. Solutions.®

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CAS's Mission, Vision and Core Values

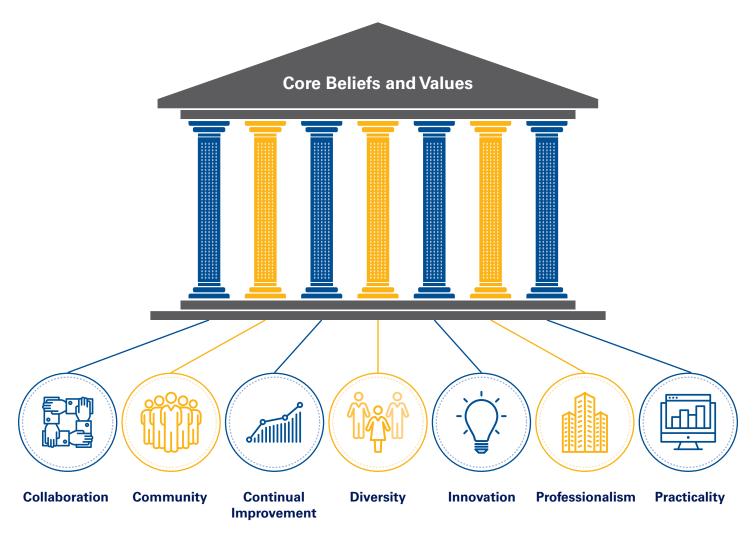
Mission Statement

The purposes of the Casualty Actuarial Society are to:

- Advance the body of knowledge of actuarial science applied to general insurance, including property, casualty and similar risk exposures.
- Expand the application of actuarial science to enterprise risk and systemic risks.
- Establish and maintain standards of qualification for membership.
- Promote and maintain high standards of conduct and competence.
- Increase the awareness of actuarial science.
- Contribute to the well-being of society as a whole.

Vision Statement

Actuaries are recognized for their authoritative advice and valued comment wherever there is financial risk and uncertainty.

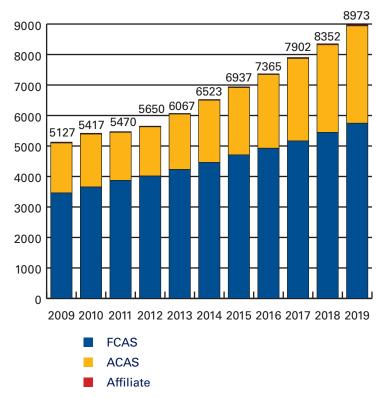


Membership Demographics

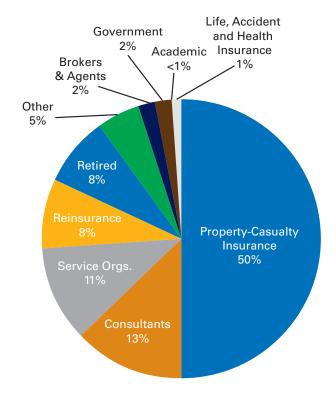
Count of Country				
Country	2018	2019		
United States	6,944	7,389		
Canada	903	1,026		
China	97	114		
Bermuda	105	113		
Hong Kong	51	54		
United Kingdom	48	50		
Singapore	38	39		
Switzerland	31	34		
Other	135	154		
Grand Total 🥄 🗧	8,352	8,973		

2019 Geographic Membership Distribution

CAS Member Growth 2009-2019



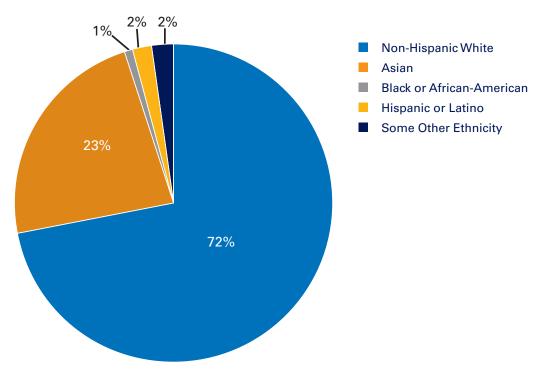
CAS Members by Type of Employment



Diversity

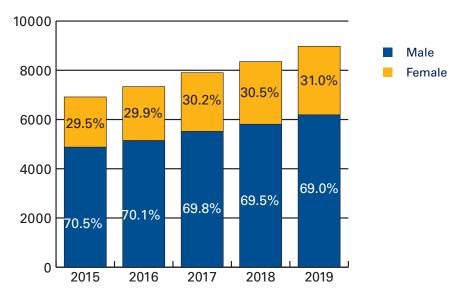
In 2019, the Joint Committee for Inclusion, Equity and Diversity (JCIED) was created as a partnership between the Casualty Actuarial Society and the Society of Actuaries. The purpose of the committee is to advise on and oversee inclusion and diversity strategy, in line with organizational strategy of both the SOA and CAS, for the actuarial profession in the geographies and practice areas we serve.

The CAS's diversity strategy formalizes our commitment to facilitating the evolution of a multidimensional property-casualty actuarial profession. One goal of the strategy is to increase the membership of underrepresented groups in the CAS. To measure progress on membership diversity, the CAS monitors current membership demographics by ethnicity and gender.



2019 CAS Membership by Ethnicity

2019 CAS Members by Gender



Volunteerism

CAS members value our community and the relationships formed through volunteer activities. In FY 2019, 2,879 out of 8,973 CAS members served as volunteers. That's 32.1% of the membership! Volunteer contributions spanned the entire range of CAS activities, including examinations, research and development, and educational programs. The CAS is grateful for the continued support of employers who encourage their actuaries to volunteer their time and effort to the CAS. We are proud to recognize some of these employers.

Top Ten Employers of CAS Volunteers



Large Employers with at Least 40% of Members Volunteering

Travelers Willis Towers Watson Allstate Insurance Company The Hartford Milliman, Inc. Zurich North America CNA Insurance Companies United Services Automobile Association ISO/Verisk Munich Re America, Inc. Deloitte Consulting, LLP

2019 Winners of CAS Awards For Volunteerism

The President's Award

PatTeufel

Matthew Rodermund Memorial Service Award

Don Mango Mary D. Miller John Purple

Above and Beyond Achievement Award

Eric Blancke Christian Coleianne Minchong Mao Sarah McNair-Grove Scott Merkord Christopher Monsour Michael Speedling Chris Styrsky

New Members Award

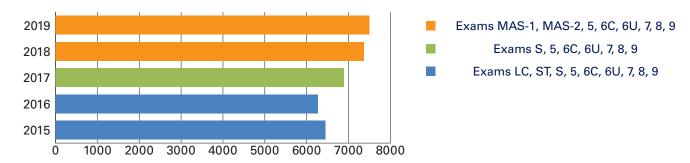
Laura Cremerius Melissa Huenefeldt Sean Smith

Admissions and Examination Highlights

Summary for CAS-specific Exams MAS-1, MAS-2, 5, 6C, 6US, 7, 8, 9	Total
Exams in the U.S. and Canada	6,525
Exams Outside of the U.S. and Canada	974
Total	7,499
Total Pass Ratio	41%
New Fellows	356
New Associates	656

CAS Examinations, Spring and Fall 2019

Total Exam Registrants 2015-2019



* Exams MAS-1, MAS -2, 5, 6C, and 6U are given twice a year.

** In 2018 we offered only MAS-1 in the spring and both MAS exams in the fall.

The CAS Path to Success

In principle and practice, the CAS is the gold standard for the property-casualty actuarial profession. With 100 years of experience and expertise, the CAS continues to focus on comprehensive exams and education that are uniquely relevant to property-casualty actuaries. Our CAS credentialing program is the program of choice for attracting top candidates and meeting employers' needs.



* The CAS will grant waivers for candidates who pass examinations offered by other organizations that cover our CAS learning objectives. These organizations include but are not limited to: Society of Actuaries, Canadian Institute of Actuaries, Institute and Faculty of Actuaries (UK), Actuaries Institute (Australia), Actuarial Society of South Africa, Institute of Actuaries of India, and China Association of Actuaries. Please note that the path as outlined is intended to illustrate a typical sequence through the requirements; candidates are not restricted to the path as depicted.

5

University Engagement

The CAS expanded its support for universities in 2019 through its membership programs, CAS Student Central and CAS Academic Central. Student membership increased by 13% percent, reaching 8,951 members at 955 universities, and academic membership increased to 488 members at 247 universities.



CAS University Award Program

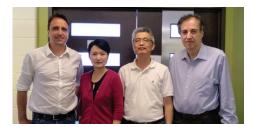
The Casualty Actuarial Society (CAS) awarded three universities the 2019 CAS University Award, an honor created to recognize schools doing exemplary work in preparing students for a career in the property and casualty insurance industry. The schools honored includes:



Illinois State University



University of Connecticut



University of Toronto

Participation in University Events

In 2019, the CAS was represented by staff and volunteers at more than 100 in-person events for university students across the world, ranging from career fairs and student conferences to presentations at student clubs and university classes.



CAS Student Programs

The CAS hosted approximately 115 university students at five different student programs held in conjunction with 2019 CAS meetings and seminars.



CAS Trust Scholarship

The CAS Trust Scholarship Program, funded by donations to the CAS Trust, awards up to three scholarships to deserving students annually. The First Place Winner receives a \$10,000 scholarship. The Second and Third Place Winners, if chosen, are each awarded a \$5,000 scholarship.

The objective of the scholarship is to further students' interest in the property-casualty actuarial profession and to encourage the pursuit of the CAS designations.

Each year, the three recipients of the scholarship are recognized at the CAS Annual Meeting in November. In 2019, Tommy Anderson of the University of St. Thomas was awarded \$10,000, and Jack Richards of Drake University and Cason Wight of Brigham Young University were awarded \$5,000 each. All traveled to Honolulu for the event, and each are pictured below with CAS President Jim Christie.



Tommy Anderson



Jack Richards

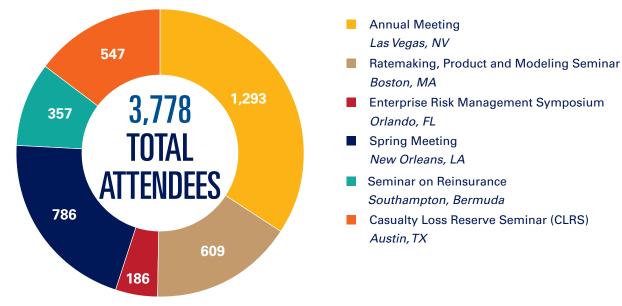


Cason Wight

Continuing Education

Meetings and Seminars

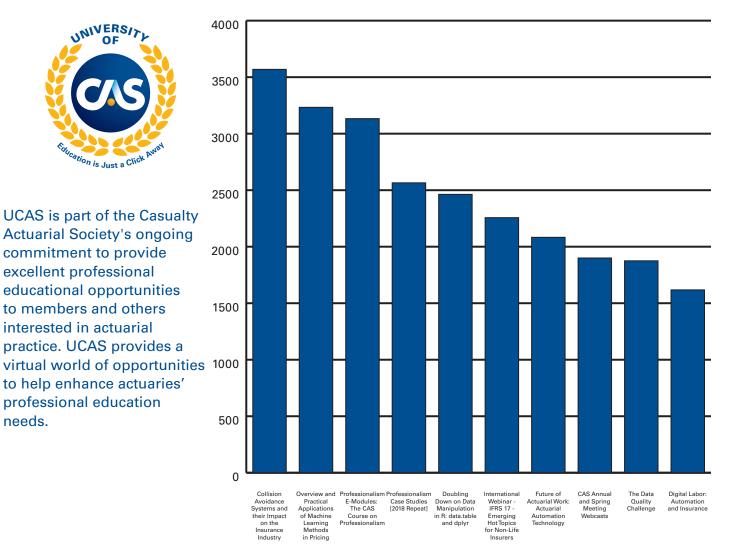
The number and variety of CAS offerings represent an ongoing expansion to respond to member demand for high-quality, affordable continuing education opportunities. A total of 3,778 people attended the six largest CAS meetings and seminars in FY 2019.





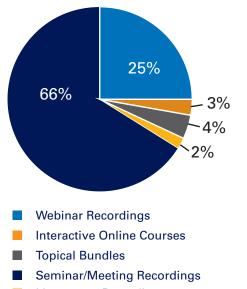
Fiscal Year 2019

Web and Online Offerings



Most-Viewed University of CAS (UCAS) Items

UCAS Purchases by Type



Livestream Recordings

FY19 Livestream Events

Meeting	Registrants
2018 In Focus	34
2018 Annual	125
2019 RPM	55
2019 ERM	36
2019 Spring	84
2019 Reinsurance	43
2019 CLRS	97
TOTAL	474

Research and Development Headlines

ACTUARIES' CLIMATE INDEX UPDATED WITH NEW STATISTICS AND DATA IN MAY, AUGUST, AND NOVEMBER OF 2019

The Joint Risk Management Section publishes the 12th Annual Survey of Emerging Risks Nine research projects awarded with funding from the Individual Grants Competition The auto loss costs projectjointly sponsored by PCI, the SOA and the CAS updated in September.

Hachemeister Prize awarded to the IFoA/CAS International Pricing Working Party for their paper "Analyzing the Disconnect Between the Reinsurance Submission and Global Underwriters' Needs" Non-Technical Reserves Call for Papers generated three completed papers. "Relative Unpaid Claims Loss Reserving" by Bertram Horowitz awarded cash prize at CLRS.

Funded research published in *Variance* includes: Where Home Insurance Meets Climate Change: Making Sense of Climate Risk, Data Uncertainty, and Projections" by Vyacheslav Lyubchich, K. Halimeda Kilbourne, and Yulia R. Gel; and "A Fundamental Approach to Cyber Risk Analysis" by Rainer Bohme, Stefan Laube, and Markus Riek

The Theory of Risk Committee's Call for Essays yields four published essays. Christopher Smerald wins Best Essay for "Setting the Scene for Communicating Technical Results to Senior Management"

Marketing and Communications

Awards and Recognition

Excel Awards for Actuarial Review and social media campaigns

The CAS was honored for exemplary work over the past year, garnering three coveted EXCEL Awards for marketing and communications projects including the social media campaigns for Actuaries in Pop Culture and the 2018 CAS Annual Meeting, as well as the *Actuarial Review* feature article "<u>Driverless</u> <u>Utopia</u>." The EXCEL Awards, hosted by Association Media & Publishing, recognizes excellence in nonprofit association marketing and communications. Winners of the highly competitive contest, which received over 750 entries in 2019, were honored at the EXCEL Awards Gala on June 24, 2019 in Washington D.C.

The awards include:



A bronze award in the category of "Magazine Feature Article" for "Driverless Utopia" *Actuarial Review*

"Driverless Utopia" headlined the May-June 2018 issue of *Actuarial Review*, which was the most viewed issue of the year on the magazine's website. Written by frequent *AR* contributor Annmarie Geddes Baribeau, the article combines engaging graphic elements with thought-provoking editorial content to examine a world caught between available technology and public perception.



A gold award in the category of "Social Media Campaign (Other)" for Actuaries in Pop Culture

Over the course of a week-long campaign, the CAS shared some of the best actuary pop culture references from a variety of media on social media platforms using the hashtag #ActuariesinPOP. The content was delivered via customized graphics inspired by pop art to mirror the pop culture theme.



A gold award in the category of "Social Media Campaign (Event/Convention)" for the 2018 Annual Meeting

The 2018 #CASAnnual campaign was executed on a variety of social media platforms before, during and after the meeting in November 2018 and included elements such as a social media toolkit for speakers, a daily Twitter contest for attendees and a custom Snapchat filter.

CAS In the News

'Old Tech' Cams Still Cutting a Dash with Auto Insurers November 22, 2018 TU-Automotive



Jim Lynch, FCAS, discusses the potential uses of dashboard cameras in insurance claims.

Silent cyber risks prompt insurers to update policies, gather exposure data, plan security December 3, 2018 Business Insurance



Jon Laux, FCAS, explores the "silent cyber" risks residing in some traditional insurance policies.

Data Sources of theJanuary 10, 2019Future Tie Carriers CloserCarrier Managementto Customers



Katey Walker, FCAS, CSPA, discusses how P&C companies are tapping into new data sources such as telematics and social media.

For the NFL and all of football, a new threat: an evaporating insurance market January 17, 2019 ESPN





ay, January 17, 2019

For the NFL and all of football, a new threat: an evaporating insurance market

By Steve Fainaru and Mark Fainaru-Wada ESPN.com



This ESPN article features content from a 2018 CAS Annual Meeting session exploring the various insurance implications involved with CTE and other brain injuries.

Developing a High-Performing Data Science Team

January 30, 2019 Carrier Management



Shane Barnes, FCAS, provides guidance to leaders on how to build diverse data science teams that can effectively leverage analytics.

ADAS Cuts Risk But Still Raise Insurers' Costs

May 29, 2019 TU-Automotive



Roosevelt Mosley, FCAS, CSPA, explores ongoing liability implications as autonomous vehicle usage continues to grow.

Restrictions on auto insurance rating variables could shrink private coverage July 25, 2019 S&P Global Market Intelligence

Restrictions on auto insurance rating variables could shrink private coverage

Taking away insurance companies' use of driver traits they factor in to set premium prices could shrink the insurable population and force the riskiest motorists into pricey, state-assigned pools, an actuarial researcher said.

Many states already restrict the personal "rating variables" that car insurers can use to determine which drivers are riskier and should pay higher premium rates and which should be considered safer and charged less. The past few years have seen more such restrictions proposed, including California's rule eliminating gender as a rating variable and a proposal on the federal level that would restrict the use of credit scores.

The Casualty Actuarial Society believes the trend threatens to reverse the progress private auto insurance companies have made in the past 20 years offering coverage for all drivers no matter their driving history. The rise in coverage followed the acceleration of the use of rating variables, which gave companies more insight and made them more willing to take on risks they previously considered uninsurable, said Ken Williams, an actuary with the society who coauthored a white paper on the topic with the Insurance Information Institute.

CAS Staff Actuary Ken Williams, FCAS, discusses some of the consequences that can result from restricting rating variables. Best Cities to Avoid NaturalAugust 1, 2019DisastersWeather Channel



Doug Collins, FCAS, was interviewed on the Weather Channel about climate change and the best cities in the U.S. to avoid natural disasters.



CAS Community Growth

	Community	Baseline Followers (10/1/2018)	Followers (10/1/2019)	Percent Growth
CAS	CAS Facebook	5,292	5,659	15.9%
	CASTwitter	11,279	11,497	7.3%

CAS Student Community Growth

	Community	Baseline Followers (10/1/2018)	Followers (10/1/2019)	Percent Growth
	SC Facebook	1,175	1,206	2.2%
STUDENT CENTRAL	SC Twitter	650	766	38.8%

iCAS Community Growth

CAS	Community	Baseline Followers (10/1/2018)	Followers (10/1/2019)	Percent Growth
ANSTITUTE	iCAS Twitter	208	244	64.9%

Best-Performing @CASact Twitter Post

Lt. General Russel L. Honoré, a decorated 37-year U.S. Army veteran and global authority on leadership, will be a Featured Speaker at the CAS Spring Meeting! Read more about General Honoré and his accomplishments here: ow.ly/AqQ930nCdGc @ltgrusselhonore



11:21 AM · Feb 7, 2019 · Hootsuite Inc.

II View Tweet activity

8 Retweets 25 Likes

Best-Performing @CASstudent Twitter Post

Marla Strykowski, FCAS, MAAA, an actuary at Plymouth Rock Assurance shares in today's **#InsuranceCareers** millennial profile, "I love knowing that my work in this field ultimately provides people with help" Read along for more! **#InsuranceCareersMonth #ICM2019**



48 PM · Feb 20, 2019 · Hootsu

4 Retweets 14 Likes

Best-Performing CAS Facebook Post

The CAS staff wishes everyone a happy #PiDay!





Best-Performing Student Central Facebook Post

The Organization of Latino Actuaries (OLA) has invited students and actuarial candidates to apply for a 2019 OLA Travel Award to attend an upcoming conference! Learn more and apply today. http://ow.ly/3qtV50v9yVx



CASSTUDENTCENTRAL.ORG

Students and Actuarial Candidates Invited to Apply for a 2019 OLA Travel Award to Attend an Upcoming Conference! - CA...

253 People Reached	17 Engagements	Boost Post
0 9		

Publications

Each year the CAS's many publications enlarge the abundance of actuarial literature.



CAS Monograph Series

The CAS Monographs Series are peer-reviewed, authoritative works that encompass significant subjects in casualty actuarial science. In 2019 the series posted a second edition of its first monograph, "Stochastic Loss Reserving Using Bayesian MCMC Models," by esteemed author Glenn Meyers.



Actuarial Review

Actuarial Review is an in-depth actuarial news source for CAS members and candidates who want to know the latest in science and technology, business ethics and professionalism, as well as the achievements of CAS members and committees. In 2019 *AR* included stories affecting the P&C insurance market — marijuana legalization, the top five emerging risks, commercial auto profitability, and Generation Z's potential impact on personal lines.

Variance



Variance's mission is to disseminate practical and theoretical research of interest to casualty actuaries worldwide. In 2019 the CAS published *Variance* 12:2, a robust volume examining possible enhancements to traditional actuarial issues and techniques, as well as papers on topical subject matter — cyberrisk, infrastructure service contracts, bookmaker solvency and climate risk.

Future Fellows

FUTURE FELLOWS



Future Fellows is a vital publication for those taking CAS Exams. This quarterly newsletter, produced in print and online, gives CAS Candidates access to all they need to know about examinations, study methods, career development and continuing education.

CAS Educative Statements

In 2019 the CAS released a new type of publication, CAS Educative Statements, that are intended to educate the public and to ensure that policymakers, the media and the public have sound, objective information on property-casualty insurance issues. The first Educative Statement, "Insurance Rating Variables: What They are and Why They Matter," was written in partnership with the Insurance Information Institute.



CAS E-Forum

In 2019 the CAS E-Forum posted several reports of CAS Research Working Parties: reports 13, 14, and 15 of the Risk-Based Capital Research; Predictive Analytics in Capital Modeling; and Insurance On Demand. A host of independent research were also published, as well two call paper programs on nontechnical reserving and traditional reserving.

CAS Governance – Board of Directors and Executive Council

Executive Council



James Christie* President



Steven Armstrong* President-Elect



Mary Hosford Vice President– Administration



Jeanne Crowell Vice President– Admissions



Roger Hayne Vice President– International



Shane Barnes Vice President– Marketing & Communications



Justin Brenden Vice President– Professional Education



Avraham Adler Vice President– Research & Development



Cynthia R. Ziegler CAS Executive Director, Secretary/Treasurer

*Also a member of the Board of Directors

Board of Directors



Brian Z. Brown **Immediate Past President**



James Christie President



Steven Armstrong President-Elect



John Lucker[†] 2019



Leslie Marlo 2019



Peter Miller[†] 2019



Brad J. Monterio[†] 2019



Claudine Modlin 2019



Mark R. Shapland 2019



William B. Wilder 2019



Katherine Antonello 2020



Frank Chang 2020



James Lynch 2020



Stephen Mildenhall 2021



Katey Walker 2020



Melissa Tomita 2021



A. David Cummings 2021



Julia Stenberg 2021



† Appointed

• FY 2019 Financial Highlights

Membership Dues Dollars Allocation

The fiscal year ending September 30, 2019, resulted in an audited net income of \$345,141 compared to a budgeted net income of \$1,014,021.

Income Statement

FUNCTION	REVENUE		EXPENSE		DIFFERENCE
Membership Services	\$5,447,597		\$6,508,712		(\$1,061,115)
Seminars	3,166,447		2,697,635		468,812
Meetings	2,257,660		2,067,803		189,857
Exams	12,378,806	(a)	11,026,301	(a)	1,352,505
CAS Institute	188,397		433,405		(245,008)
TOTALS FROM OPERATIONS	\$23,438,907		\$22,733,856		\$705,051
Unrealized Gain/(Loss) and Change in Pension Liability					243,896
Change in Pension Liability					(603,806)
TOTAL NET INCOME (LOSS)				-	\$345,141

NOTE: (a) Includes \$7,694,775 of Volunteer Services for income and expense (SFAS 116).

Balance Sheet

ASSETS	9/30/2018	9/30/2019	DIFFERENCE
Cash and Cash Equivalents	\$2,462,301	\$797,416	(\$1,664,885)
T-Bill/Notes, Marketable Securities	16,696,020	20,400,474	3,704,454
Other Assets	889,533	589,437	(300,096)
TOTAL ASSETS	\$20,047,854	\$21,787,327	\$1,739,473
LIABILITIES	9/30/2018	9/30/2019	DIFFERENCE
Exam Fees Deferred	\$2,040,548	\$2,186,690	\$146,142
Seminar and Meeting Fees Deferred	1,191,608	1,682,062	490,454
Accounts Payable and Accrued Expenses	1,195,376	1,714,750	519,374
Accrued Pension	820,049	1,290,857	470,808
Other Deferred	893,247	660,801	(232,446)
TOTAL LIABILITIES	\$6,140,828	\$7,535,160	\$1,394,332
MEMBERS' EQUITY	\$13,907,026	\$14,252,167	\$345,141

Mary Hosford, Vice President-Administration

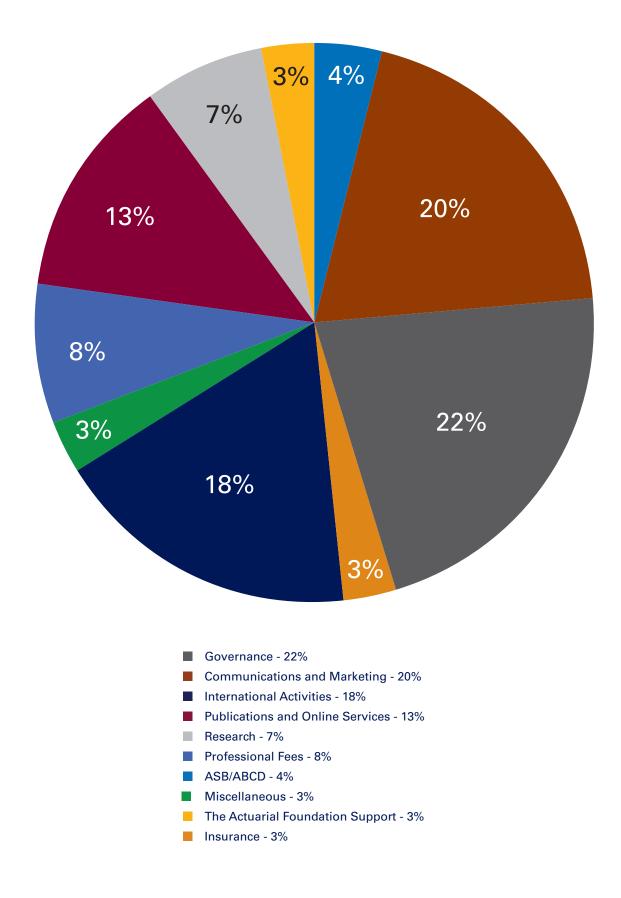
AUDITED

CAS Audit Committee

James Lynch, Chairperson Stephen Mildenhall, Vice-Chairperson

Larry Haefner, Mary Frances Miller, Kay Rahardjo and Mary Hosford (ex officio)

Membership Service Expenses



CAS Society Partners Program

The CAS Society Partner's Program is designed to help firms build and maintain year-round relationships with the influential group of insurance professionals that are CAS members.

In FY 2019, the CAS maintained corporate partnerships with 16 organizations.

Four Diamond Partners - \$25,000 Commitment-









-Five Platinum Partners - \$20,000 Commitment-















-Five Silver Partners - \$10,000 Commitment-











The CAS Institute

Catastrophe Risk Management Credentials Offered

The first two examinations were released for the Certified Specialist in Catastrophe Risk (CSCR), a base level credential that demonstrates a thorough understanding of essential catastrophe risk principles. This credential, offered through our partnership with The International Society of Catastrophe Managers (ISCM), consists of four exams and an online ethics and professionalism course. The remaining two CSCR exams are on track to be released in 2020.

An Experienced Industry Profession (EIP) pathway to earn the Certified Catastrophe Risk Management Professional (CCRMP) designation — an advanced credential that recognizes the essential knowledge and mastery of the application of the principles and analytics of catastrophe risk management — was opened in 2019. The CCRMP was awarded to 13 catastrophe risk management professionals.

CSPA Credential Awarded to Nine Candidates

The final assessment for the Certified Specialist in Predictive Analytics (CSPA) credential — a case study project that demonstrates a candidate's ability to apply the knowledge and skills covered in the first three courses — was first offered in 2019. The CSPA was awarded to 45 new recipients in 2019, bringing the total number of CSPAs awarded to 252.

The CAS Institute honored the newest recipients of its CSPA credential during the 2019 CAS Ratemaking, Product and Modeling Seminar in Boston, Massachusetts. More than 40 new CSPAs in attendance were recognized for this achievement.

Third Annual iCAS Community of Practice Event

The CAS Institute held its third Predictive Analytics Community of Practice Event on Monday, March 26, 2019. More than 30 iCAS members discussed a variety of topics, including:

- "Unpacking the Black Box," presented by Chris Cooksey.
- "An Introduction to Mixed Effects Models with Examples" and "Building Automatic Predictive Modeling System," presented by Yuk Henry Cheng.
- "Model Deployment with R: A SQL Approach," presented by Chengjun Hou.
- "Topics in Data Preprocessing Using R," presented by Louise Francis.

Attendees received an update on iCAS from iCAS President Joanne Spalla and heard from CE Committee Chair Mike Woods.

Provide the state of the state

Activities with Others

In February iCAS partnered with the Canadian Institute of Actuaries (CIA) and the Society of Actuaries (SOA) to present a "Predictive Analytics Seminar" in Toronto, which drew more than 135 attendees. CAS President Jim Christie was part of the opening panel, together with CIA President Elect MarcTardif and SOA Past President Mike Lombardi.





Expertise. Insight. Solutions.®

Casualty Actuarial Society 4350 North Fairfax Drive, Suite 250 Arlington, Virginia 22203

casact.org